ORIGINAL

CITY OF TALLAHASSEE

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300 S. ADAMS ST.
TALLAHASSEE, FL
32301-1731
850/891-0010
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SCOTT MADDOX
Mayor
CHARLES E. BILLINGS
Mayor Pro Tem

JOHN PAUL BAILEY
Commissioner
DEBBIE LIGHTSEY
Commissioner
STEVE MEISBURG
Commissioner

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City Manager
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City Treasurer-Clerk

JAMES R. ENGLISH
City Attorney
SAM M. McCALL
City Auditor

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April 2, 2001

Mr. Joseph D. Jenkins
Director - Division of Electric & Gas
State of Florida Public Service Commission
2540 Shumard Oak Blvd.
Tallahassee, FL 32399-0850

Undocketed

Dear Mr. Jenkins:

Attached is the City of Tallahassee's 2001 Ten Year Site Plan, provided pursuant to Section 186.801, F.S. If you have any questions about this plan, please call me at 891-3130.

Sincerely,

Paul D. Clark

Paul D. Clark, II
Chief Planning Engineer

Attachments
cc: KGW

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CITY OF TALLAHASSEE

ELECTRIC DEPARTMENT

CITY OF TALLAHASSEE, FLORIDA

2001 - 2010 TEN YEAR SITE PLAN

City Electric
TALLAHASSEE

THE ENERGY OF FLORIDA'S CAPITAL CITY

CITY OF TALLAHASSEE
TEN YEAR SITE PLAN FOR ELECTRICAL GENERATING FACILITIES AND ASSOCIATED TRANSMISSION LINES
2001-2010
TABLE OF CONTENTS

III. Projected Facility Requirements

IV. Proposed Plant Sites and Transmission Lines

Chapter I

Description of Existing Facilities

1.0 INTRODUCTION

The City of Tallahassee (City) owns, operates, and maintains an electric generation, transmission, and distribution system that supplies electric power in and around the corporate limits of the City. The City was incorporated in 1825 and has operated since 1919 under the same charter. The City began generating its power requirements in 1902 and the City's Electric Department presently serves approximately 95,000 customers located within a 221 square mile service territory. The Electric Department operates three generating stations with a total summer season generating capacity of approximately 661 megawatts (MW).

The City has two fossil-fueled generating stations which contain combined cycle, steam and gas turbine electric generating facilities. The Sam O. Purdom Generating Station, located in the town of St. Marks, Florida has been in operation since 1952; and the Arvah B. Hopkins Generating Station, located on Geddie Road west of the City, has been in commercial operation since 1970. The City has also been generating electricity at the C.H. Corn Hydroelectric Station, located on Lake Talquin west of Tallahassee, since August of 1985.

1.1 SYSTEM CAPABILITY

The City maintains five points of interconnection with Florida Power Corporation (two at 69 kV, two at 115 kV, and one at 230 kV), and a 230 kV interconnection with Georgia Power Company (a subsidiary of the Southern Company).

As shown in Table 1.1 (Schedule 1), 232 MW (net summer rating) of combined cycle generation, 48 MW (net summer rating) of steam generation and 20 MW (net summer rating) of combustion turbine generation facilities are located at the City's Sam O. Purdom Generating Station. The Arvah B. Hopkins Generating Station includes approximately 314 MW (net summer rating) of steam generation and 36 MW (net summer rating) of combustion turbine generation facilities. All of the City's available steam generating units at these sites can be fired with natural gas, oil or both. The combustion turbine units can be fired on either natural gas or oil but cannot burn these fuels concurrently. The total capacity of the three units at the C.H. Corn Hydroelectric Station is 11 MW.

The total net summer installed capability of the City is 661 MW. The corresponding winter net peak installed capability is 711 MW. Tables 1.1, 1.2, and 1.3 contain the details of the individual generating units, land use and investment, and certain environmental considerations.

1.2 PURCHASED POWER AGREEMENTS

The City has firm capacity and energy purchase agreements with Entergy (25 MW) and Florida Power Corporation (11.4 MW).

