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LAKELAND ELECTRIC

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Florida Public Service Commission
Blanca S. Bayó, Director
Bureau of Records & Hearing Services
Betty Easley Conference Center, Rm. 110
4075 Esplanade Way
Tallahassee, Florida 32399-0850

March 27, 2006

Dear Ms. Bayó:

Pursuant to Section 186.801, Florida Statutes and Rules 25-22.070-072 of Florida Administrative Code, Lakeland Electric hereby submits 25 printed copies of its 2006 Ten Year Site Plan.

If you have any questions please do not hesitate to contact us.

Sincerely,

Paul H. Elwing
System Planning Section

Enclosure

CMP ____
COM ____
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LAKELAND ELECTRIC

2006 Ten-Year Site Plan
For
Electrical Generating Facilities
And
Associated Transmission Lines

April 2006

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1.0 Introduction

This report contains the 2006 Lakeland Electric Ten-Year Site Plan (TYSP) pursuant to Florida Statutes and as adopted by Order No. PSC-97-1373-FOF-EU on October 30, 1997. The Lakeland TYSP reports the status of the utility's resource plans as of December 31, 2005. The TYSP is divided into the following nine sections: Introduction, General Description of Utility, Forecast of Electrical Power Demand and Energy Consumption, Demand-Side Management Programs, Forecasting Methods and Procedures, Forecast of Facilities Requirements, Generation Expansion Analysis Results and Conclusions, Environmental and Land Use Information, and Ten-Year Site Plan Schedules. The contents of each section are summarized briefly in the remainder of this Introduction.

1.1 General Description of the Utility

Section 2.0 of the TYSP discusses Lakeland's existing generation and transmission facilities. The section includes a historical overview of Lakeland's system, and a description of existing power generating and transmission facilities. This section includes tables which show the source of the utility's current 995 MW of net winter generating capacity and 913 MW of net summer generating capacity (as of the end of calendar year 2005).

1.2 Forecast of Electrical Power Demand and Energy Consumption

Section 3.0 of the TYSP provides a summary of Lakeland's load forecast. Lakeland is projected to remain a winter peaking system throughout the planning period. The projected annual growth rates in peak demand for the winter and summer are 1.50% and 1.40% percent, respectively, for 2006 through 2015.

Net energy for load is projected to grow at an average annual rate of 1.82% percent for 2006 through 2015. Projections are also developed for high and low load growth scenarios.

1.3 Demand-Side Management Programs

Section 4.0 provides descriptions of the existing conservation and demand-side management programs. Additional details regarding Lakeland's demand-side management programs are on file with the Florida Public Service Commission (FPSC).

Lakeland's current conservation and demand management programs include the following programs for which demand and energy savings can readily be demonstrated:

- Commercial Programs:
  - Commercial Lighting Program.
  - Thermal Energy Storage Program.

Lakeland also currently conducts the following conservation and demand-side management programs which promote energy savings and efficiency:

- Residential Programs:
  - Energy Audit Program.
  - Public Awareness Program.
  - Speakers Bureau.
  - Informational Bill Inserts.
- Commercial Programs:
  - Commercial Audit Program.

Section 4 also contains discussions of Lakeland's solar technology programs. While these types of programs are not traditionally thought of as DSM, they have the same effect of conserving demand and energy normally generated by fossil fuels as DSM programs do by virtue of their avoidance of fossil fuels through the use of renewable energy.

1.4 Forecasting Methods and Procedures

Section 5.0 discusses the forecasting methods used for the TYSP and outlines the assumptions applied for system planning. This section also summarizes the integrated resource plan for Lakeland and provides planning criteria for the Florida Municipal Power Pool, of which Lakeland is a member. The integrated resource plan is fully incorporated in the TYSP and is discussed in further detail in Sections 6 and 7 of this report. Fuel price projections are provided for coal, natural gas, oil, and petroleum coke; with brief descriptions of the methodology. Assumptions for the economic parameters and evaluation criteria which are being applied in the evaluation are also included in Section 5.0.

1.5 Forecast of Facilities Requirements

Section 6.0 integrates the electrical demand and energy forecast with the conservation and demand-side management forecast to determine Lakeland's requirements for the ten-year planning horizon. Application of the reserve margin criteria indicates no need for additional capacity during the current ten year reporting period.

1.6 Generation Expansion Analysis Results and Conclusions

Section 7.0 discusses the current status of any supply-side evaluation being undertaken by Lakeland to identify the best option for its system. It also discusses basic methodology used by Lakeland in its Generation Expansion Planning Process.

1.7 Environmental and Land Use Information

Section 8.0 discusses the land and environmental features of Lakeland's TYSP.

1.8 Ten-Year Site Plan Schedules

Section 9.0 presents the schedules required by the Florida Public Service Commission (FPSC) for the TYSP.

2.0 General Description of Utility

2.1 City of Lakeland Historical Background

2.1.1 Generation

The City of Lakeland was incorporated on January 1, 1885, when 27 citizens approved and signed the city charter. Shortly thereafter the original light plant was built by Lakeland Light and Power Company at the corner of Cedar Street and Massachusetts Avenue. This plant had an original capacity of 50 kW. On May 26, 1891, plant manager Harry Sloan threw the switch to light Lakeland by electricity for the first time with five arc lamps. Incandescent lights were first installed in 1903.

Public power in Lakeland was established in 1904, when foresighted citizens and municipal officials purchased the small private 50 kW electric light plant from owner Bruce Neff for $7,500. The need for an expansion led to the construction of a new power plant on the north side of Lake Mirror in 1916. The initial capacity of the Lake Mirror Power Plant is estimated to have been 500 kW. The plant has since been expanded three times. The first expansion occurred in 1922 with the addition of 2,500 kW; in 1925, 5,000 kW additional capacity was added, followed by another 5,000 kW in 1938. With the final expansion, the removal of the initial 500 kW unit was required to make room for the addition of the 5,000 kW generating unit, resulting in a total peak plant capacity of 12,500 kW.

As the community continued to grow, the need for a new power plant emerged and the Charles Larsen Memorial Power Plant was constructed on the southeast shore of Lake Parker in 1949. The initial capacity of the Larsen Plant Steam Unit No. 4 completed in 1950 was 20,000 kW. The first addition to the Larsen Plant was Steam Unit No. 5 (1956) which had a capacity of 25,000 kW. In 1959, Steam Unit No. 6 was added and increased the plant capacity by another 25,000 kW. Three gas turbines, each with a nominal rating of 11,250 kW, were installed as peaking units in 1962. In 1966, a third steam unit capacity addition was made to the Larsen Plant. This was Steam Unit No.7 having a nominal 44,000 kW capacity and an estimated cost of $9.6 million. This brought the total Larsen Plant nameplate capacity up to a nominal 147,750 kW.

In the meantime, the Lake Mirror Plant, with its old and obsolete equipment, became relatively inefficient and hence was no longer in active use. It was kept in cold standby and then retired in 1971.

As the city continued to grow during the late 1960's, the demand for power and electricity grew at a rapid rate, making evident the need for a new power plant. A site was purchased on the north side of Lake Parker and construction commenced during

1970. Initially, two diesel units with a peaking capacity of a nominal rating 2,500 kW each were placed into commercial operation in 1970.

Steam Unit No. 1, with a nominal rating of 90,000 kW, was put into commercial operation on February 24, 1971, for a total cost of $15.22 million. In June of 1976, Steam Unit No. 2 at Plant 3 was placed into commercial operation, with a nominal rated capacity of 114,707 kW and at a cost of $25.77 million. This addition increased the total capacity of the Lakeland system to approximately 360,000 kW. At this time, Plant 3 was renamed the C. D. McIntosh, Jr. Power Plant in recognition of the former Electric and Water Department director.

On January 2, 1979, construction was started on McIntosh Unit No. 3, a nominal 334 MW coal fired steam generating unit which became commercial on September 1, 1982. The unit was designed to use low sulfur oil as an alternate fuel but an alternate fuel has never been used in the unit. The unit uses a minimal amount of natural gas or #2 diesel oil for flame stabilization during startups. Petroleum Coke has been used in recent years as a supplemental fuel to coal based on economics. The plant utilizes sewage effluent for cooling tower makeup water. This unit is jointly owned with the Orlando Utilities Commission (OUC) which has a 40 percent undivided interest in the unit.

As load continued to grow, Lakeland continually studied and reviewed alternatives for accommodating the additional growth. Alternatives included both demand- and supply-side resources. A wide variety of conservation and demand-side management programs were developed and marketed to Lakeland customers to encourage increased energy efficiency and conservation in keeping with the Florida Energy Efficiency and Conservation Act of 1980 (FEECA). Changes to the FEECA rules in 1993 exempted Lakeland from conservation requirements, but Lakeland has remained active in promoting and implementing cost-effective conservation programs. These programs are discussed in further detail in Section 4.0.

Although demand and energy savings arose from Lakeland's conservation and demand-side management programs, additional capacity was required in the early 1990's. Least cost planning studies resulted in the construction of Larsen Unit No. 8, a natural gas fired combined cycle unit with a nameplate generating capability of 124,000 kW. Larsen Unit No. 8 began simple cycle operation in July 1992, and combined cycle operation in November of that year.

In 1994, Lakeland made the decision to retire the first unit at Larsen Plant, Steam Unit No. 4. This unit, put in service in 1950 with a capacity of 20,000 kW, had reached the end of its economic life. In March of 1997, Lakeland retired, Larsen Unit No. 6, a 25 MW oil fired unit that was also nearing the end of its economic life. In October of 2004, Lakeland retired Larsen Unit 7, a 50MW oil fired steam unit. The capacity from these units has been officially retired but no dismantlement of either unit has taken place. This leaves open the possibility of re-powering those units sometime in the future should the economics become advantageous to do so.

In 1999, the construction of McIntosh Unit No. 5 Simple Cycle combustion turbine was completed. The unit was released for commercial operation in May, 2001. Beginning in September 2001, the unit underwent conversion to a combined cycle unit through the addition of a nominal 120 MW steam turbine generator. Construction was completed in Spring 2002 with the unit being declared commercial in May 2002. The resulting combined cycle capacity of the unit is 322 MW summer and 371 MW winter.

During the summer of 2001, Lakeland took its first steps into the world of distributed generation with the groundbreaking of its Winston Peaking Station. The Winston Peaking Station, consists of 20 quick start reciprocating engines each driving a 2.5 MW electric generator. This provides Lakeland with 50 MW of peaking capacity that can be started and put on line at full load in ten minutes. The Station was declared commercial in late December 2002.

2.1.2 Transmission

The first phase of the Lakeland 69 kV transmission system was placed in operation in 1961 with a step-down transformer at the Lake Mirror Plant to feed the 4 kV bus, nine 4 kV feeders, and a new substation in the southwest section of town with two step-down transformers feeding four 12 kV feeders.

In 1966, a 69 kV line was completed from the northwest substation to the south-west substation, completing the loop around town. At the same time, the old tie to Bartow was reinsulated for a 69 kV line and placed in operation, feeding a new step-down substation in Highland City with four 12 kV feeders. In addition, a 69 kV line was completed from Larsen Plant around the southeast section of town to the southwest substation. By 1972, 20 sections of 69 kV lines, feeding a total of nine step-down substations, with a total of 41 distribution feeders, were completed and placed in service. By the fall of 1996, all of the original 4 kV equipment and feeders had been replaced and/or upgraded to 12 kV service. By 1998, 29 sections of 69 kV lines were in service feeding 20 distribution substations.

As the Lakeland system continued to grow, the need for additional and larger transmission facilities grew as well. In 1981, Lakeland's first 230 kV facilities went into service to accommodate Lakeland's McIntosh Unit No. 3 and to tie Lakeland into the State transmission grid at the 230 kV level. A 230 kV line was built from McIntosh Plant to Lakeland's west substation. A 230/69 kV autotransformer was installed at each of those substations to tie the 69 kV and 230 kV transmission systems together. In 1988, a second 230 kV line was constructed from the McIntosh Plant to Lakeland's Eaton Park substation along with a 230/69 kV autotransformer at Eaton Park. That line was the next phase of the long-range goal to electrically circle the Lakeland service territory with 230 kV transmission to serve as the primary backbone of the system.

In 1999, Lakeland added generation at its McIntosh Power Plant that resulted in a new 230/69/12kV substation being built and energized in March of that year. The substation, Tenoroc, replaced the switching station called North McIntosh. In addition to Tenoroc, another new 230/69/12kV substation was built. The substation, Interstate, went on line June of 1999 and is connected by what was the McIntosh West 230 kV line. This station was built to address concerns about load growth in the areas adjacent to the I-4 corridor which were causing problems at both the 69kV and distribution levels in this area.

In 2001, Lakeland began the next phase of its 230kV transmission system with the construction of the Crews Lake 230/69kV substation. The substation was completed and placed in service in 2001. This project includes two 230kV ties and one 69kV tie with Tampa Electric, a 150MVA 230/69kV autotransformer and a 230kV line from Lakeland's Eaton Park 230kV substation to the Crews Lake substation.

Early transmission interconnections with other systems included a 69 kV tie at Larsen Plant with Tampa Electric Company (TECO), established in the mid 1960s. A second tie with TECO was later established at Lakeland's Highland City substation. A 115 kV tie was established in the 1970s with Florida Power Corporation (FPC) and Lakeland's west substation and was subsequently upgraded and replaced with the current two 230 kV lines to FPC in 1981. At the same time, Lakeland interconnected with Orlando Utilities Commission (OUC) at Lakeland's McIntosh Power Plant. In August 1987, the 69 kV TECO tie at Larsen Power Plant was taken out of service and a new 69 kV TECO tie was put in service connecting Lakeland's Orangedale substation to TECO's Polk City substation. In mid-1994, a new 69 kV line was energized connecting Larsen Plant to the Ridge Generating Station (Ridge), an independent power producer. Lakeland has a 30-year firm power-wheeling contract with Ridge to wheel up to 40 MW of their power to FPC. In early 1996, a new substation, East, was inserted in the Larsen Plant to the Ridge 69 kV transmission line. Later in 1996, the third tie line to TECO was built from East to TECO's Gapway substation. As mentioned above, in August of 2001, Lakeland completed two 230kV ties and one 69kV tie with TECO at Lakeland's Crews Lake substation. The multiple 230 kV interconnection configuration of Lakeland is also tied into the bulk transmission grid and provides access to the 500 kV transmission network via FPC, providing for greater reliability. At the present time, Lakeland has a total of approximately 117 miles of 69 kV transmission and 28 miles of 230 kV transmission lines in service along with six 150 MVA 230/69 kV autotransformers.

2.2 General Description: Lakeland Electric

2.2.1 Existing Generating Units

This section provides additional detail on Lakeland's existing units and transmission system. Lakeland's existing generating units are located at the two existing plant sites: Charles Larsen Memorial (Larsen) and C.D. McIntosh Jr. (McIntosh). Both plant sites are located on Lake Parker in Polk County, Florida. The two plants have multiple units with different technologies and fuel types. The following paragraphs provide a summary of the existing generating units for Lakeland. Table 2-1 summarizes the environmental considerations for Lakeland's steam turbine generators and Table 2-2 provides other physical characteristics of all Lakeland generating units.

The Larsen site is located on the southeast shore of Lake Parker in Lakeland. The site has three units. The total net winter (summer) capacity of the plant is 151 MW (121 MW). Units 2 and 3, General Electric combustion turbines, have a combined net winter (summer) rating of 27 MW (19 MW). These units burn natural gas as the primary fuel with diesel backup. Historically, Larsen Unit No. 5 consisted of a boiler for steam generation and steam turbine to convert the steam to electrical power. When the boiler began to show signs of degradation beyond economical repair, a gas turbine with a heat recovery steam generator, Unit No. 8, was added to the facility. This allowed the gas turbine (Unit No. 8) to generate electricity and the waste steam from the turbine to be injected into the former Unit No. 5 steam turbine for a combined cycle configuration. The former Unit No. 5 steam turbine currently has a net winter (summer) rating of 31 MW (29 MW) and is referred to as Unit No. 8 Steam Turbine from this point on in this document and in the reporting of this unit. The Unit No. 8 combustion turbine has a net winter (summer) rating of 93 MW (73 MW).

The McIntosh site is located in the City of Lakeland along the northeastern shore of Lake Parker and encompasses 513 acres. Electricity generated by the McIntosh units is stepped up in voltage by generator step-up transformers to 69 kV and 230 kV for transmission via the power grid. The McIntosh site currently includes seven units in commercial operation having a total net winter and summer capacity of 794 MW and 742 MW, respectively. Unit CT1 consists of a General Electric combustion turbine with a net winter (summer) output rating of 20 MW (17 MW). Unit No. 1 is a natural gas/oil fired General Electric steam turbine with a net winter and summer output of 87 MW. Unit No. 2 is a natural gas/oil fired Westinghouse steam turbine with a winter and summer output of 106 MW. Unit No. 3 is a 342 MW pulverized coal fired unit owned 60 percent by Lakeland and 40 percent by OUC. Lakeland's share of the unit yields net winter and summer output of 205 MW. Technologies used for Unit 3 are very innovative making it a very environmentally friendly coal unit. Unit No. 3 was one of the first "zero-discharge" plants built, meaning no waste water products leave the plant site untreated. Unit No. 3 also includes a wet flue gas scrubber for SO_2 removal and uses treated sewage water for cooling water. Two small diesel units with a net output of 2.5 MW each are also located at the McIntosh site.

McIntosh Unit No. 5, a Westinghouse 501G combined cycle unit, was initially built and operated as a simple cycle combustion turbine that was placed into commercial operation May, 2001. The unit was taken off line for conversion to combined cycle starting in mid September 2001 and was returned to commercial service in May 2002 as a combined cycle unit with a rating of 371 MW winter and 322 MW summer. The unit is equipped with a Selective Catalytic Reduction (SCR) module for NO_x control.

Lakeland Electric, constructed a 50-megawatt electric peaking station adjacent to its Winston Substation in 2001. The purpose of the peaking plant was to provide additional quick start generation for Lakeland's system during times of peak loads. This is Lakeland's first experience with distributed generation.

The station consists of twenty (20) EMD 20 cylinder reciprocating engines driving 2.5 MW generators. The units are currently fueled by #2 fuel oil but have the capability to burn a mix of 5% #2 oil and 95% natural gas. Lakeland currently does not have natural gas service to the site.

The plant has remote start/run capability for extreme emergencies at times when the plant is unmanned. The station does not use open cooling towers. This results in minimal water or wastewater requirements. Less than three quarters of the six (6) acre site was developed leaving considerable room for water retention.

The engines are equipped with hospital grade noise suppression equipment on the exhausts. Emission control is achieved by Selective Catalytic Reduction (SCR) using 19% aqueous ammonia. The SCR system will allow the plant to operate within the Minor New Source levels permitted by the Florida Department of Environmental Protection (DEP).

This was Lakeland's first venture into distributed generation. Winston Peaking Station (WPS) was constructed adjacent to Lakeland's Winston Distribution Load Substation. Power generated at WPS goes directly into Winston Substation at the 12.47kV distribution level of the substation and has sufficient capacity to serve the substation loads. Winston Substation serves several of Lakeland's largest and most critical accounts. Should Winston lose all three 69kV circuits to the substation, WPS can be on line and serving load in ten minutes. In addition to increasing the substation's reliability, this arrangement will allow Lakeland to delay the installation of a third 69kV to 12.47kV transformer by several years and also contributes to lowering loads on Lakeland's transmission system.

2.2.2 Capacity and Power Sales Contracts

Lakeland has one firm power sales contract in place as of December 31, 2004. The power sales contract is with the Florida Municipal Power Agency (FMPA) for capacity and energy. The contract is for 100 MW and runs through December 15, 2007.

Lakeland shares ownership of the C. D. McIntosh Unit 3 with OUC. The ownership breakdown is a 60 percent share for Lakeland and a 40 percent ownership share for OUC. The energy and capacity delivered to OUC from McIntosh Unit 3 is not considered a power sales contract because of the OUC ownership share.

2.2.3 Capacity and Power Purchase Contracts

Lakeland currently has no long term firm power purchase contracts.

2.2.4 Planned Unit Retirements

Lakeland currently has no set retirement plans in place for its units due to the current economic conditions of the electric utility industry and the uncertainty that those conditions present. When that is combined with an ample reserve margin, Lakeland deems that its most prudent decision for the moment is to continue to put all expansion and retirement plans into abeyance until market conditions encourage a change. Lakeland is currently in the midst of an Integrated Resource Planning Process that is identifying optimal solutions for supply and demand side needs and resources.

2.2.5 Load and Electrical Characteristics

Lakeland's load and electrical characteristics have many similarities with those of other peninsular Florida utilities. The peak demand has historically occurred during the winter months. Lakeland's actual total peak demand in the winter of 2004/05 was 648 MW which occurred on January 24th. The actual summer peak in 2005 was 639 MW and occurred on August 18th. Lakeland normally is winter peaking and expects to continue to do so in the future based on expected normal weather. Lakeland's historical and projected summer and winter peak demands are presented in Section 3.0.

Lakeland is a member of the Florida Municipal Power Pool (FMPP), along with Orlando Utilities Commission (OUC) and the Florida Municipal Power Agency's (FMPA) All-Requirements Project. The FMPP operates as an hourly energy pool with all

FMPP capacity from its members committed and dispatched together. Commitment and dispatch services for FMPP are provided by OUC. Each member of the FMPP retains the responsibility of adequately planning its own system to meet native load and Florida Reliability Coordinating Council (FRCC) reserve requirements.

2.3 Service Area

Lakeland's electric service area is shown on Figure 2-1 and is entirely located in Polk County. Lakeland serves approximately 246 square miles of which approximately 199 square miles is outside of Lakeland's city limits.

Table 2-1
Lakeland Electric
Existing Generating Facilities
Environmental Considerations for Steam Generating Units

Plant Name	Unit	Particulate	Flue Gas Cleaning		Type
			SO_x	NO_x	
Charles Larsen Memorial	8ST	N/A	N/A	N/A	OTF
C. D. McIntosh, Jr.	1	None	None	None	OTF
	2	None	LS	FGR	WCTM
	3	EP	S	LNB	WCTM
	5ST	N/A	N/A	N/A	WCTM

FGR = Flue gas recirculation
LNB = Low NO_x burners
EP = Electrostatic precipitators
LS = Low sulfur fuel
S = Scrubbed
OTF = Once-through flow
WCTM = Water cooling tower mechanical
N/A = Not applicable to waste heat applications

Source: Lakeland Environmental Staff

Table 2-2a
Lakeland Electric Existing Generating Facilities

Plant Name	Unit No.	Location	Unit Type[3]	Fuel[4] Pri	Fuel[4] Alt	Fuel Transport[5] Pri	Fuel Transport[5] Alt	Alt Fuel Days Use[2]	Commercial In-Service Month/Year	Expected Retirement Month/Year	Gen. Max. Nameplate kW	Net Capability Summer MW	Net Capability Winter MW
Charles Larsen Memorial	2	16-17/28S/24E	GT	NG	DFO	PL	TK	---	11/62	Unknown	11,500	10	14
	3		GT	NG	DFO	PL	TK	---	12/62	Unknown	11,500	9	13
	8		CA	WH	---	---	---	---	04/56	Unknown	25,000	29	31
	8		CT	NG	DFO	PL	TK	---	07/92	Unknown	101,520	73	93
Plant Total												121	151

[2]Lakeland does not maintain records of the number of days that alternate fuel is used.

[3]Unit Type
CA Combined Cycle Steam Part
CT Combined Cycle Combustion Turbine
GT Combustion Gas Turbine
ST Steam Turbine

[4]Fuel Type
DFO Distillate Fuel Oil
RFO Residual Fuel Oil
BIT Bituminous Coal
WH Waste Heat
NG Natural Gas

[5]Fuel Transportation Method
PL Pipeline
TK Truck
RR Railroad

Table 2-2b
Lakeland Electric Existing Generating Facilities

Plant Name	Unit No.	Location	Unit Type[3]	Fuel[4] Pri	Fuel[4] Alt	Fuel Transport[5] Pri	Fuel Transport[5] Alt	Alt Fuel Days Use[2]	Commercial In-Service Month/Year	Expected Retirement Month/Year	Gen. Max. Nameplate kW	Net Capability Summer MW	Net Capability Winter MW
Winston Peaking Station	1-20	21/28S/23E	IC	NG	DFO	PL	TK	NR	12/01	Unknown	2,500 each	50	50
Plant Total												50	50
C.D. McIntosh, Jr.	D1	4-5/28S/24E	IC	DFO	---	TK	---	NR	01/70	Unknown	2,500	2.5	2.5
	D2		IC	DFO	---	TK	---	NR	01/70	Unknown	2,500	2.5	2.5
	GT1		GT	NG	DFO	PL	TK	NR	05/73	Unknown	26,640	17	20
	1		ST	NG	RFO	PL	TK	NR	02/71	Unknown	103,000	87	87
	2		ST	NG	RFO	PL	TK	NR	06/76	Unknown	126,000	106	106
	3[1]		ST	BIT	---	RR	---	NR	09/82	Unknown	363,870	205	205
	5		CT	NG	DFO	PL	TK	NR	05/01	Unknown	292,950	210	250
	5		CA	WH	---	---	---	NR	05/02	Unknown	135,000	112	121
Plant Total												742	794
System Total												**963**	**1045**

[1]Lakeland's 60 percent portion of joint ownership with Orlando Utilities Commission.

[2]Lakeland does not maintain records of the number of days that alternate fuel is used.

[3]Unit Type

CA	Combined Cycle Steam Part
CT	Combined Cycle Combustion Turbine
GT	Combustion Gas Turbine
ST	Steam Turbine

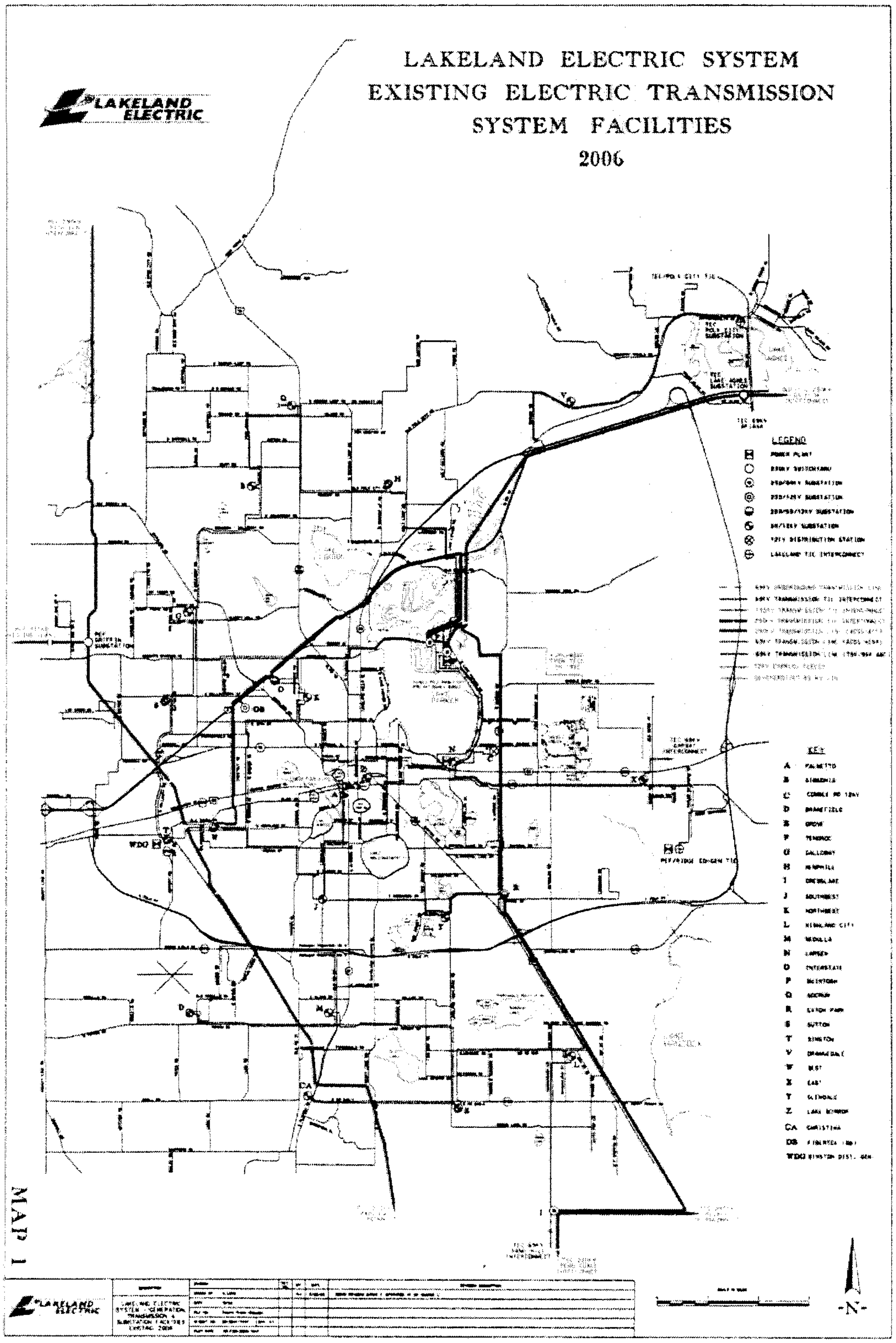
[4]Fuel Type

DFO	Distillate Fuel Oil
RFO	Residual Fuel Oil
BIT	Bituminous Coal
WH	Waste Heat
NG	Natural Gas

[5]Fuel Transportation Method

PL	Pipeline
TK	Truck
RR	Railroad

Figure 2-1


LAKELAND ELECTRIC SYSTEM
EXISTING ELECTRIC TRANSMISSION
SYSTEM FACILITIES
2006
LAKELAND ELECTRIC
LEGEND
KEY
WDO
MAP 1
N

3.0 Forecast of Electrical Power Demand and Energy Consumption

Lakeland routinely develops a detailed long-term electric load and energy forecast for use in its planning studies. This is undertaken on a fiscal year basis with each year ending September 30th. Techniques employed include econometric and multiple regression modeling, study of historical relationships and growth rates, trend analysis, and exponential smoothing. Lakeland also reviews the forecasts for reasonableness, compares projections to historical patterns, and modifies the results as needed using informed judgment.