City Of Tallahassee

Schedule 1
Existing Generating Facilities
As of December 31, 2000

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
								Alt.				Net Capability	
	Unit		Unit	Fuel		Fuel Transport		Fuel Days	Commercial In-Service	Expected Retirement	Gen. Max. Nameplate	Summer	Winter
Plant	No.	Location	Type	Pri	Alt	Primary	Alternate	Use	Month/Year	Month/Year	(kW)	(MW)	(MW)
Sam O. Purdom	7	Wakulla	ST	NG	FO6	PL	WA		6/66	3/11	44,000	48	50
	8		CC	NG	FO2	PL	TK		7/00	12/30	247,000	232	262
	GT-1		GT	NG	FO2	PL	TK		12/63	3/08	12,500	10	10
	GT-2		GT	NG	FO2	PL	TK		5/64	3/09	12,500	10	10
											Plant Total	300	332
A. B Hopkins	1	Leon	ST	NG	FO6	PL	TK		5/71	3/16	75,000	76	80
	2	26/1N/2W	ST	NG	FO6	PL	TK		10/77	3/22	259,250	238	248
	GT-1		GT	NG	FO2	PL	TK		2/70	3/15	16,320	12	14
	GT-2		GT	NG	FO2	PL	TK		9/72	3/17	27,000	24	26
											Plant Total	350	368
C. H. Corn Hydro Station	1	Leon/	HY	WAT	WAT	WAT	WAT		9/85	UNKNOWN	4,440	4	4
	2	Gadsden	HY	WAT	WAT	WAT	WAT		8/85	UNKNOWN	4,440	4	4
	3		HY	WAT	WAT	WAT	WAT		1/86	UNKNOWN	3,430	3	3
											Plant Total	11	11
								TOTAL SYSTEM CAPACITY AS OF DECEMBER 31, 200C				661	711

City Of Tallahassee

Existing Generating Facilities
Land Use and Investment

(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Land Area		Plant Capital Investments in ($000)			
Plant Name	Total Acres	In Use Acres	Land	Site Improvements	Buildings & Equipment	Total
Sam O. Purdom	63	38	15	129	45,993	46,137
Arvah B. Hopkins	230	35	220	126	81,515	81,861
C. H. Corn (Jackson Bluff)	10,200	10,200	-	-	12,677	12,677
Electric System Totals [1]			235	255	140,185	140,675

[1] The totals shown represent the fixed assets of those categories as of September 30 , 2000.

City Of Tallahassee

Existing Generating Facilities
Environmental Considerations for Steam Generating Units

Air Pollution Control Strategy

(1) Plant Name	(2) Unit		(3) PM	(4) SOx	(5) NOx	(6) Cooling Type
Arvah B. Hopkins	1	[1]	None	L.S.	None	WCTM
	2	[1]	None	L.S.	OA	WCTM
Sam O. Purdom	7	[1]	None	L.S.	None	OTF
	8	[2]	G.C.	L.S.	LNB/WI	WCTM
C. H. Corn Hydro (Jackson Bluff Hydro)			Not Applicable			

Environmental Considerations for the regulated air pollutants particulate matter, sulfur dioxide, and/or nitrogen oxides are any formal control measures implemented during the operation of the boiler in order to meet permit limits.

[1] These units generally fire either No. 6 fuel oil or natural gas
[2] This unit fires either No. 2 fuel oil or natural gas

Acronym	Definition
WCTM	Wet cooling tower, mechanical draft
OTF	Once through fresh water
L. S.	Low Sulfur (Natural gas and either No. 6 fuel oil w/≤1.0% sulfur or No. 2 fuel oil w/≤0.05% sulfur.) Use of 1.0% sulfur oil is a management decision, not a permit requirement.
OA	Overfire Air
PM	Particulate Matter
SO_x	Sulfur Dioxide
NO_x	Nitrogen Oxides
G.C.	Good combustion of clean burning, low-sulfur fuels.
DLNB	Dry Low NOx Burner Technology (natural gas)
WI	Water Injection (fuel oil)

CHAPTER II

Forecast of Energy/Demand Requirements and Fuel Utilization

2.0 INTRODUCTION

Chapter II includes the City of Tallahassee's forecasts of (i) demand and energy requirements, (ii) energy sources and (iii) fuel requirements. This chapter explains the City's 2001 Load Forecast and the Demand Side Management plan filed with the Florida Public Service Commission (PSC) on March 1, 1996. Based on the forecast, the energy sources and the fuel requirements have been projected.

2.1 SYSTEM DEMAND AND ENERGY REQUIREMENTS

Historical and forecast energy consumption and customer information are presented in Tables 2.1, 2.2 and 2.3 (Schedules 2.1, 2.2, and 2.3). Figure B1 shows the historical and forecast trends of energy sales by customer class. Figure B2 shows the percentage of energy sales by customer class for the base year of 2001 and the horizon year of 2010. Tables 2.4 through 2.12 (Schedules 3.1.1 - 3.3.3) contain historical and forecast peak demands and net energy for load for base, high, and low values. Table 2.13 (Schedule 4) compares actual and two-year forecast peak demand and energy values by month for the 2000 - 2002 period.