Lakeland also develops monthly, short-term forecasts for budgeting and planning purposes using historical monthly ratios.

The long-term forecast categories below are discussed at length in the remaining portion of this section:

- Service Territory Population
- Number of Accounts
- Energy Sales
- Net Energy for Load
- Summer Peak Demand
- Winter Peak Demand

3.1 Service Territory Population Forecast

Projections of electric service territory population were developed using a combination of forecasting techniques. They include two regression models, exponential smoothing and historical trending. Polk County population was the primary driver in both regression models.

Polk County population projections used in the forecast models were derived from two data sources: University of Florida's Bureau of Economic and Business Research (BEBR), and Economy.com.

Electric service territory population for the City of Lakeland is projected to increase at a 1.78% average annual growth rate (AAGR) from 2006 through 2015. This represents an increase over last year's projected 1.57% AAGR (presented in Table 9-2).

3.2 Number of Accounts Forecast

Lakeland forecasts the number of accounts for the following categories and subcategories (presented in Tables 9-2 and 9-3):

- Residential
- Commercial
  - General Service
  - General Service Demand
- Industrial
  - General Service Large Demand
  - Contract
  - Interruptible
- Street & Highway Lighting
  - Private Area Lighting
- Other
  - Electric
  - Water
  - Municipal

Projections for inside and outside the city have been developed for residential, commercial, industrial and private area lighting accounts.

3.2.1 Residential Accounts

Total residential account projections, as well as those for inside the city, were based on a combination of methods that include the study of historical growth rates, historical trending and exponential smoothing. The examination of historical relationships to Polk County population and to total residential accounts was also factored into the final residential account forecast.

Residential account projections for outside city limits were determined by taking the difference between total residential accounts and those inside the city.

Projected AAGR for total residential accounts is 1.74% for 2006 through 2015 (presented in Table 9-2).

3.2.2 Commercial and Industrial Accounts

Total General Service (GS) accounts were projected using a combination of forecasting techniques. They include historical ratios to total commercial accounts, to total residential accounts, and to Polk County population. Other methods used were trend analysis and exponential smoothing. General Service (GS) account projections for inside the city limits were determined by examining their historical relationship to total GS accounts. GS account projections for outside the city limits were based on the difference between accounts inside the city limits and the total number of GS accounts.

Total General Service Demand (GSD) accounts were projected based on a weighted average of their historical relationship to total commercial accounts, to total residential accounts, and to Polk County population. Exponential smoothing was also used to develop the final forecast. GSD account projections for inside the city limits were developed by examining their historical relationship to total GSD accounts. GSD account projections for outside the city limits were based on the difference between total GSD accounts and inside GSD accounts.

The Commercial category found on the TYSP forms for this filing represents the combination of GS and GSD classes. Commercial accounts are projected to increase by an AAGR of 1.51% for the 10-year reporting period (presented in Table 9-2).

Industrial accounts represent the combination of General Service Large Demand (GSLD), Contract, and Interruptible accounts. Projections for accounts inside and outside the city were developed using several forecasting techniques. They include examining historical ratios to Polk County population, to total residential accounts, as well as, to the combined total of Commercial and Industrial categories (GS, GSD, GSLD, and CONT & INT). Historical growth rates (1988-1995), prior to establishment of Contract and Interruptible rate classes, were also examined in conjunction with these methods to determine the final forecast. Special consideration was also given to new major commercial and industrial development projects.

Industrial accounts are expected to increase at approximately 1.69% AAGR over the 10-year reporting period (presented in Table 9-2).

3.2.3 Total Accounts

The Total Account Forecast for the City of Lakeland is the sum of individual forecasts provided above. Total accounts are expected to increase at 1.51% AAGR over the 10-year reporting period.

3.3 Energy Sales Forecast

Lakeland forecasts energy sales for the following categories and subcategories (presented in Tables 9-2 and 9-3):

- Residential
- Commercial
  - General Service
  - General Service Demand
- Industrial
  - General Service Large Demand
  - Contract
  - Interruptible
- Street & Highway Lighting
  - Private Area Lighting
- Other
  - Electric
  - Water
  - Municipal
  - Unmetered

Projections are developed for inside and outside of the city for residential, commercial, industrial, and private area lighting energy sales.

3.3.1 Residential Sales Forecast

The residential energy sales forecast for inside the city limits was developed using a combination of forecasting methods. They include historical ratios to total residential energy sales, historical growth rates, historical trending and exponential smoothing.

The total residential energy sales forecast was based on a weighted average of trend analysis and exponential smoothing.

The forecast for residential energy sales outside the city was determined by taking the difference between total residential energy sales and residential energy sales inside the city.

The Total Residential Energy Sales Forecast is projected to increase at 2.07% AAGR over the 10-year reporting period (presented in Table 9-2).

3.3.2 Commercial and Industrial Sales

General Service (GS) energy sales inside the city were projected using a combination of forecasting methods. They include exponential smoothing, as well as, historical ratios to total residential energy sales and to total GS energy sales. Total GS energy sales were projected by examining the historical ratios to total residential energy sales and to total commercial energy sales. Trend analysis and exponential smoothing were also used to develop the final forecast. Projected GS energy sales for outside the city was developed by taking the difference between total GS energy sales and GS energy sales for inside the city.

General Service Demand (GSD) energy sales for inside the city were developed using a combination of forecasting methods. They include historical growth rates and historical ratios to residential energy sales and to Polk County population. Other methods include historical trending and exponential smoothing. Total GSD energy sales were developed using a weighted average of historical growth rates, historical relationships to Polk County population and to total commercial energy sales, trend analysis and exponential smoothing. Projections for GSD energy sales outside the city limits were developed by taking the difference between total GSD energy sales and GSD energy sales inside the city.

The Commercial category represents the combination of GS and GSD classes. Ratio of GS and GSD energy sales to this total commercial value were used as a final check in developing the forecast. Commercial energy sales are expected to increase at 1.48% AAGR over the 10-year reporting period (presented in Table 9-2).

GSLD energy sales for inside the city were developed using a weighted average of historical growth rates before annexations, as well as, historical ratios to residential energy sales, total GSLD energy sales, and to total commercial and industrial energy sales. Total GSLD energy sales were projected based on a weighted average of several forecasting methods. They include historical ratios to total commercial and industrial energy sales, trend analysis and exponential smoothing. Special consideration was also given to major commercial and industrial development projects. Each large account was interviewed to determine future expected demand and energy requirements. Energy sales projections for GSLD accounts outside the city limits were developed by taking the difference between the total GSLD energy sales and GSLD energy sales inside the city limits.

Total GSLD energy sales are projected to increase at a 1.84% AAGR over the 10-year reporting period.

3.3.3 Other Sales

Other energy sales are comprised of municipal, private area lighting, water, electric and unmetered energy sales.

Municipal energy sales were based on a combination of techniques that include the historical ratios to Polk County population, trend analysis and exponential smoothing. Municipal energy sales are projected to increase at 0.50% AAGR over the 10-year reporting period.

Water energy sales were developed using a combination of methods including historical ratios to municipal energy sales, and to residential energy sales. Other methods used include historical trending, historical usage per account and historical usage per capita estimates. Water energy sales are projected to increase at 0.45% AAGR over the 10-year reporting period.

Electric energy sales were developed using a weighted average of historical growth rates, historical trending, historical ratios to municipal energy sales and exponential smoothing. Electric energy sales are projected to increase at a 2.32% AAGR over the 10-year forecast period.

Total private area lighting energy sales were developed using exponential smoothing and trend analysis. Private area lighting energy sales for inside and outside were determined by analyzing their historical ratios to total private area lighting energy sales. Energy sales for private area lighting are expected to increase at 1.44% AAGR over the 10-year reporting period.

Unmetered energy sales represent the total municipal street and highway lighting energy sales. The forecast was developed by using trend analysis, historical growth rates, and historical ratios to municipal energy sales.

Other energy sales are expected to increase at 0.90% AAGR over the 10-year reporting period (presented in Table 9-3).

3.3.4 Total Sales

The Total Energy Sales Forecast for the City of Lakeland is the sum of the individual forecasts provided above. Total energy sales are projected to grow at 1.83% AAGR over the 10-year reporting period (presented in Table 9-3).

3.4 Net Energy for Load Forecast

Net energy for load is defined as the electricity generated by a system's own generating plants in addition to energy purchased from others less that delivered for resale.

The Net Energy for Load Forecast was developed using a combination of methods including trend analysis, exponential smoothing and historical ratios to energy sales. Electric losses, energy loss as a percentage of total system energy (NEL), are expected to average around 3.94% of total sales over the 10-year forecast. Net energy for load is projected to increase at 1.82% AAGR over the 10-year reporting period (presented in Table 9-4).

3.5 Peak Demand

Lakeland Electric's winter season is defined as November through March; the utility's summer season is defined as April through October. Lakeland is typically, and expects to continue to be, a winter peaking utility. Winter 2005 was again a mild winter in terms of temperature and as a result, Lakeland had a slightly lower than expected winter peak. Lakeland's 2005 winter peak was 648 MW's (net integrated) at 32°.

Lakeland owns and operates 13 weather stations. The weather stations are strategically placed throughout the service territory to provide the best estimate of overall temperature for the Lakeland service area.

The Winter Peak Demand Forecast (base-case of 30.4°) was developed using a combination of methods including two regression models and an analysis of historical load factors. Each of the regression models used different combinations of the following independent variables: dummy variable representing day of week, day of week [-1] lagged by one period, temperature at time of winter peak, annual minimum temperature, minimum temperature of week prior to winter peak and an autoregressive term. Historical trending and exponential smoothing were also used as a check in determining the final winter peak forecast. The Total Winter Peak Demand Forecast is expected to increase at 1.40% AAGR over the 10-year reporting period (presented in Table 9-6).

The Summer Peak Demand Forecast (base-case at 95.1°) was developed using a combination of methods including trend analysis, exponential smoothing, four regression models and an analysis of historical load factors. The primary drivers in the regression models include annual maximum temperature, temperature at time of summer peak, maximum temperature prior to summer peak and Polk County population. The Summer Peak Demand Forecast is expected to increase at 1.50% AAGR over the 10-year reporting period (presented Table in 9-5).

Table 3-1
Historical and Projected
Heating and Cooling Degree Days

Year	HDD	CDD
1995	399	3,607
1996	812	3,395
1997	314	3,611
1998	618	3,450
1999	405	3,497
2000	481	3,233
2001	780	3,238
2002	425	3,743
2003	748	3,302
2004	595	3184
2005	413	3353
2006	620	3,068
2007	620	3,068
2008	620	3,068
2009	620	3,068
2010	620	3,068
2011	620	3,068
2012	620	3,068
2013	620	3,068
2014	620	3,068
2015	620	3,068

Table 3-2
Historical Monthly Peaks and Date

	2003		2004		2005	
Jan	694	Jan-24	578	Jan-29	648	Jan-24
Feb	445	Feb-02	523	Feb-19	498	Feb-11
Mar	497	Mar-20	412	Mar-11	476	Mar-03
Apr	491	Apr-7	460	Apr-26	456	Apr-01
May	539	May-12	547	May-27	523	May-24
Jun	562	Jun-11	572	Jun-24	578	Jun-15
Jul	579	Jul-8	580	Jul-06	616	Jul-28
Aug	547	Aug-18	563	Aug-20	639	Aug-18
Sep	547	Sep-24	554	Sep-01	568	Sep-19
Oct	496	Oct-13	530	Oct-04	542	Oct-10
Nov	468	Nov-05	475	Nov-02	427	Nov-16
Dec	533	Dec-21	573	Dec-15	520	Dec-22

3.6 Sensitivity Cases

A high load growth case and a low load growth case were created in addition to that of the base-case forecast for peak demand and Net Energy for Load. These two additional sensitivity cases provide a bandwidth across which Lakeland can evaluate potential power supply planning alternative scenarios. The bandwidth for the temperature ranges were developed at a 95% confidence interval assuming normally distributed data.

3.6.1 High Load Sensitivity

The high load forecast for the 10-year forecasting period has a 1.40% AAGR for winter and 1.34% AAGR for summer (presented in Tables 3-3 and 3-4).

3.6.2 Low Load Sensitivity

The low load forecast has 1.47% AAGR for summer and 1.57% AAGR for winter (presented in Tables 3-3 and 3-4).

3.6.3 High and Low Net Energy for Load

Forecasts were prepared using cases for high and low net energy for load. The bandwidth for these was also developed based on a 95% confidence interval (presented in Table 3-5).

Table 3-3
Summer Peak Demand (MW)

Year	Low	Base	High
2006	590	621	652
2007	598	629	660
2008	607	638	669
2009	617	648	679
2010	626	657	688
2011	635	666	697
2012	644	675	706
2013	653	684	715
2014	663	694	725
2015	673	704	735
AAGR	1.47%	1.40%	1.34%

Table 3-4
Winter Peak Demand (MW)

Year	Low	Base	High
2006/07	656	710	744
2007/08	666	721	754
2008/09	677	733	765
2009/10	689	744	777
2010/11	700	755	788
2011/12	711	766	799
2012/13	722	777	810
2013/14	733	788	821
2014/15	744	799	832
2015/16	755	812	843
AAGR	1.57%	1.50%	1.40%

Table 3-5
Net Energy for Load (GWH)

Year	Low	Base	High
2006	2,855	3,015	3,177
2007	2,897	3,071	3,219
2008	2,959	3,134	3,281
2009	3,014	3,190	3,336
2010	3,075	3,250	3,397
2011	3,132	3,306	3,454
2012	3,195	3,370	3,517
2013	3,249	3,423	3,571
2014	3,307	3,481	3,629
2015	3,369	3,545	3,691
AAGR	1.86%	1.82%	1.68%

4.0 Demand-Side Management Programs

Lakeland Electric is committed to the efficient use of electric energy and is committed to providing cost-effective conservation and demand reduction programs for all its consumers. Lakeland is not subject to FEECA rules but has in place several Demand-Side Management (DSM) programs and remains committed to utilizing cost-effective conservation and DSM programs that will benefit its customers. Presented in this section are the currently active programs.