2.1.1 SYSTEM LOAD FORECAST

The peak demand and energy forecasts contained in this plan are the results of an annual update of the load forecasting study performed by the City and reviewed by the engineering consulting firm of R.W. Beck. The energy forecast is developed utilizing a methodology which the City has employed since 1980, consisting of 13 multi-variable linear regression models based on detailed examination of the system's historical growth, usage patterns and population statistics. The regression coefficients for the 2001 forecast have updated to reflect the most recent historic data. As a result, it is expected that the accuracy of the models has been improved. These models are used to predict number of customers and retail sales by customer class, and seasonal system peak demand. Several key regression formulas utilize econometric variables. The customer class models are aggregated to form a total system sales forecast. The effects of demand-side management programs and system losses are incorporated in this base forecast to produce the system net energy requirements.

Table 2.14 lists the econometric-based linear regression forecasting models that are used as predictors. Note that the City uses regression models with the capability of separately predicting commercial customer consumption by rate sub-class: general service non-demand (GS), general service demand (GSD), and general service large demand (GSLD). These, along with the residential class, represent the major classes of the City's electric customers. The key explanatory variables used in each of the models are indicated by an "X" on the table. Table 2.15 documents the City's internal and external sources for historical and forecast economic, weather and demographic data. These tables explain the details of the models used to generate the system sales forecast. In addition to those explanatory variables listed, a component is also included in the models which reflects the acquisition of certain Talquin Electric Cooperative (TEC) customers over the study period consistent with the territorial agreement negotiated between the City and TEC and approved by the PSC.

Since 1992, the City has used two econometric models to separately predict summer and winter peak demand. Table 2.14 also shows the key explanatory variables used in the demand models. One notable change to the base assumptions associated with the summer peak demand forecast is that of the normal summer high temperature. Based on the five-year average of the actual high temperature at the time of summer peak demand the decision was made to increase the assumed normal high temperature for the base case forecast from 99° to 100° Fahrenheit for the 2000 and subsequent peak load forecasts. The City expects that this change and the aforementioned model improvements will result in a forecast that is more consistent with the historical trend of growth in seasonal peak demand and energy consumption.

2.1.2 Load Forecast Sensitivities

Uncertainty associated with the forecast input variables and the final forecast are addressed by adjusting selected input variables in the load forecast models, to establish "high load growth" and "low load growth" sensitivity cases. For the sensitivities to the base 2001 load forecast the key explanatory variables that were changed were Leon County population, Florida population, heating degree days and cooling degree days for the energy forecast. For the peak demand forecasts, the Leon County population and maximum & minimum temperature on the peak days for the summer and winter, respectively, were changed.

Sensitivities on the peak demand forecasts are useful in planning for future power supply resource needs. The graph shown in Figure B3 compares summer peak demand (multiplied by 117% for reserve margin requirements) for the three cases against the City's existing power supply resources. This graph allows for the review of the effect of load growth variations on the timing of new resource additions. The highest probability weighting, of course, is placed on the base case assumptions, and the low and high cases are given a smaller likelihood of occurrence.

2.1.3 ENERGY EFFICIENCY AND DEMAND SIDE MANAGEMENT PROGRAMS

The City has a goal to improve the efficiency of customers' end-use of energy resources when such improvements provide a measurable economic and/or environmental benefit to the customers and the City utilities. On March 1, 1996 the City filed its Demand Side Management (DSM) Plan with the PSC. This plan indicated the demand and energy reductions due to conservation efforts that are expected over the period 1997-2006. The individual program measures that were selected for inclusion in the plan were identified as cost effective in Integrated Resource Planning (IRP) studies conducted by the City.

The following menu of programs is included in the DSM plan, which was implemented in fiscal year 1997:

Residential Programs	Commercial Programs
Secured Loans	Custom Loans
Homebuilder Rebates	Secured Loans
Unsecured Payment Plan Loans	Unsecured Payment Plan Loans
Information	Demonstrations
Low Income Ceiling Insulation Rebate	Information

Energy and demand reductions attributable to the above DSM efforts have been incorporated into the future load and energy forecasts. Table 2.16 displays the estimated energy savings associated with the menu of DSM programs. Table 2.17 shows similar data for demand savings. The figures on these tables reflect the cumulative annual impacts of the DSM plan on system energy and demand requirements.

2.1.4 FEECA

Pursuant to the Florida Energy Efficiency and Conservation Act ("FEECA"), Sections 366.80-366.85, Florida Statutes (1995), and Chapter 25-17, Florida Administrative Code, the PSC approved the City's conservation goals and program plan for the years 1996-2005. However effective July 1, 1996, the City no longer is a "utility" for the purposes of FEECA (see Section 81, Ch. 96-321, Laws of Fla. (1996)) and Chapter 25-17, and the City's conservation goals and plan are no longer subject to PSC approval. Nevertheless, the City does not plan to reduce its commitment to DSM and conservation. The City intends to continue to pursue cost-effective conservation measures that promote demand reduction and offer benefits to both the City and its customers.

2.2 ENERGY SOURCES AND FUEL REQUIREMENTS

Tables 2.18 (Schedule 5), 2.19 (Schedule 6.1), and 2.20 (Schedule 6.2) present the projections of fuel consumption, energy generated by fuel type, and the percentage of generation by fuel type, respectively, for the period 2001-2010. Figure B4 displays the percentage of energy by fuel type in 2001 and 2010. Presently, the City of Tallahassee uses renewable resources (hydroelectric power), natural gas, residual and distillate fuel oil as well as purchases from Florida Power Corporation and Entergy Power, Inc., to satisfy its energy requirements.

The projections of fuel consumption and energy generated are taken from the results of PROSCREEN II simulations based on a representative resource plan as described in Chapter III.

City Of Tallahassee

Schedule 2.1
History and Forecast of Energy Consumption and Number of Customers by Customer Class

Base Load Forecast

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Rural & Residential					Commercial [2]		
Year	Population	Members Per Household	(GWh)	Average No. of Customers [1]	Average kWh Consumption Per Customer	(GWh)	Average No. of Customers [1]	Average kWh Consumption Per Customer
1991	169,248	-	759	64,997	11,684	1,060	13,208	80,255
1992	172,505	-	766	66,616	11,497	1,080	13,616	79,284
1993	176,938	-	796	68,176	11,681	1,149	13,834	83,058
1994	181,577	-	799	69,907	11,432	1,205	14,277	84,380
1995	185,303	-	870	71,534	12,163	1,268	14,780	85,790
1996	189,987	-	893	72,998	12,231	1,316	15,142	86,909
1997	194,746	-	850	74,259	11,446	1,324	15,495	85,447
1998	199,078	-	940	75,729	12,608	1,396	15,779	88,492
1999	203,307	-	926	77,357	12,156	1,416	15,429	91,755
2000	207,276	-	971	79,108	12,269	1,454	15,891	91,518
2001	210,347	-	974	80,801	12,054	1,498	17,013	88,050
2002	215,072	-	991	82,639	11,992	1,535	17,324	88,605
2003	219,797	-	1,007	84,478	11,920	1,583	17,635	89,765
2004	224,522	-	1,024	86,317	11,863	1,634	17,946	91,051
2005	229,155	-	1,040	88,122	11,802	1,670	18,248	91,517
2006	233,646	-	1,057	89,870	11,761	1,706	18,548	91,978
2007	237,840	-	1,078	91,496	11,782	1,746	18,821	92,769
2008	241,758	-	1,098	93,008	11,805	1,785	19,091	93,500
2009	245,676	-	1,118	94,521	11,828	1,818	19,362	93,895
2010	249,515	-	1,137	96,004	11,843	1,851	19,624	94,323

[1] Average end-of-month customers for the calendar year.
[2] Includes Traffic Control and Security Lighting use.

City Of Tallahassee

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

Base Load Forecast

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Industrial						
Year	(GWh)	Average No. of Customers [1]	Average kWh Consumption Per Customer	Railroads and Railways (GWh)	Street & Highway Lighting (GWh)	Other Sales to Public Authorities (GWh)	Total Sales to Ultimate Consumers (GWh)
1991	-	-	-	-	11		1,830
1992	-	-	-	-	11		1,857
1993	-	-	-	-	11		1,956
1994	-	-	-	-	11		2,015
1995	-	-	-	-	12		2,150
1996	-	-	-	-	12		2,221
1997	-	-	-	-	12		2,186
1998	-	-	-	-	12		2,348
1999	-	-	-	-	12		2,354
2000	-	-	-	-	16		2,441
2001	-	-	-		13		2,485
2002	-	-	-		14		2,540
2003	-	-	-		14		2,604
2004	-	-	-		14		2,672
2005	-	-	-		15		2,725
2006	-	-	-		15		2,778
2007	-	-	-		15		2,839
2008	-	-	-		15		2,898
2009	-	-	-		16		2,952
2010					16		3,004

[1] Average end-of-month customers for the calendar year.