This section also includes a brief description of Lakeland's advances in solar technology and a new LED traffic light retrofit program. Lakeland has been a pioneer in the deployment and commissioning of solar energy devices and continues to support and look for opportunities to promote solar energy technologies.

4.1 Existing Conservation and Demand-Side Management Programs

Lakeland has the following conservation and demand-side management programs that are currently available and address three major areas of demand-side management:

- Reduction in weather sensitive peak loads.
- Reduction of energy needs on a per customer basis.
- Movement of energy to off-peak hours when it can be generated at a lower cost.

4.1.1 Non-Measurable Demand and Energy Savings

The programs outlined in this section cannot directly be measured in terms of demand and energy savings, but are very important in that they have been shown to influence public behavior and thereby help reduce energy requirements. Lakeland considers the following programs to be an important part of its objective to cost-effectively reduce energy consumption:

- Residential Programs:
  - Energy Audit Program.
  - Public Awareness Program.
  - Speakers Bureau.
  - Informational Bill Inserts.
- Commercial Programs:
  - Commercial Audit Program.

4.1.1.1 Residential Programs.

4.1.1.1.1 Residential Energy Audits. The Energy Audit Program promotes high energy-efficiency in the home and gives the customer an opportunity to learn about other utility conservation programs. The program provides Lakeland with a valuable customer interface and a good avenue for increased customer awareness.

4.1.1.1.2 Public Awareness Program. Lakeland believes that an informed public aware of the need to conserve electricity is the greatest conservation resource. Lakeland's public awareness programs provide customers with information to help them reduce their electric bills by being more conscientious in their energy use.

4.1.1.1.3 Speakers Bureau. Lakeland provides speakers to local group meetings to help inform the public of new energy efficiency technologies and ways to conserve energy in the commercial and residential sectors.

4.1.1.1.4 Informational Bill Inserts. Monthly billing statements provide an excellent avenue for communicating timely energy conservation information to its customers. In this way, Lakeland conveys the message of better utilizing their electric resources on a regular basis in a low cost manner.

4.1.1.2 Commercial Programs.

4.1.1.2.1 Commercial Energy Audits. The Lakeland Commercial Audit Program includes educating customers about high efficiency lighting and thermal energy storage analysis for customers to consider in their efforts to reduce costs associated with their electric usage.

4.1.2 Demand-Side Management Technology Research

Lakeland has made a commitment to study and review promising technologies in the area of conservation and demand-side management. Some of these efforts are summarized below.

4.1.2.1 Direct Expansion Ground Source Heat Pump Study.

In cooperation with ECR Technologies of Lakeland, Lakeland Electric was given the Governor's Energy Award for work in the evaluation and analysis of direct expansion ground source heat pump (GSHP) technology. This technology reduces weather sensitive loads and promotes greater energy efficiency. A study of the demand and energy savings associated with this technology was completed in an effort to establish its cost-effectiveness for new construction, as well as retrofitting the technology to existing homes. The original units were installed in the 1980's and are still in service. There is little customer interest due to the cost of the units. Currently, no new sites are being developed.

4.1.2.2 Whole House Demand Controller Study/Real Time Pricing.

The concept of this technology is to control multiple appliances in the customer's home. The initial study was designed such that when a customers' demand reached a pre-set level, no additional appliances would be allowed to turn on. There has been no customer interest in this program as initially offered.

4.1.2.3 Time-of-Day Rates.

Lakeland is currently offering a time of day program and plans to continue as this makes consumers aware of the variation in costs during the day. To date, there has been limited interest by Lakeland's customers in this demand-side management program.

4.2 Solar Program Activities

Lakeland Electric views solar energy devices as distributed generators whether they interconnect to the utility grid or not. Solar also contributes to reducing both peak demand and energy linking it to demand side management. As such they can potentially fill the much-desired role that an electric utility needs to avoid future costs of building new (and/or re-working existing) supply side resources and delivery systems.

4.2.1 Solar Powered Street Lights.

Distributed generation produces the energy in end use form at the point of load by the customer, thereby eliminating many of the costs, wastes, pollutants, environmental degradation, and other objections to central station generation.

Solar powered streetlights offer a reliable, cost-effective solution to remote lighting needs. As shown in Figure 4-1, they are completely self-contained, with the ability to generate DC power from photovoltaic modules and batteries. During daylight hours solar energy is stored in the battery bank used to power the lights at night. By installing these self sufficient, stand-alone solar lighting products, Lakeland Electric was able to avoid the construction costs related to expansion of its distribution system into remote areas. These avoided costs are estimated to be approximately $40,000.

Lakeland currently has 20 solar powered streetlights that are in service. Each of these lights replaces a traditional 70 watt fixture that Lakeland typically would use in this type of application and displaces the equivalent amount of energy that the 70 watt fixture would use on an annual basis. The primary application for this type of lighting is for remote areas as stated above. Lakeland installed these 20 lights in mid-1994 in a grant program with the cooperation of the Florida Solar Energy Center (FSEC).

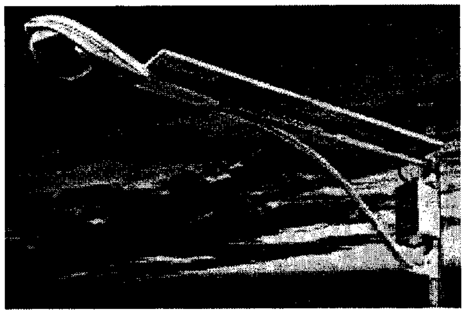


Figure 4-1
Solar Powered Streetlight

4.2.2 Solar Thermal Collectors for Water Heating.

The most effective application for solar energy is the heating of water for domestic use. Solar water heating provides energy directly to the end-user and results in a high level of end-user awareness. The sun's energy is stored directly in the heated water itself, reducing the effect of converting the energy to other forms.

Lakeland presently owns and operates 57 solar water heaters. Lakeland recently chose a second type of solar water heater with a simpler connection and metering setup. Two of these new units are currently installed and data is being gathered to compare their efficiency to the 55 installed in prior years. All units are installed on the roofs of residential customers' homes, i.e. – at the point of consumption. Since this method of energy delivery bypasses the entire transmission and distribution system, there are other benefits than only avoided generation costs.

In Lakeland's program, each solar water heater remains the property of the utility, thereby allowing the customer to avoid the financial cost of the purchase. Lakeland's return on this investment is realized through the sale of the solar generated energy as a separate line item on the customer's monthly bill. This energy device is monitored by using a utility-quality Btu meter calibrated to read in kWh.

One of the purposes of this program is to demonstrate that solar thermal energy can be accurately metered and profitably sold to the everyday residential end-user of hot water. Lakeland Electric's fleet of 57 solar thermal energy generators displaces over 2,000 kWh per year per installation on average.

4.2.3 Utility-Interactive Residential Photovoltaic Systems

This project is a collaborative effort between the Florida Energy Office (FEO), FSEC, Lakeland Electric, and Shell Solar Industries. The primary objectives of this program are to develop approaches and designs that integrate photovoltaic (PV) arrays into residential buildings, and to develop workable approaches to interconnection of PV systems into the utility grid. Lakeland originally installed 3 PV systems , all of which were directly interconnected to the utility grid. These systems have an average nominal power rating of approximately 2.6 kilowatts peak (kWp) and are displacing approximately 2900 kWh per year per installation at standard test conditions. During 2005 title to these systems was transferred to those homeowners in return for their extended voluntary participation.

Lakeland owned, operated, and maintained the systems for at least 7 years. FSEC conducted periodic site visits for testing and evaluation purposes. System performance data was continuously collected via telephone modem line during those years and, at one site, continues to do so. Lakeland and FSEC will continue to analyze the results of utility and systems simulation tests and prepare recommendations for appropriate interconnection requirements for residential PV systems. FSEC prepared technical reports on system performance evaluation, onsite utilization, coincidence of PV generation with demand profiles, and utilization of PV generated electricity as a demand-side management option.

Three additional photovoltaic systems have been privately purchased in the Lakeland Electric service territory. These newer systems generate a total of 14.5 kw of electric capacity. Lakeland Electric has allowed the interconnection of these systems in "net meter" fashion. Lakeland Electric is now the hosting utility to 6 privately-owned, grid-connected solar photovoltaic generators.

4.2.4 Utility-Interactive Photovoltaic Systems on Polk County Schools

Lakeland is also actively involved in a program called "Portable Power." The focus of the program is to install Photovoltaic Systems on portable classrooms in the Polk County School District. This program is a partnership including Lakeland Electric, Polk County School District, Shell Solar Industries, Florida Solar Energy Research and Education Foundation, Florida Solar Energy Center and the Solar Electric Power Association, formerly known as the Utility Photovoltaic Group. It will allow seventeen portable classrooms to be enrolled in former President Clinton's "Million Solar Roofs Initiative." With the installation of the photovoltaic systems 80 percent of the electricity requirements for these classrooms will be met.

Along with the photovoltaic systems, a specially designed curriculum on solar energy appropriate to various grade levels has been developed. An education package has been delivered to the schools for their teachers' use in the explanation of solar sciences. By addressing solar energy technologies in today's public school classrooms, Lakeland is informing the next generation of the environmental and economic need for alternate forms of energy production.

The "Portable Power" in the schools, shown in Figure 4-2, consists of installing 1.8kWp photovoltaic systems on 17 portable classrooms. In addition to the educational awareness benefits of photovoltaic programs in schools, there are several practical reasons why portable classrooms are most appropriate as the platforms for photovoltaics. They have nearly flat roofs and are installed in open spaces, so final orientation is of little consequence. Another reason is the primary electric load of the portable classroom is air conditioning, which is reduced by the shading effect of the panels on their short stand-off mounts. Most important, the total electric load on the portable classroom has high coincidence with the output from the PV system. The hot, sunny day which results in the highest cooling requirements also produce the maximum PV output.

Of extreme value to the photovoltaic industry, Lakeland Electric, in a partnership with the FSEC, provided on-site training sessions while installing the solar equipment on these school buildings. Attendees from other electric utilities were enrolled and given a hands-on opportunity to develop the technical and business skills needed to implement their own solar energy projects. The training classes covered all aspects of the solar photovoltaic experience from system design and assembly, safety and reliability, power quality, and troubleshooting to distributed generation and future requirements of deregulation.

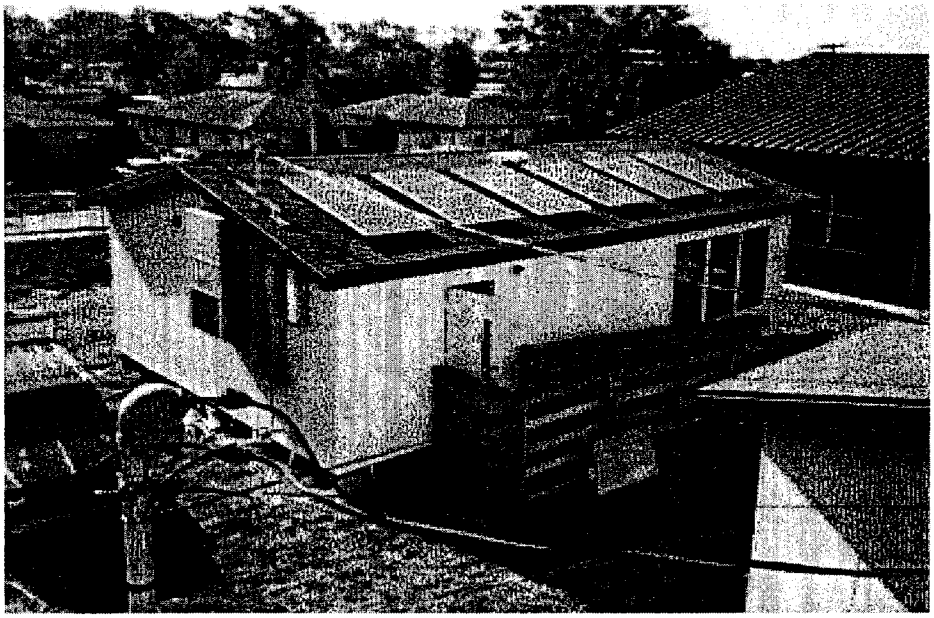


Figure 4-2
Portable Classroom Topped by PV Panels

Lakeland owns, operates, and maintains the systems that are installed on these classrooms. Lakeland monitors the performance and FSEC conducts periodic testing of the equipment. Through the cooperative effort of the partnership, different ways to use photovoltaics efficiently and effectively in today's society are being evaluated.

4.2.5 Integrated Photovoltaics for Florida Residences

Lakeland's existing integrated photovoltaic program supports former President Clinton's "Million Solar Roofs Initiative". The Department of Energy granted five million dollars for solar electric businesses in addition to the existing privately funded twenty-seven million dollars, for a total of thirty-two million dollars for the program. Through the Utility Photovoltaic Group, the investment supported 1,000 PV systems in 12 states and Puerto Rico with hopes to bring photovoltaics to the main market. The 1,000 systems were part of the 500,000 commitments received for the initiative to date. The goal is to have installed solar devices on one million roofs by the year 2010. Lakeland is helping to accomplish this national goal.

This program provides research in the integration of photovoltaics in newly constructed homes. Two new homes, having identical floor plans, were built in "side-by-side" fashion. The dwellings were measured for performance under two conditions: occupied and unoccupied. Data is being collected for end-use load and PV system interface. As a research project, the goal is to see how much energy could be saved without factoring in the cost of the efficiency features.

The first solar home was unveiled May 28, 1998, in Lakeland, Florida. The home construction includes a 4 kW photovoltaic system, white tiled roof, argon filled windows, exterior wall insulation, improved interior duct system, high performance heat pump and high efficiency appliances. An identical home with strictly conventional construction features was also built as a control home. The homes are 1 block apart and oriented in the same direction as shown in Figure 4-3. For the month of July 1998, the occupied solar home air conditioning consumption was 72 percent lower than the unoccupied control house. Living conditions were simulated in the unoccupied home. With regard to total power, the solar home used 50 percent less electricity than the air conditioning consumption of the control home. The solar home was designed to provide enough power during the utility peak that it would not place a net demand on the grid. If the solar home produces more energy than what is being consumed on the premises, the output of the photovoltaic system could be sent into the utility grid. The objective was to test the feasibility of constructing a new, single family residence that was engineered to reduce air conditioning loads to an absolute minimum so most of the cooling and other daytime electrical needs could be accomplished by the PV component.