City Of Tallahassee

Schedule 2.3
History and Forecast of Energy Consumption and Number of Customers by Customer Class

Base Load Forecast

(1)	(2)	(3)	(4)	(5)	(6)
Year	Sales for Resale (GWh)	Utility Use & Losses (GWh) [1]	Net Energy for Load (GWh)	Other Customers (Average No.)	Total No. of Customers [1]
1991	0	122	1,952		78,205
1992	0	123	1,980		80,232
1993	0	130	2,086		82,010
1994	0	134	2,149		84,184
1995	0	142	2,292		86,314
1996	0	147	2,368		88,140
1997	0	132	2,318		89,754
1998	0	128	2,476		91,508
1999	0	139	2,493		92,786
2000	0	155	2,596		94,999
2001	0	166	2,651		97,814
2002	0	167	2,707		99,963
2003	0	173	2,777		102,113
2004	0	177	2,849		104,263
2005	0	180	2,905		106,370
2006	0	183	2,961		108,418
2007	0	188	3,027		110,317
2008	0	192	3,090		112,099
2009	0	195	3,147		113,883
2010	0	199	3,203		115,628

[1] Average number of customers for the calendar year.

History and Forecast Energy Consumption
By Customer Class

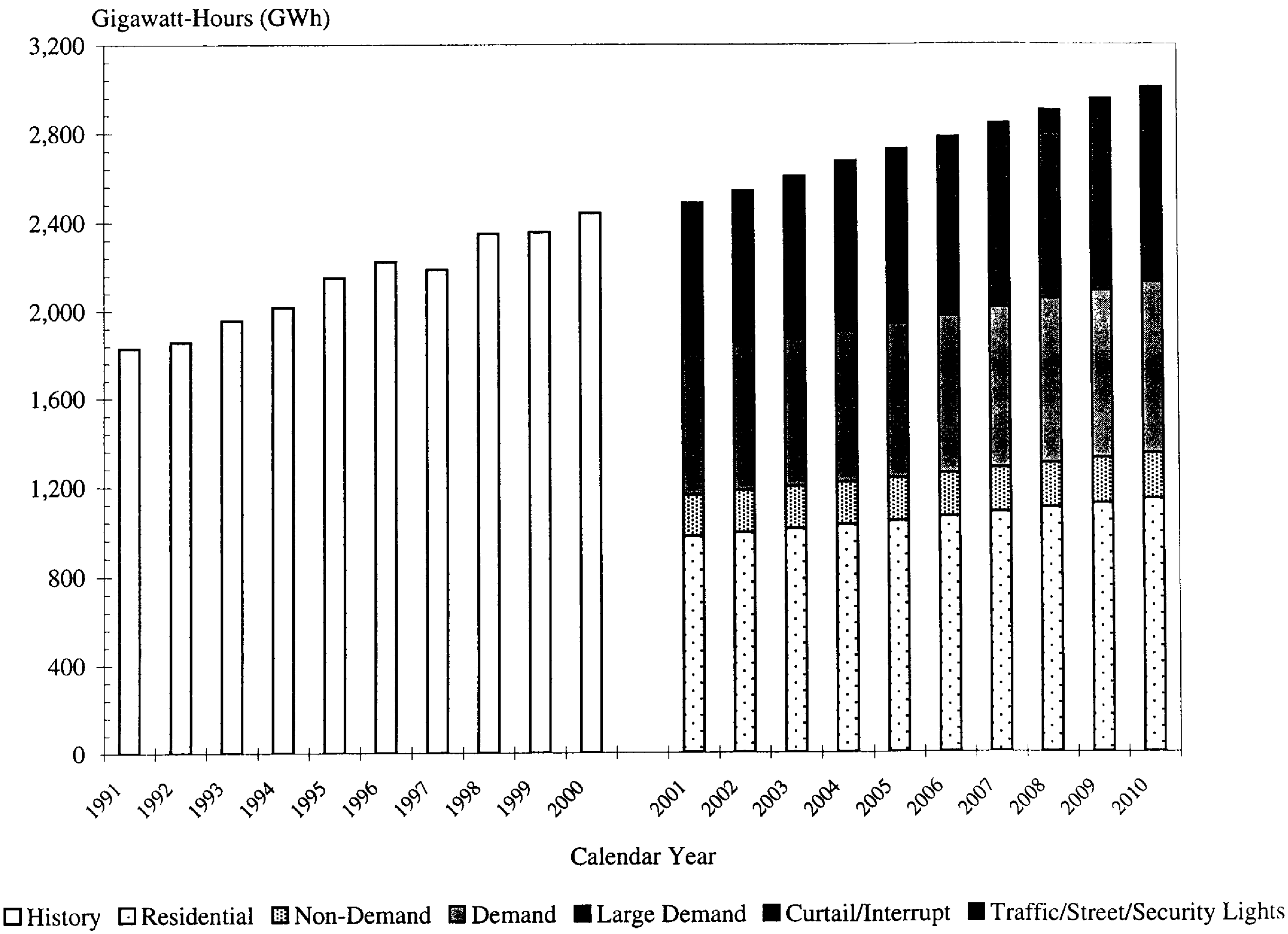
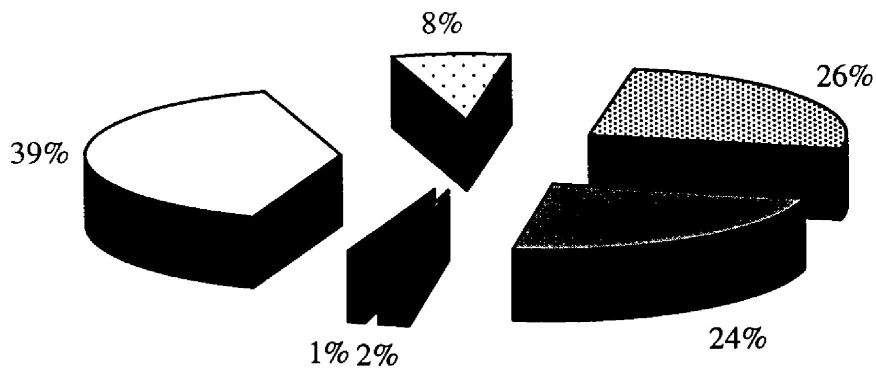


Figure B1

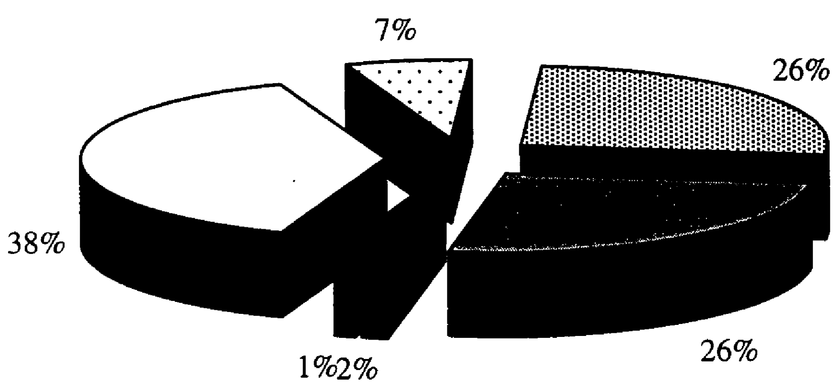
Energy Consumption By Customer Class

Calendar Year 2001



Total 2001 Sales = 2,494 GWh
Values exclude DSM impacts

Calendar Year 2010



Total 2010 Sales = 3,049 GWh
Values exclude DSM impacts

☐ Residential	☐ Non Demand	▩ Demand
☐ Large Demand	■ Curtail/Interrupt	■ Traffic/Street/Security Lights

City Of Tallahassee

Schedule 3.1.1
History and Forecast of Summer Peak Demand
Base Forecast
(MW)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Year	Total	Wholesale	Retail	Interruptible	Residential Load Management	Residential Conservation [2]	Comm./Ind Load Management	Comm./Ind Conservation [2]	Net Firm Demand [1]
1991	412		412						412
1992	428		428						428
1993	459		459						459
1994	433		433						433
1995	497		497						497
1996	500		500						500
1997	486		486						486
1998	530		530						530
1999	526		526						526
2000	550		550						550
2001	548		548			1		1	546
2002	562		562			3		1	558
2003	578		578			4		2	572
2004	595		595			6		2	587
2005	609		609			7		3	599
2006	624		624			9		3	612
2007	636		636			9		3	624
2008	648		648			9		3	636
2009	661		661			9		3	649
2010	675		675			9		3	663

[1] Values include DSM Impacts.
[2] Reduction estimated at busbar.