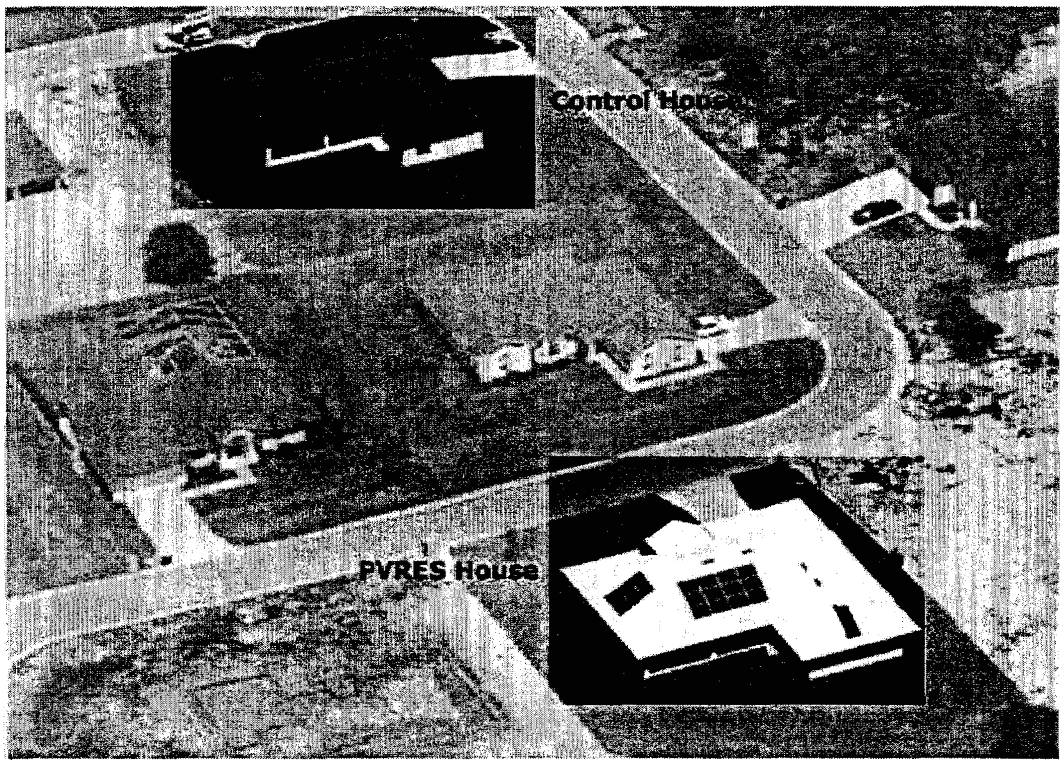


Figure 4-3
Solar House and Control House

4.3 Green Pricing Program

Because no long-term budgets have been established for the deployment of solar energy devices, many utilities are dependent on infrequent, somewhat unreliable sources of funding for their solar hardware purchases. To provide for a more regularly available budget, a number of utilities are looking into the voluntary participation of their customers. Recent market studies performed in numerous locations and among diverse population groups reveal a public willingness to pay equal or even slightly higher energy prices knowing that their payments are being directed towards renewable fuels.

The Florida Municipal Electric Association (FMEA) has assembled a workgroup called "Sunsmart". This workgroup is a committee composed of member utilities. Its purpose is to raise environmental awareness and implement "Green Pricing" programs that would call for regular periodic payments from customers who wish to invest in renewables. The Florida Solar Energy Center (FSEC) co-hosts this effort by providing meeting places and website advertising to recruit from statewide responses. A grant from the State of Florida Department of Community Affairs, Florida Energy Office has been appropriated to encourage utility involvement with Green Pricing. Lakeland Electric is an active member of this committee and is investigating the marketability and public acceptance of a Green Pricing Program in its service territory.

4.4 LED Traffic Light Retrofit Program

The City of Lakeland is responsible for the operation and maintenance of 3,411 traffic lights at over 171 intersections. Historically, these traffic signals have used incandescent bulbs which are replaced every 18 months and use approximately 135 watts of electricity per bulb. This amounts to an annual electrical consumption of 1,633,525 kwh for all 12" red and green signals, arrow signals and pedestrian crossing signals.

This project retrofitted the existing bulbs with highly efficient Light Emitting Diodes (LEDs). The LEDs use approximately 10 watts of energy which is more than a 90% decrease in energy consumption as compared to their incandescent counterparts and have a longer life span, up to seven years, which reduces maintenance costs as well.

The Florida Department of Transportation (FDOT) agreed to help fund Lakeland's project to retrofit the signals. The FDOT contributed $50,000 for these new LED traffic lamps on all roadways within Lakeland's city limits. The FDOT views this as a "good neighbor policy" since FDOT depends on city crews to maintain the signals on its roads and highways within the city's limits.

The project began in December, 2002 and was completed in June 2003. The project is expected to save the City of Lakeland $150,000 per year in maintenance and electricity costs.

As a next step, Lakeland Electric added backup power supply equipment at 14 critical intersections earmarked for FDOT-funded LED signals. These improvements were limited to those intersections that are located on state-funded roadways. The UPS systems will improve safety by keeping traffic signals operating during power outages and accidents. Emergency vehicles in Lakeland will see the added benefit of having easier access to desired areas such as fire and medical locations. Lakeland anticipates being one of the first cities in Florida to have the UPS systems applied to the LED signals.

5.0 Forecasting Methods and Procedures

This section describes and presents Lakeland's long-term integrated resource planning process, the economic parameter assumptions, plus the fuel price projections being used in the current evaluation process.

5.1 Integrated Resource Planning

Lakeland selects its capacity resources through an integrated resource planning process. Lakeland's planning process considers conservation, demand-side management measures, and supply-side resources along with the needs of the T&D system. The integrated resource planning process employed by Lakeland continuously monitors supply and demand-side alternatives. As promising alternatives emerge, they are included in the evaluation process.

5.2 Florida Municipal Power Pool

Lakeland is a member of the Florida Municipal Power Pool (FMPP) along with the Orlando Utilities Commission (OUC) and the All-Requirements Project of the Florida Municipal Power Agency (FMPA). The three utilities operate as one control area. All FMPP capacity resources are committed and dispatched together from the OUC Operations Center.

The FMPP is not a capacity pool meaning that each member must plan for and maintain sufficient capacity to meet their own individual demands and reserve obligations. Any member of the FMPP can withdraw from FMPP with 1 year written notice. Lakeland, therefore, must ultimately plan to meet its own load and reserve requirements as reflected in this document.

5.3 Economic Parameters and Evaluation Criteria

This section presents the assumed values adopted for economic parameters and inputs used in Lakeland's planning process. The assumptions stated in this section are applied consistently throughout this document. Subsection 5.3.1 outlines the basic economic assumptions. Subsections 5.3.2 and 5.3.3 outline the base case, high and low, and constant differential fuel forecasts.

5.3.1 Economic Parameters

This section presents the values assumed for the economic parameters currently being used in Lakeland's least-cost planning analysis.

5.3.1.1 Inflation and Escalation Rates. The general inflation rate applied is assumed to be 3.0 percent per year based on the US forecasted Producer Price Index. A 2.5 escalation rate is applied to operation and maintenance (O&M) expenses. Fuel price escalation rates are discussed below in Section 5.3.2.

5.3.1.2 Bond Interest Rate. Consistent with the traditional tax exempt financing approach used by Lakeland, the self-owned supply-side alternatives assume 100 percent debt financing. Lakeland's long-term tax exempt bond interest rate is assumed to be 4.7 percent.

5.3.1.3 Present Worth Discount Rate. The present worth discount rate used in the analysis is set equal to Lakeland's assumed bond interest rate of 4.7 percent.

5.3.1.4 Interest During Construction. During construction of the plant, progress payments will be made to the EPC contractor and interest charges will accrue on loan draw downs. The interest during construction rate is assumed to be 4.7 percent.

5.3.1.5 Fixed Charge Rates. The fixed charge rate is the sum of the project fixed charges as a percent of the project's total initial capital cost. When the fixed charge rate is applied to the initial investment, the product equals the revenue requirements needed to offset fixed costs for a given year. A separate fixed charge rate can be calculated and applied to each year of an economic analysis, but it is most common to use a Levelized Fixed Charge Rate that has the same present value as the year by year fixed charged rates. Included in the fix charged rate calculation is an assumed 2.0 percent issuance fee, a 1.0 percent annual insurance cost, and a 6-month debt reserve fund earning interest at a rate equal to the bond interest rate.

5.3.2 Fuel Price Projections

This section presents the fuel price projections for coal, petroleum coke, natural gas and oil. This year's fuel price forecast for natural gas has been prepared by Risk Management Inc. for Lakeland Electric. The fuel price forecast for solid fuels and oils has been prepared by Lakeland Electric's staff.

5.3.2.1 Natural Gas. Natural gas, also known as methane, is a colorless, odorless fuel that burns cleaner than many other traditional fossil fuels. Natural gas can be used for heating, cooling, and production of electricity, and other industry uses.

Natural gas is found in the Earth's crust. Once the gas is brought to the surface, it is refined to remove impurities such as water, sand, and other gases. The natural gas is then transmitted through pipelines and delivered to the customer either directly from the pipeline or through a distribution company or utility. When natural gas reaches its destination through a pipeline, it is often stored prior to distribution.

Table 5-1
Base Case Fuel Price Forecast Summary (Real Price $/mmbtu, No Inflation Added)

	McIntosh 3 Coal[1]	Natural Gas[1]	High Sulfur #6 Oil[1]	Low Sulfur #6 Oil[1]	#2 Diesel Oil[1]	Petroleum Coke[1]
2006	2.63	8.31	9.65	10.98	14.75	1.87
2007	3.03	9.32	9.77	11.10	14.87	1.89
2008	3.30	8.91	9.76	11.09	14.86	1.91
2009	3.48	8.43	10.12	11.45	15.22	1.93
2010	3.62	7.99	10.18	11.51	15.28	1.96
2011	3.66	7.56	10.20	11.53	15.30	1.98
2012	3.72	7.41	10.15	11.48	15.25	2.00
2013	3.75	7.12	10.22	11.55	15.32	2.02
2014	3.80	6.95	10.28	11.61	15.38	2.05
2015	3.84	6.84	10.30	11.63	15.40	2.07
Average Annual Growth Rate	4.30%	-2.14%	0.73%	0.64%	0.48%	1.14%

[1]Prices represent delivered prices.

5.3.2.1.1 Natural gas supply and availability. Natural gas reserves exist both in the United States and North American mainland and coastal regions. Natural gas reserves are mostly dependent on domestic production. Increasing demand for natural gas as a fuel for both home and heating and new power generation projects is contributing to the price volatility seen in recent years. Liquefied Natural Gas (LNG) feasibility is currently being explored by three projects proposing pipelines from the Bahamas to Florida, and two projects in the Gulf of Mexico.

5.3.2.1.2 Natural gas transportation. There are now two transportation companies serving Peninsular Florida, Florida Gas Transmission Company (FGT) and Gulfstream. Lakeland Electric has interconnections and service agreements with both companies to provide diversification and competition in delivery.

5.3.2.1.2.1 Florida Gas Transmission Company. FGT is an open access interstate pipeline company transporting natural gas for third parties through its 5,000-mile pipeline system extending from South Texas to Miami, Florida.

The FGT pipeline system accesses a diversity of natural gas supply regions, including:

- Anadarko Basin (Texas, Oklahoma, and Kansas).
- Arkona Basin (Oklahoma and Arkansas).
- Texas and Louisiana Gulf Areas (Gulf of Mexico).
- Black Warrior Basin (Mississippi and Alabama).
- Louisiana – Mississippi – Alabama Salt Basin.
- Mobile Bay

FGT's total receipt point capacity is in excess of 3.0 billion cubic feet per day and includes connections with 10 interstate and 10 intrastate pipelines to facilitate transfers of natural gas into its pipeline system. FGT reports a current delivery capability to Peninsular Florida in excess of 2.0 billion cubic feet per day.

5.3.2.1.2.2 Florida Gas Transmission market area pipeline system. The FGT multiple pipeline system corridor enters the Florida Panhandle in northern Escambia County and runs easterly to a point in southwestern Clay County, where the pipeline corridor turns southerly to pass west of the Orlando area. The mainline corridor then turns to the southeast to a point in southern Brevard County, where it turns south generally paralleling Interstate Highway 95 to the Miami area. A major lateral line (the St. Petersburg Lateral) extends from a junction point in southern Orange County westerly to terminate in the Tampa, St Petersburg, Sarasota area. A major loop corridor (the West Leg Pipeline) branches from the mainline corridor in southeastern Suwannee County to run southward through western Peninsular Florida to connect to the St. Petersburg Lateral system in northeastern Hillsborough County. Each of the above major corridors includes stretches of multiple pipelines (loops) to provide flow redundancy and transport capability. Numerous lateral pipelines extend from the major corridors to serve major local distribution systems and industrial/utility customers.

5.3.2.1.2.3 Gulfstream pipeline. The Gulfstream pipeline is a 744-mile pipeline originating in the Mobile Bay region and crossing the Gulf of Mexico to a landfall in Manatee County (south Tampa Bay). The pipeline has the capability to supply Florida with 1.1 billion cubic feet of gas per day serving existing and prospective electric generation and industrial projects in southern Florida. Figure 5-1 shows the route for the Gulfstream pipeline. Phase I of the pipeline has been completed and ends in Polk County, Florida. The pipeline will be extended to FP&L's Martin Plant. Construction for the Gulfstream pipeline began in 2001 and Phase II is expected to be completed in early 2005.

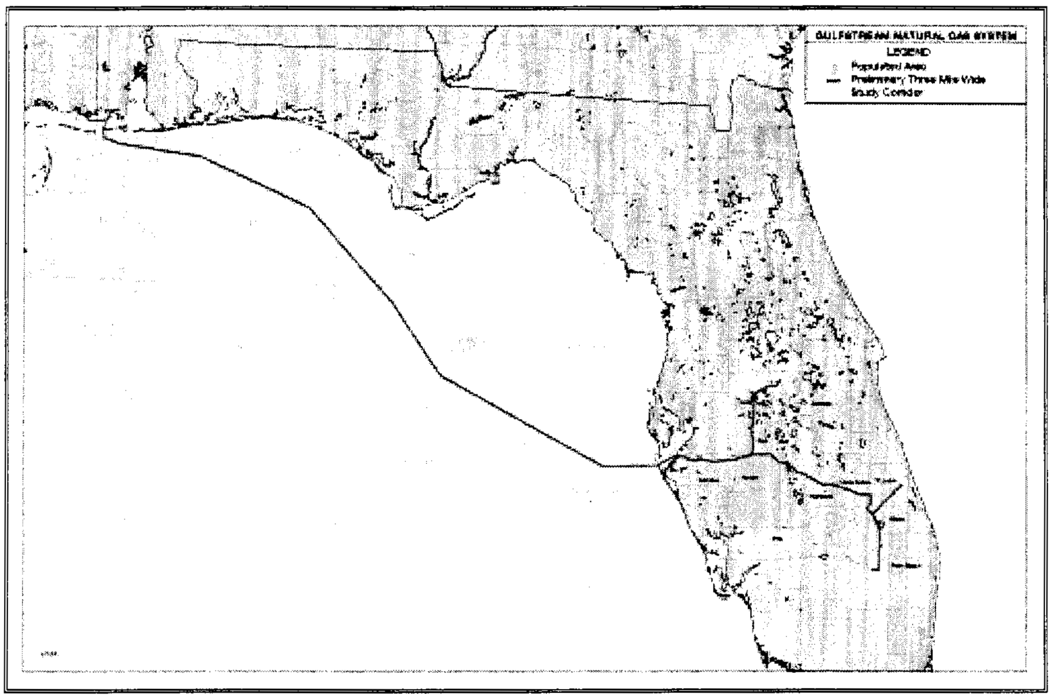


Figure 5-1
Gulfstream Natural Gas Pipeline

5.3.2.1.3 Natural gas price forecast. The price forecast for natural gas developed by Lakeland is based on historical experience and future expectations for the market. The forecast takes into account the fixed long term contracts that Lakeland has in place for a portion of its gas along with new or spot purchases of gas to meet its needs. The cost of reservation is not included in the price of natural gas in Table 5-1. All other fuel types in the table are delivered prices. As previously stated, natural gas prices have been extremely volatile in recent years. To address this volatility, Lakeland Electric has initiated a formal fuels hedging program in 2003. Risk Management Inc., a Chicago company, was selected as a consultant to assist in the formation of policies and procedures as well as the implementation of the program.