City Of Tallahassee

Schedule 3.1.2
History and Forecast of Summer Peak Demand
High Forecast
(MW)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Year	Total	Wholesale	Retail	Interruptible	Residential Load Management	Residential Conservation [2]	Comm./Ind Load Management	Comm./Ind Conservation [2]	Net Firm Demand [1]
1991	412		412						412
1992	428		428						428
1993	459		459						459
1994	433		433						433
1995	497		497						497
1996	500		500						500
1997	486		486						486
1998	530		530						530
1999	526		526						526
2000	550		550						550
2001	558		558			1		1	556
2002	572		572			3		1	568
2003	588		588			4		2	582
2004	605		605			6		2	597
2005	619		619			7		3	609
2006	633		633			9		3	621
2007	646		646			9		3	634
2008	657		657			9		3	645
2009	670		670			9		3	658
2010	684		684			9		3	672

[1] Values include DSM Impacts.
[2] Reduction estimated at busbar.

City Of Tallahassee

Schedule 3.1.3
History and Forecast of Summer Peak Demand
Low Forecast
(MW)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Year	Total	Wholesale	Retail	Interruptible	Residential Load Management	Residential Conservation [2]	Comm./Ind Load Management	Comm./Ind Conservation [2]	Net Firm Demand [1]
1991	412		412						412
1992	428		428						428
1993	459		459						459
1994	433		433						433
1995	497		497						497
1996	500		500						500
1997	486		486						486
1998	530		530						530
1999	526		526						526
2000	550		550						550
2001	539		539			1		1	537
2002	553		553			3		1	549
2003	569		569			4		2	563
2004	586		586			6		2	578
2005	600		600			7		3	590
2006	614		614			9		3	602
2007	627		627			9		3	615
2008	638		638			9		3	626
2009	652		652			9		3	640
2010	666		666			9		3	654

[1] Values include DSM Impacts.
[2] Reduction estimated at busbar.

City Of Tallahassee

Schedule 3.2.1
History and Forecast of Winter Peak Demand
Base Forecast
(MW)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Year	Total	Wholesale	Retail	Interruptible	Residential Load Management	Residential Conservation [2]	Comm./Ind Load Management	Comm./Ind Conservation [2]	Net Firm Demand [1]
1990 -1991	355		355						355
1991 -1992	412		412						412
1992 -1993	390		390						390
1993 -1994	428		428						428
1994 -1995	457		457						457
1995 -1996	533		533						533
1996 -1997	431		431						431
1997 -1998	421		421						421
1998 -1999	513		513						513
1999 -2000	497		497						497
2000 -2001	521		521			5		1	515
2001 -2002	536		536			11		1	524
2002 -2003	556		556			16		2	538
2003 -2004	576		576			21		2	553
2004 -2005	593		593			26		3	564
2005 -2006	611		611			32		3	576
2006 -2007	628		628			32		3	593
2007 -2008	642		642			32		3	607
2008 -2009	655		655			32		3	620
2009 -2010	668		668			32		3	633

[1] Values include DSM Impacts.

City Of Tallahassee

Schedule 3.2.2
History and Forecast of Winter Peak Demand
High Forecast
(MW)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Year	Total	Wholesale	Retail	Interruptible	Residential Load Management	Residential Conservation [2]	Comm./Ind Load Management	Comm./Ind Conservation [2]	Net Firm Demand [1]
1990 -1991	355		355						355
1991 -1992	412		412						412
1992 -1993	390		390						390
1993 -1994	428		428						428
1994 -1995	457		457						457
1995 -1996	533		533						533
1996 -1997	431		431						431
1997 -1998	421		421						421
1998 -1999	513		513						513
1999 -2000	497		497						497
2000 -2001	521		521			5		1	515
2001 -2002	557		557			11		1	545
2002 -2003	576		576			16		2	558
2003 -2004	597		597			21		2	574
2004 -2005	614		614			26		3	585
2005 -2006	632		632			32		3	597
2006 -2007	649		649			32		3	614
2007 -2008	663		663			32		3	628
2008 -2009	676		676			32		3	641
2009 -2010	690		690			32		3	655

[1] Values include DSM Impacts.
[2] Reduction estimated at busbar.