Lakeland currently has a ten-year contract with El Paso for the supply of natural gas for a portion of Lakeland's base natural gas requirements. Lakeland purchases "seasonal" gas to supplement the base requirement and purchase "as needed" daily gas to round out its supply needs.

Natural gas transportation from FGT is currently supplied under two tariffs, FTS-1 and FTS-2. Rates in FTS-1 are based on FGT's Phase II expansion and rates in FTS-2 are based on the Phase III expansion. The Phase III expansion was extensive and rates for FTS-2 transportation are significantly higher than FTS-1. Rates for the Phase IV, Phase V, and any other future expansions will be set by the Federal Energy Regulatory Commission (FERC) rate cases at the completion of the projects. Costs for future expansions are anticipated to be rolled in with Phase III costs and the resultant rates are expected to be similar to the existing Phase III rates. Current FTS-1 and FTS-2 transportation rates along with FGT's interruptible transportation rate ITS-1 are shown in Table 5-2.

Table 5-2
Natural Gas Tariff Transportation Rates

Rates And Surcharges	Rate Schedules			
	FGT FTS-1 w/surcharges (cents/DTH)*	FGT FTS-2 w/surcharges (cents/DTH)*	FGT ITS-1	Gulfstream FTS-1
Reservation	38.55	76.18	65.16	80.65
Usage	6.93	6.78	0.00	0.02
Total	47.36	82.96	65.16	80.67
Fuel Charge	3.27%	3.27%	3.27%	2%

* A DTH is equivalent to 1 mmbtu or 1 mcf

For purposes of projecting delivered gas prices, transportation charges of $0.61/mmbtu were applied for existing units as this is the average cost for Lakeland to obtain natural gas transportation for those units. This average rate is realized through a current mix of FTS-1, FTS-2 and Gulfstream FTS transportation, including consideration of Lakeland's ability to relinquish FTS-2 transportation and acquire other firm and interruptible gas transportation on the market.

5.3.2.2 Coal. Coal has been used as an energy source for hundreds of years and provided the energy which fueled the Industrial Revolution of the 19th Century and it was a primary fuel of the electric era in the 20th Century. As of 1998, some 37 percent of the electricity generated worldwide and over half (57 percent) of the electricity generated in the United States was produced from coal.

5.3.2.2.1 Coal supply and availability. Lakeland's current coal purchase contracts are approximately 40 percent long-term and 60 percent spot purchases. Spot purchases can extend from several months to one year in length. Lakeland maintains a 30 – 35 day coal supply reserve (90,000 – 110,000 tons) at the McIntosh site.

5.3.2.2.2 Coal transportation. McIntosh Unit 3 is Lakeland's only unit burning coal. Lakeland projects McIntosh Unit 3 will burn approximately 900,000 tons of coal/petroleum coke per year. The coal sources are located in eastern Kentucky, which affords Lakeland a single rail line haul via CSX Transportation. Lakeland also imports a portion of its coal needs from South American sources.

5.3.2.2.3 Coal price forecast

Currently, Lakeland's long-term purchase of coal for McIntosh 3 is under two contracts which expire in December of 2006. Lakeland is expecting a steady increase in coal costs as new contracts are crafted for 2007 and beyond. Lakeland's forecast for coal is slightly higher than other generic U.S. forecasts due to the additional transportation costs to get the coal to Florida.

5.3.2.3 Petroleum Coke price forecast. Lakeland has utilized petroleum coke as a supplemental fuel in its McIntosh Unit 3 as a means of reducing overall costs to its customers. Petroleum coke is a by-product of the oil refining process. This by-product is a solid residue produced from the cracking of heavy residual oil to produce lighter hydrocarbons. Petroleum coke is high in fixed carbon with heating values in the range of 14,200 to 14,600 Btu/lb. Other product characteristics are low volatile content, low ash content, high sulfur content and varying degrees of hardness. The physical and chemical specifications of petroleum coke are a direct function of the oils being processed by the refinery. The amount of petroleum coke produced is increasing due to the increase in refining capacity for heavy crude oils and the declining demand for residual fuel oil. The coking process allows for a higher yield of light oil products, specifically gasoline.

McIntosh Unit 3 has burned approximately 100,000 tons of petroleum coke annually, a very small amount compared to overall market availability. The petroleum coke burned in McIntosh Unit 3 is a higher grade, lower sulfur, more expensive petroleum coke than what would be burned in a unit specifically designed to burn petroleum coke. Lakeland will continue to evaluate the price and availability and will supplement this fuel as economics allow.

5.3.2.3.2 Petroleum coke transportation. In general, petroleum coke is amenable to transport by truck, rail, barges, ocean going ships, or a combination of these modes of transportation. Petroleum coke for McIntosh 3 has been transported to the McIntosh site by truck.

5.3.2.4 Fuel Oil

5.3.2.4.1 Fuel oil supply and availability. The City of Lakeland currently obtains all of its fuel oil through spot market purchases and has no long-term contracts. This strategy provides the lowest cost for fuel oil consistent with usage, current price stabilization, and on-site storage. Lakeland's Fuels Section continually monitors the cost-effectiveness of spot market purchasing.

5.3.2.4.2 Fuel oil transportation. Although the City of Lakeland is not a large consumer of fuel oils, a small amount is consumed during operations for backup fuel and diesel unit operations. Fuel oil is transported to Lakeland by truck.

5.3.2.4.3 Fuel oil price forecast. The recent world events of 2004 and 2005 appear to have placed oil prices at a new level in the world market. Previous thoughts of prices moderating as is being seen in the natural gas market do not seem to be materializing. Lakeland has subsequently adjusted its oil price forecast upward to reflect current market pricing and what the anticipated future price may be.

5.3.3 Fuel Forecast Sensitivities

Lakeland is not presenting specific forecasted fuel price sensitivities. In the 2005 IRP study, fuel price sensitivity cases were run for natural gas and coal. Natural gas price sensitivity cases included: + $1.00/mmbtu, + $2.00/mmbtu, + $3.00/mmbtu and - $1.00/mmbtu from the base case price forecast. Coal price sensitivities included +/- $0.50/mmbtu from the base case price forecast. No price sensitivities were run on oil fuels as they only make up a very small part of total energy production and cost in the forecast period.

6.0 Forecast of Facilities Requirements

6.1 Need for Capacity

This section addresses the need for additional electric capacity to serve Lakeland's electric customers in the future. The need for capacity is based on Lakeland's load forecast, reserve margin requirements, power sales contracts, existing generating and unit capability and scheduled retirements of generating units.

6.1.1 Load Forecast

The load forecast described in Section 3.0 is used to determine the need for capacity. A summary of the load forecast for winter and summer peak demand for base, high, and low projections are provided in Tables 3-3 and 3-4. The peak demands reflect reductions for Lakeland's conservation and demand-side management programs and interruptible loads.

6.1.2 Reserve Requirements

Prudent utility planning requires that utilities secure firm generating resources over and above the expected peak system demand to account for unanticipated demand levels and supply constraints. Several methods of estimating the appropriate level of reserve capacity are used. A commonly used approach is the reserve margin method, which is calculated as follows:

$$\frac{\text{system net capacity - system net peak demand}}{\text{system net peak demand}}$$

Lakeland has looked at probabilistic approaches to determine its reliability needs in the past. These have included indices such as LOLP and EUE. Lakeland has found that due to the strength of its transmission system, assisted LOLP or EUE values were so small that reserves based on those measures would be nearly non-existent. Conversely, isolated probabilistic values come out overly pessimistic calling for excessively high levels of reserves due to approximately 50% of Lakeland's capacity being made up by only two units. As a result, Lakeland has stayed with the reserve margin method based on the equation presented above. When combined with regular review of unit performance at times of peak, Lakeland finds reserve margin to be the proper reliability measure for its system.

Generation availability is reviewed annually and is found to be within industry standards for the types of units that Lakeland has in its fleet, indicating adequate and prudent maintenance is taking place. Lakeland's winter and summer reserve margin target is currently 15%. This complies with the FRCC reserve margin criteria for the FRCC Region. As Lakeland's needs and fleet of resources continue to change through time, reserve margin levels will be reviewed and adjusted as appropriate.

6.1.3 Additional Capacity Requirements

By comparing the load forecast plus reserves with firm supply, the additional capacity required on a system over time can be identified. Lakeland's requirements for additional capacity are presented in Tables 6-1 through 6-4 which show the projected reliability levels for winter and summer base cases, and winter high and low load demands, respectively. Lakeland's capacity requirements are driven by the winter peak demand forecasts.

The last column of Table 6-1 indicates that using the base winter forecast, Lakeland will not need any additional capacity in the current ten year planning cycle. Lakeland completed Phase I of its detailed Integrated Resource Planning process in November 2005. As previously mentioned, absent any retirements, Lakeland does not need additional capacity in the current ten year planning horizon. Results of the IRP do indicate the need for additional capacity shortly beyond the current ten year planning horizon and therefore Lakeland will be moving into a second phase of that study this year to identify the best alternative(s) for Lakeland and its customers based on factors such as least cost, risk avoidance and other strategic concerns. Lakeland has concluded from Phase I of the IRP that additional fuel diversity is in the best interests of Lakeland and its customers. Further study is taking place regarding the potential disposition of two existing Lakeland resources. Possible scenarios include but are not limited to retirements, fuel conversion strategies, fuel diversification strategies, long term capacity replacement based on fuel savings or combinations of any of these. Depending on the outcome of that analysis, the need for new capacity could be shifted to occur in the current ten year planning horizon. Results of this next phase of the IRP study are expected to be complete by October of 2006 and will be included in the 2007 filing of this document.

As Lakeland expects to continue to be a winter peaking utility, Table 6-2 also indicates that no additional capacity is needed during the summer peak seasons for the current ten year planning cycle. Tables 6-3 and 6-4 show the high and low winter load forecasts for Lakeland.

Table 6-1 Projected Reliability Levels - Winter / Base Case										
					System Peak Demand		Reserve Margin		Excess/ (Deficit) to Maintain 15% Reserve Margin	
Year	Net Generating Capacity (MW)	Net System Purchases (MW)	Net System Sales (MW)	Net System Capacity (MW)	Before Interruptible and Load Management (MW)	After Interruptible and Load Management (MW)	Before Interruptible and Load Management (%)	After Interruptible and Load Management (%)	Before Interruptible and Load Management (MW)	After Interruptible and Load Management (MW)
2006/2007	995	0	100	895	710	710	26.1	26.1	79	79
2007/2008	995	0	0	995	721	721	38.0	38.0	166	166
2008/2009	995	0	0	995	733	733	35.7	35.7	152	152
2009/2010	995	0	0	995	744	744	33.7	33.7	139	139
2010/2011	995	0	0	995	755	755	31.8	31.8	127	127
2011/2012	995	0	0	995	766	766	29.9	29.9	114	114
2012/2013	995	0	0	995	777	777	28.1	28.1	101	101
2013/2014	995	0	0	995	788	788	26.3	26.3	89	89
2014/2015	995	0	0	995	799	799	24.5	24.5	76	76
2015/2016	995	0	0	995	812	812	22.5	22.5	61	61

Table 6-2
Projected Reliability Levels - Summer / Base Case

					System Peak Demand		Reserve Margin		Excess/ (Deficit) to Maintain 15% Reserve Margin	
Year	Net Generating Capacity (MW)	Net System Purchases (MW)	Net System Sales (MW)	Net System Capacity (MW)	Before Interruptible and Load Management (MW)	After Interruptible and Load Management (MW)	Before Interruptible and Load Management (%)	After Interruptible and Load Management (%)	Before Interruptible and Load Management (MW)	After Interruptible and Load Management (MW)
2006	913	0	100	813	621	621	30.9	30.9	99	99
2007	913	0	100	813	629	629	29.3	29.3	90	90
2008	913	0	0	913	638	638	43.1	43.1	179	179
2009	913	0	0	913	648	648	40.9	40.9	168	168
2010	913	0	0	913	657	657	39.0	39.0	157	157
2011	913	0	0	913	666	666	37.1	37.1	147	147
2012	913	0	0	913	675	675	35.3	35.3	137	137
2013	913	0	0	913	684	684	33.5	33.5	126	126
2014	913	0	0	913	694	694	31.6	31.6	115	115
2015	913	0	0	913	704	704	29.7	29.7	103	103

Table 6-3
Projected Reliability Levels - Winter / High Case

Year	Net Generating Capacity (MW)	Net System Purchases (MW)	Net System Sales (MW)	Net System Capacity (MW)	System Peak Demand		Reserve Margin		Excess/ (Deficit) to Maintain 15% Reserve Margin	
					Before Interruptible and Load Management (MW)	After Interruptible and Load Management (MW)	Before Interruptible and Load Management (%)	After Interruptible and Load Management (%)	Before Interruptible and Load Management (MW)	After Interruptible and Load Management (MW)
2006/2007	995	0	100	895	744	744	20.3	20.3	39	39
2007/2008	995	0	0	995	754	754	32.0	32.0	128	128
2008/2009	995	0	0	995	765	765	30.1	30.1	115	115
2009/2010	995	0	0	995	777	777	28.1	28.1	101	101
2010/2011	995	0	0	995	788	788	26.3	26.3	89	89
2011/2012	995	0	0	995	799	799	24.5	24.5	76	76
2012/2013	995	0	0	995	810	810	22.8	22.8	64	64
2013/2014	995	0	0	995	821	821	21.2	21.2	51	51
2014/2015	995	0	0	995	832	832	19.6	19.6	38	38
2015/2016	995	0	0	995	843	843	18.0	18.0	26	26

Table 6-4
Projected Reliability Levels - Winter / Low Case

Year	Net Generating Capacity (MW)	Net System Purchases (MW)	Net System Sales (MW)	Net System Capacity (MW)	System Peak Demand		Reserve Margin		Excess/ (Deficit) to Maintain 15% Reserve Margin	
					Before Interruptible and Load Management (MW)	After Interruptible and Load Management (MW)	Before Interruptible and Load Management (%)	After Interruptible and Load Management (%)	Before Interruptible and Load Management (MW)	After Interruptible and Load Management (MW)
2006/2007	995	0	100	895	656	656	36.4	36.4	141	141
2007/2008	995	0	0	995	666	666	49.4	49.4	229	229
2008/2009	995	0	0	995	677	677	47.0	47.0	216	216
2009/2010	995	0	0	995	689	689	44.4	44.4	203	203
2010/2011	995	0	0	995	700	700	42.1	42.1	190	190
2011/2012	995	0	0	995	711	711	39.9	39.9	177	177
2012/2013	995	0	0	995	722	722	37.8	37.8	165	165
2013/2014	995	0	0	995	733	733	35.7	35.7	152	152
2014/2015	995	0	0	995	744	744	33.7	33.7	139	139
2015/2016	995	0	0	995	755	755	31.8	31.8	127	127

7.0 Generation Expansion Analysis Results and Conclusions

This section discusses the status of Lakeland's Generation Expansion plans as of December 31, 2005. At the time of this filing, Lakeland has completed Phase I of its 2005 Integrated Resource Plan (IRP). The results of the first phase were a statistical dead heat between the six final cases that were studied. These cases included various solid fuel as well as all natural gas fired addition scenarios. Because a single clear cut winner could not be determined solely on an economic basis Lakeland is proceeding with a second phase of the 2005 IRP study to perform risk assessment and strategic concern analysis on the six final cases to determine the best course of action for Lakeland and its customers. The recent volatility of oil and natural gas prices in the second half of 2005 require careful analysis and consideration when considering new generation. As shown in Section 6 and again in the Tables in Section 9, Lakeland does not have an immediate capacity need in the current ten year planning horizon. The gives Lakeland the ability to continue, in a timely but unhurried manner, its evaluation of resource options along with existing resources and what the proper mix of existing and/or new resources should be, if any. Options being considered have included but were not limited to remaining in or leaving the generation business, diversification of existing resource portfolio, retirements, environmental compliance strategies, fuel switching and proper fuel diversification of future resource portfolio's. As no final decision has been made at the time of this writing, all resources are assumed available over the planning cycle meaning no planned retirements of existing facilities being proposed for the current ten year planning cycle. The demand and capacity analysis presented in Section 6 indicates that this position is feasible and achievable for the current planning cycle.

7.1 Supply-Side Economic Analysis

The supply-side evaluations of generating unit alternatives are performed in house by Lakeland staff utilizing a variety of tools to identify possible supply side technologies. Lakeland's utilizes higher level optimization programs to screen literally thousands of possibilities and identify a more manageable set of scenarios that can then be analyzed in more detail. Lakeland uses a detailed production costing program, POWRSYM3, to perform the more detailed analysis of scenarios to identify the best solution to meet the future needs of the utility.

7.2 Demand-Side Economic Analysis

Lakeland continues to actively monitor Demand-Side Options to find the most cost-effective way to meet our customers' needs. To date, no traditional cost-effective DSM measures have been identified. Lakeland was able to demonstrate its solar thermal water heating program cost-effective through the use of the PSC approved FIRE model in the 2005 IRP. The main driver for this program being cost-effective is because it has its own self-sustaining rate, meaning there is no revenue loss to the utility and other customers do not subsidize the program. Participants are billed for the thermal energy used at a separate rate from their normal KWH consumption. As a result Lakeland is developing a business plan to present to its management to increase the penetration of its solar thermal hot water program. This program has been highly successful in its R&D stage and should be considered a hybrid between DSM and distributed generation. It should be noted that despite this program being cost-effective, even the most aggressive implementation of this program would not

7.3 Sensitivity Analysis

In Lakeland's normal course of analysis a preferred option would be selected. Lakeland would then perform several sensitivity analyses to measure the impact of important assumptions on the option(s) selected. The sensitivity analyses may include but not be limited to the following:

- High load and energy growth.
- Low load and energy growth.
- High fuel price escalation.
- Low fuel price escalation.
- Constant differential between oil/gas and coal prices over the planning horizon.

For each sensitivity analysis, a best plan over the planning horizon would be identified. The sensitivity analyses would be performed over the same planning period used throughout the economic evaluations, with a projection of annual costs and cumulative present worth costs.

7.4 Transmission and Distribution

All options selected would be analyzed for impacts to the transmission and distribution systems and the costs of any upgrades would be factored into the final analysis and decision.

8.0 Environmental and Land Use Information

Lakeland's 2006 Ten-Year Site Plan has no capacity additions in it and thus no additional environmental or land use information is required at this time. All existing units are fully permitted and meet all permitted requirements. Any future additions would comply with all applicable environmental and land use requirements.

9.0 Ten-Year Site Plan Schedules

The following section presents the schedules required by the Ten-Year Site Plan rules for the Florida Public Service Commission. Lakeland has attempted to provide complete information for the FPSC whenever possible.

9.1 Abbreviations and Descriptions

The following abbreviations are used throughout the Ten-Year Site Plan Schedules.

Abbreviation	Description
Unit Type	
CA	Combined Cycle Steam Part
GT	Combustion Gas Turbine
ST	Steam Turbine
CT	Combined Cycle Combustion Turbine
IC	Internal Combustion Engine
Fuel Type	
NG	Natural Gas
DFO	Distillate Fuel Oil
RFO	Residual Fuel Oil
BIT	Bituminous Coal
WH	Waste Heat
Fuel Transportation Method	
PL	Pipeline
TK	Truck
RR	Railroad
Unit Status Code	
RE	Retired
SB	Cold Standby (Reserve)
TS	Construction Complete, not yet in commercial operation
U	Under Construction
P	Planned for installation

Table 9-1a
Schedule 1.0: Existing Generating Facilities as of December 31, 2004

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
				Fuel		Fuel Transport						Net Capability[1]	
Plant Name	Unit No.	Location	Unit Type	Pri	Alt	Pri	Alt	Alt Fuel Days Use	Commercial In-Service Month/Year	Expected Retirement Month/Year	Gen. Max. Nameplate kW	Summer MW	Winter MW
Charles Larsen Memorial	2	16-17/28S/24E	GT	NG	DFO	PL	TK	28	11/62	Unknown	11,500	10	14
	3		GT	NG	DFO	PL	TK	28	12/62	Unknown	11,500	9	13
	8		CA	WH	---				04/56	Unknown	25,000	29	31
	8		CT	NG	DFO	PL	TK	5	07/92	Unknown	101,520	73	93
Plant Total												121	151

[1]Net Normal.

Source: Lakeland Energy Supply Unit Rating Group

Table 9-1b
Schedule 1.0: Existing Generating Facilities as of December 31, 2004

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
				Fuel		Fuel Transport						Net Capability[1]	
Plant Name	Unit No.	Location	Unit Type	Pri	Alt	Pri	Alt	Alt Fuel Days Use	Commercial In-Service Month/Year	Expected Retirement Month/Year	Gen. Max. Nameplate kW	Summer MW	Winter MW
Winston Peaking Station	1-20	21/28S/23E	IC	NG	DFO	PL	TK	3	12/01	Unknown	2,500 each	50	50
Plant Total												50	50
C.D. McIntosh, Jr.	D1	4-5/28S/24E	IC	DFO	---	TK	---		01/70	Unknown	2,500	2.5	2.5
	D2		IC	DFO	---	TK	---		01/70	Unknown	2,500	2.5	2.5
	GT1		GT	NG	DFO	PL	TK	2	05/73	Unknown	26,640	17	20
	1		ST	NG	RFO	PL	TK	29	02/71	Unknown	103,000	87	87
	2		ST	NG	RFO	PL	TK	25	06/76	Unknown	126,000	106	106
	3[2]		ST	BIT	---	RR	---		09/82	Unknown	363,870	205	205
	5		CT	NG	DFO	PL	TK	3	05/01	Unknown	292,950	210	250
	5		CA	WH	---				05/02	Unknown	135,000	112	121
Plant Total												742	794
System Total												913	995

[1]Net Normal.
[2]Lakeland's 60 percent portion of joint ownership with Orlando Utilities Commission.

Source: Lakeland Energy Supply Unit Rating Group

Table 9-2
Schedule 2.1: History and Forecast of Energy Consumption and Number of Customers by Customer Class

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Rural & Residential					Commercial		
Year	Population	Members per Household	GWh	Average No. of Customers	Average kWh Consumption per Customer	GWh	Average No. of Customers	Average kWh Consumption per Customer
1996	212,248	2.54	1,213	83,656	14,500	588	9,747	60,326
1997	215,544	2.54	1,170	84,941	13,774	607	9,835	61,718
1998	217,681	2.54	1,249	85,840	14,550	625	10,033	62,294
1999	221,060	2.53	1,239	87,222	14,205	642	10,338	62,101
2000	224,882	2.53	1,263	88,740	14,233	659	10,553	62,447
2001	231,044	2.56	1,328	90,332	14,701	665	10,637	62,518
2002	234,210	2.55	1,328	91,875	14,454	686	10,639	64,480
2003	236,890	2.54	1,418	93,126	15,227	688	11,013	62,472
2004	243,576	2.58	1,403	93,620	14,986	693	11,248	61,611
2005	247,942	2.58	1,443	96,205	14,996	734	11,480	63,937
Forecast								
2006	252,670	2.59	1,460	97,483	14,923	738	11,737	62,878
2007	257,495	2.59	1,488	99,539	14,950	750	11,931	62,861
2008	262,321	2.59	1,519	101,249	15,005	766	12,078	63,421
2009	267,146	2.59	1,551	103,146	15,042	776	12,248	63,357
2010	271,971	2.59	1,585	105,038	15,088	788	12,424	63,426
2011	276,796	2.59	1,616	106,717	15,139	799	12,602	63,403
2012	281,622	2.59	1,651	108,531	15,215	811	12,789	63,414
2013	286,447	2.60	1,684	110,334	15,260	820	12,987	63,140
2014	291,272	2.60	1,717	111,992	15,333	831	13,201	70,525
2015	296,097	2.60	1,755	113,869	15,412	842	13,433	62,681

Table 9-3

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

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Industrial						
Year	GWh	Average No. of Customers	Average kWh Consumption per Customer	Railroads and Railways	Street & Highway Lighting GWh	Other Sales to Public Authorities GWh	Total Sales to Ultimate Consumers GWh
1996	428	57	7,508,772	0	15	77	2,321
1997	459	62	7,403,226	0	16	78	2,330
1998	462	62	7,451,613	0	17	80	2,432
1999	486	70	6,942,857	0	17	79	2,463
2000	507	83	6,108,434	0	18	84	2,531
2001	488	80	6,100,000	0	19	83	2,583
2002	513	89	5,764,045	0	19	80	2,626
2003	536	90	5,955,556	0	19	80	2,741
2004	556	91	6,109,890	0	20	81	2,753
2005	543	83	6,540,518	0	20	84	2,824
Forecast							
2006	589	86	6,844,140	0	21	83	2,891
2007	606	88	6,886,841	0	21	85	2,950
2008	622	89	6,992,382	0	21	86	3,014
2009	632	91	6,944,473	0	21	87	3,067
2010	641	92	6,967,391	0	22	87	3,123
2011	653	94	6,947,191	0	22	87	3,177
2012	665	95	6,995,042	0	22	88	3,237
2013	673	97	6,936,835	0	23	88	3,288
2014	683	98	6,968,776	0	23	88	3,342
2015	694	100	6,935,980	0	23	90	3,404

Table 9-4
Schedule 2.3: History and Forecast of Energy Consumption and Number of Customers by Customer Class

(1)	(2)	(3)	(4)	(5)	(6)
Year	Sales for Resale GWh	Utility Use & Losses GWh	Net Energy for Load GWh	Other Customers (Average No.)	Total No. of Customers
1996	0	127	2,448	9,261	102,720
1997	0	113	2,443	9,626	114,088
1998	0	117	2,549	9,912	116,353
1999	0	123	2,586	10,622	119,332
2000	0	138	2,669	10,614	121,071
2001	0	112	2,695	10,699	122,692
2002	0	151	2,777	10,583	124,317
2003	0	181	2,922	10,517	125,567
2004	0	91	2,844	10,361	126,359
2005	0	136	2,960	10,209	128,186
Forecast					
2006	0	124	3,015	10,172	130,010
2007	0	121	3,071	10,226	132,010
2008	0	120	3,134	10,279	133,974
2009	0	123	3,190	10,333	136,151
2010	0	127	3,250	10,387	138,328
2011	0	129	3,306	10,442	140,297
2012	0	133	3,370	10,497	142,409
2013	0	135	3,423	10,552	144,522
2014	0	139	3,481	10,608	146,507
2015	0	141	3,545	10,664	148,730

Table 9-5
Schedule 3.1: History and Forecast of Summer Peak Demand Base Case (MW)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
					Residential		Commercial/Industrial		
Year	Total	Wholesale	Retail	Interrupt.	Load Management	Conservation	Load Management	Conservation	Net Firm Demand
1996	490	0	490	0	0	0	0	0	482
1997	509	0	509	0	0	0	0	0	509
1998	535	0	535	0	0	0	0	0	535
1999	557	0	557	0	22	0	0	0	535
2000	573	0	573	0	21	0	0	0	552
2001	546	0	546	0	0	0	0	0	546
2002	576	0	576	0	0	0	0	0	576
2003	579	0	579	0	0	0	0	0	579
2004	580	0	580	0	0	0	0	0	580
2005	639	0	639	0	0	0	0	0	639
Forecast									
2006	621	0	621	0	0	0	0	0	621
2007	629	0	629	0	0	0	0	0	629
2008	638	0	638	0	0	0	0	0	638
2009	648	0	648	0	0	0	0	0	648
2010	657	0	657	0	0	0	0	0	657
2011	666	0	666	0	0	0	0	0	666
2012	675	0	675	0	0	0	0	0	675
2013	684	0	684	0	0	0	0	0	684
2014	694	0	694	0	0	0	0	0	694
2015	704	0	704	0	0	0	0	0	704

Table 9-6
Schedule 3.2: History and Forecast of Winter Peak Demand Base Case (MW)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
					Residential		Comm./Ind.		
Year	Total	Wholesale	Retail	Interrupt.	Load Management	Conservation	Load Management	Conservation	Net Firm Demand
1996/97	552	0	552	0	0	0	0	0	552
1997/98	476	0	476	0	0	0	0	0	476
1998/99	611	0	611	0	0	0	0	0	611
1999/2000	661	0	661	0	51	0	0	0	610
2000/01	706	0	706	0	51	0	0	0	655
2001/02	659	0	659	0	0	0	0	0	659
2002/03	694	0	694	0	0	0	0	0	694
2003/04	578	0	578	0	0	0	0	0	578
2004/05	648	0	648	0	0	0	0	0	648
2005/06	700	0	700	0	0	0	0	0	700
Forecast									
2006/07	710	0	710	0	0	0	0	0	710
2007/08	721	0	721	0	0	0	0	0	721
2008/09	733	0	733	0	0	0	0	0	733
2009/10	744	0	744	0	0	0	0	0	744
2010/11	755	0	755	0	0	0	0	0	755
2011/12	766	0	766	0	0	0	0	0	766
2012/13	777	0	777	0	0	0	0	0	777
2013/14	788	0	788	0	0	0	0	0	788
2014/15	799	0	799	0	0	0	0	0	799
2015/16	812	0	812	0	0	0	0	0	812

Table 9-7
Schedule 3.3: History and Forecast of Annual Net Energy for Load – GWh
Base Case

(1)	(2)	(3)	(5)	(6)	(7)	(8)	(9)	(10)
Year	Total	Residential Conservation	Comm./Ind. Conservation	Retail	Wholesale	Utility Use & Losses	Net Energy for Load	Load Factor %
1996	2,321	0	0	2,321	0	127	2,448	45.8
1997	2,330	0	0	2,391	0	113	2,443	50.5
1998	2,432	0	0	2,432	0	117	2,549	61.1
1999	2,463	0	0	2,462	0	123	2,586	48.3
2000	2,531	0	0	2,531	0	138	2,669	49.9
2001	2,583	0	0	2,582	0	112	2,695	47.0
2002	2,626	0	0	2,626	0	151	2,777	48.1
2003	2,741	0	0	2,726	0	181	2,922	47.8
2004	2,753	0	0	2,753	0	91	2,844	56.3
2005	2,824	0	0	2,824	0	136	2,960	52.1
Forecast								
2006	2,891	0	0	2,891	0	124	3,015	49.2
2007	2,950	0	0	2,950	0	121	3,071	49.4
2008	3,014	0	0	3,014	0	120	3,134	49.5
2009	3,067	0	0	3,067	0	123	3,190	49.7
2010	3,123	0	0	3,123	0	127	3,250	49.9
2011	3,177	0	0	3,177	0	129	3,306	50.0
2012	3,237	0	0	3,237	0	133	3,370	50.1
2013	3,288	0	0	3,288	0	135	3,423	50.3
2014	3,342	0	0	3,342	0	139	3,481	50.4
2015	3,404	0	0	3,404	0	141	3,545	50.6

Table 9-8
Schedule 4: Previous Year and Two Year Forecast of Retail Peak Demand and Net Energy for Load by Month

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Month	Actual		2006 Forecast		2007 Forecast	
	Peak Demand[1] MW	NEL GWh	Peak Demand[1] MW	NEL GWh	Peak Demand[1] MW	NEL GWh
January	648	222	700	245	710	251
February	498	191	531	209	538	214
March	476	219	499	229	506	234
April	456	206	494	223	500	228
May	523	252	553	262	559	266
June	578	265	582	277	588	281
July	616	307	602	290	609	295
August	639	320	621	304	629	308
September	568	279	576	278	584	283
October	542	254	531	247	538	252
November	427	208	468	211	475	214
December	520	237	555	240	564	245

[1] After Load Management, Conservation and Interruptible Load exercised as needed.

Table 9-9
Schedule 5: Fuel Requirements

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
				Calendar Year										
	Fuel Requirements	Type	Units	2005 - Actual	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
(1)	Nuclear		Trillion Btu	0	0	0	0	0	0	0	0	0	0	0
(2)	Coal[1]		1000 Ton	641	546	549	555	547	520	571	571	591	574	559
(3)	Residual	Steam	1000 BBL	288	456	453	490	524	203	0	0	0	0	0
(4)		CC	1000 BBL	0	0	0	0	0	0	0	0	0	0	0
(5)		CT	1000 BBL	0	0	0	0	0	0	0	0	0	0	0
(6)		Total	1000 BBL	288	456	453	490	524	203	0	0	0	0	0
(7)	Distillate	Steam	1000 BBL	0	0	0	0	0	0	0	0	0	0	0
(8)		CC	1000 BBL	12	0	0	0	0	0	0	0	0	0	0
(9)		CT	1000 BBL	12	0	0	0	5	6	4	52	18	4	14
(10)		Total	1000 BBL	24	0	0	0	5	6	4	52	18	4	14
(11)	Natural Gas	Steam	1000 MCF	219	14	5	10	49	124	179	820	452	392	1022
(12)		CC	1000 MCF	6078	11339	11777	12033	12287	14698	14777	14552	15118	15993	16316
(13)		CT	1000 MCF	16	10	12	14	25	37	51	89	56	58	62
(14)		Total	1000 MCF	6313	11363	11794	12057	12361	14859	15007	15461	15626	16443	17400
(15)	Other		Trillion Btu	0	0	0	0	0	0	0	0	0	0	0

[1] Includes Petroleum Coke.

Table 9-10
Schedule 6.1: Energy Sources

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
				Calendar Year										
	Energy Sources	Type	Units	2005 - Actual	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
(1)	Inter-Regional Interchange		GWh	0	0	0	0	0	0	0	0	0	0	0
(2)	Nuclear		GWh	0	0	0	0	0	0	0	0	0	0	0
(3)	Coal[1]		GWh	1572	1376	1387	1404	1389	1324	1452	1458	1510	1468	1435
(4)	Residual	Steam	GWh	175	229	233	255	279	69	0	0	0	0	0
(5)		CC	GWh	0	0	0	0	0	0	0	0	0	0	0
(6)		CT	GWh	0	0	0	0	0	0	0	0	0	0	0
(7)		Total	GWh	175	229	233	255	279	69	0	0	0	0	0
(8)	Distillate	Steam	GWh	0	0	0	0	0	0	0	0	0	0	0
(9)		CC	GWh	6	0	0	0	0	0	0	0	0	0	0
(10)		CT	GWh	6	0	0	0	3	4	2	33	11	2	9
(11)		Total	GWh	12	0	0	0	3	4	2	33	11	2	9
(12)	Natural Gas	Steam	GWh	55	1	0	1	4	10	14	71	37	33	89
(13)		CC	GWh	750	1500	1562	1597	1647	1984	1995	1961	2046	2176	2224
(14)		CT	GWh	1	1	1	1	1	2	3	6	3	4	4
(15)		Total	GWh	806	1502	1563	1599	1652	1996	2012	2038	2086	2213	2317
(16)	NUG			0	0	0	0	0	0	0	0	0	0	0
(17)	Hydro			0	0	0	0	0	0	0	0	0	0	0
(18)	Other (Specify)[2]			395	-92	-112	-124	-133	-143	-160	-159	-184	-202	-216
(19)	Net Energy for Load		GWh	2960	3015	3071	3134	3190	3250	3306	3370	3423	3481	3545

[1] Includes Petroleum Coke.
[2] Intra-Regional Net Interchange including Firm Sale to FMPA

Table 9-11
Schedule 6.2: Energy Sources

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
				Calendar Year										
	Energy Source	Type	Units	2005 - Actual	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
(1)	Inter-Regional Interchange		%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(2)	Nuclear		%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(3)	Coal[1]	Total	%	53.11	45.64	45.16	44.80	43.54	40.74	43.92	43.26	44.11	42.17	40.48
(4)	Residual	Steam	%	5.91	7.6	7.59	8.14	8.75	2.12	0.00	0.00	0.00	0.00	0.00
(5)		CC	%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(6)		CT	%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(7)		Total	%	5.91	7.60	7.59	8.14	8.75	2.12	0.00	0.00	0.00	0.00	0.00
(8)	Distillate	Steam	%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(9)		CC	%	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(10)		CT	%	0.20	0.00	0.00	0.00	0.09	0.12	0.06	0.98	0.32	0.06	0.25
(11)		Total	%	0.40	0.00	0.00	0.00	0.09	0.12	0.06	0.98	0.32	0.06	0.25
(12)	Natural Gas	Steam	%	1.86	0.03	0.00	0.03	0.13	0.31	0.42	2.11	1.08	0.95	2.51
(13)		CC	%	25.34	49.75	50.86	50.96	51.63	61.05	60.34	58.19	559.77	62.51	62.74
(14)		CT	%	0.03	0.03	0.03	0.03	0.03	0.06	0.09	0.18	0.09	0.11	0.11
(15)		Total	%	27.23	49.81	50.89	51.02	51.79	61.42	60.85	60.48	60.94	63.57	65.36
(16)	NUG		%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Hydro		%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Other (Specify)[2]		%	13.35	-3.05	-3.64	-3.96	-4.17	-4.40	-4.83	-4.72	-5.37	-5.80	-6.09
(18)	Net Energy for Load		%	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

[1] Includes Petroleum Coke.
[2] Other = Intra-Regional Net Interchange Including Firm Sale to FMPA.

Table 9-12
Schedule 7.1: Forecast of Capacity, Demand, and Scheduled Maintenance at Time of Summer Peak

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Year	Total Installed Capacity	Firm Capacity Import	Firm Capacity Export	Projected Firm Net To Grid from NUG	Total Capacity Available	System Firm Peak Demand	Reserve Margin Before Maintenance[1]		Scheduled Maintenance	Reserve Margin After Maintenance[1]	
	MW	MW	MW	MW	MW	MW	MW	%	MW	MW	%
2006	913	0	100	0	813	621	192	30.9	0	192	30.9
2007	913	0	100	0	813	629	184	29.3	0	184	29.3
2008	913	0	0	0	913	638	275	43.1	0	275	43.1
2009	913	0	0	0	913	648	265	40.9	0	265	40.9
2010	913	0	0	0	913	657	256	39.0	0	256	39.0
2011	913	0	0	0	913	666	247	37.1	0	247	37.1
2012	913	0	0	0	913	675	238	35.3	0	238	35.3
2013	913	0	0	0	913	684	229	33.5	0	229	33.5
2014	913	0	0	0	913	694	219	31.6	0	219	31.6
2015	913	0	0	0	913	704	209	29.7	0	209	29.7

[1] Included exercising Load Management and Interruptible Load.

Table 9-13
Schedule 7.2: Forecast of Capacity, Demand, and Scheduled Maintenance at Time of Winter Peak

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Year	Total Installed Capacity	Firm Capacity Import	Firm Capacity Export	Projected Firm Net To Grid from NUG	Total Capacity Available	System Firm Peak Demand	Reserve Margin Before Maintenance[1]		Scheduled Maintenance	Reserve Margin After Maintenance[1]	
	MW	MW	MW	MW	MW	MW	MW	%	MW	MW	%
2006/07	995	0	100	0	895	710	185	26.1	0	185	26.1
2007/08	995	0	0	0	995	721	274	38.0	0	274	38.0
2008/09	995	0	0	0	995	733	262	35.7	0	262	35.7
2009/10	995	0	0	0	995	744	251	33.7	0	251	33.7
2010/11	995	0	0	0	995	755	240	31.8	0	240	31.8
2011/12	995	0	0	0	995	766	229	29.9	0	229	29.9
2012/13	995	0	0	0	995	777	218	28.1	0	218	28.1
2013/14	995	0	0	0	995	788	207	26.3	0	207	26.3
2014/15	995	0	0	0	995	799	196	24.5	0	196	24.5
2015/16	995	0	0	0	995	812	183	22.5	0	183	22.5

[1] Included exercising Load Management and Interruptible Load.

Table 9-14
Schedule 8.0: Planned and Prospective Generating Facility Additions and Changes

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Plant Name	Unit No.	Location	Unit Type	Fuel		Fuel Transport		Const Start	Commercial In-Service	Expected Retirement	Gen Max Nameplate	Net Capability		Status
				Pri.	Alt.	Pri.	Alt.	Mo/Yr	Mo/Yr	Mo/Yr	kW	Sum MW	Win MW	

None At Time of This Filing

Table 9-15
Schedule 9.1: Status Report and Specifications of Approved Generating Facilities

(1)	Plant Name and Unit Number:	N/A
(2)	Capacity:	
(3)	Summer MW	
(4)	Winter MW	
(5)	Technology Type:	
(6)	Anticipated Construction Timing:	
(7)	Field Construction Start-date:	
(8)	Commercial In-Service date:	
(9)	Fuel	
(10)	Primary	
(11)	Alternate	
(12)	Air Pollution Control Strategy:	
(13)	Cooling Method:	
(14)	Total Site Area:	
(15)	Construction Status:	
(16)	Certification Status:	
(17)	Status with Federal Agencies:	
(18)	Projected Unit Performance Data:	
(19)	Planned Outage Factor (POF):	
(20)	Forced Outage Factor (FOF):	
(21)	Equivalent Availability Factor (EAF):	
(22)	Resulting Capacity Factor (%):	
(23)	Average Net Operating Heat Rate (ANOHR):	
(24)	Projected Unit Financial Data:	
(25)	Book Life:	
(26)	Total Installed Cost (In-Service year $/kW):	
(27)	Direct Construction Cost ($/kW):	
(28)	AFUDC Amount ($/kW):	
(29)	Escalation ($/kW):	
(30)	Fixed O&M ($/kW-yr):	
(31)	Variable O&M ($/MWh):	

Table 9-16
Schedule 9.2: Status Report and Specifications of Proposed Generating Facilities

(1)	Plant Name and Unit Number:	None in Current Planning Cycle
(2)	Capacity:	
(3)	Summer MW	
(4)	Winter MW	
(5)	Technology Type:	
(6)	Anticipated Construction Timing:	
(7)	Field Construction Start-date:	
(8)	Commercial In-Service date:	
(9)	Fuel	
(10)	Primary	
(11)	Alternate	
(12)	Air Pollution Control Strategy:	
(13)	Cooling Method:	
(14)	Total Site Area:	
(15)	Construction Status:	
(16)	Certification Status:	
(17)	Status with Federal Agencies:	
(18)	Projected Unit Performance Data:	
(19)	Planned Outage Factor (POF):	
(20)	Forced Outage Factor (FOF):	
(21)	Equivalent Availability Factor (EAF):	
(22)	Resulting Capacity Factor (%):	
(23)	Average Net Operating Heat Rate (ANOHR):	
(24)	Projected Unit Financial Data:	
(25)	Book Life:	
(26)	Total Installed Cost (In-Service year $/kW):	
(27)	Direct Construction Cost ($/kW):	
(28)	AFUDC Amount ($/kW):	
(29)	Escalation ($/kW):	
(30)	Fixed O&M ($/kW-yr):	
(31)	Variable O&M ($/MWh):	

Table 9-17
Schedule 10: Status Report and Specifications of Proposed Directly Associated Transmission Lines

(1)	Point of Origin and Termination:	None planned.
(2)	Number of Lines:	None planned.
(3)	Right of Way:	None planned.
(4)	Line Length:	None planned.
(5)	Voltage:	None planned.
(6)	Anticipated Construction Time:	None planned.
(7)	Anticipated Capital Investment:	None planned.
(8)	Substations:	None planned.
(9)	Participation with Other Utilities:	None planned.