City Of Tallahassee

Schedule 3.2.3
History and Forecast of Winter Peak Demand
Low Forecast
(MW)

(1) Year	(2) Total	(3) Wholesale	(4) Retail	(5) Interruptible	(6) Residential Load Management	(7) Residential Conservation [2]	(8) Comm./Ind Load Management	(9) Comm./Ind Conservation [2]	(10) Net Firm Demand [1]
1990 -1991	355		355						355
1991 -1992	412		412						412
1992 -1993	390		390						390
1993 -1994	428		428						428
1994 -1995	457		457						457
1995 -1996	533		533						533
1996 -1997	431		431						431
1997 -1998	421		421						421
1998 -1999	513		513						513
1999 -2000	497		497						497
2000 -2001	521		521			5		1	515
2001 -2002	511		511			11		1	499
2002 -2003	530		530			16		2	512
2003 -2004	551		551			21		2	528
2004 -2005	568		568			26		3	539
2005 -2006	585		585			32		3	550
2006 -2007	602		602			32		3	567
2007 -2008	616		616			32		3	581
2008 -2009	629		629			32		3	594
2009 -2010	642		642			32		3	607

[1] Values include DSM Impacts.
[2] Reduction estimated at busbar.

City Of Tallahassee

Schedule 3.3.1
History and Forecast of Annual Net Energy for Load
Base Forecast
(GWh)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Year	Total Sales	Residential Conservation [2]	Comm./Ind Conservation [2]	Retail Sales [1]	Wholesale	Utility Use & Losses	Net Energy for Load [1]	Load Factor % [1]
1991	1,830			1,830		122	1,952	55
1992	1,857			1,857		123	1,980	54
1993	1,956			1,956		130	2,086	58
1994	2,016			2,016		134	2,150	57
1995	2,150			2,150		142	2,292	57
1996	2,221			2,221		147	2,368	62
1997	2,186			2,186		132	2,318	53
1998	2,349			2,349		128	2,477	57
1999	2,358			2,358		139	2,497	59
2000	2,441			2,441		154	2,595	56
2001	2,494	6	2	2,486		165	2,651	55
2002	2,554	12	3	2,539		168	2,707	55
2003	2,627	18	5	2,604		172	2,776	55
2004	2,702	24	6	2,672		177	2,849	55
2005	2,762	30	8	2,724		180	2,904	55
2006	2,822	36	9	2,777		184	2,961	55
2007	2,884	36	9	2,839		188	3,027	55
2008	2,943	36	9	2,898		192	3,090	55
2009	2,997	36	9	2,952		196	3,148	55
2010	3,049	36	9	3,004		199	3,203	55

[1] Values include DSM Impacts.
[2] Reduction estimated at customer meter.

Table 2.10

City Of Tallahassee

Schedule 3.3.2
History and Forecast of Annual Net Energy for Load
High Forecast
(GWh)

(1) Year	(2) Total Sales	(3) Residential Conservation [2]	(4) Comm./Ind Conservation [2]	(5) Retail Sales [1]	(6) Wholesale	(7) Utility Use & Losses	(8) Net Energy for Load [1]	(9) Load Factor % [1]
1991	1,830			1,830		122	1,952	55
1992	1,857			1,857		123	1,980	54
1993	1,956			1,956		130	2,086	58
1994	2,016			2,016		134	2,150	57
1995	2,150			2,150		142	2,292	57
1996	2,221			2,221		147	2,368	62
1997	2,186			2,186		132	2,318	53
1998	2,349			2,349		128	2,477	57
1999	2,358			2,358		139	2,497	59
2000	2,441			2,441		154	2,595	56
2001	2,678	6	2	2,670		177	2,847	58
2002	2,742	12	3	2,727		181	2,908	58
2003	2,819	18	5	2,796		185	2,981	58
2004	2,897	24	6	2,867		190	3,057	58
2005	2,961	30	8	2,923		194	3,117	58
2006	3,024	36	9	2,979		197	3,176	58
2007	3,089	36	9	3,044		202	3,246	58
2008	3,151	36	9	3,106		206	3,312	59
2009	3,207	36	9	3,162		209	3,371	58
2010	3,262	36	9	3,217		213	3,430	58

[1] Values include DSM Impacts.
[2] Reduction estimated at customer meter.

City Of Tallahassee

Schedule 3.3.3
History and Forecast of Annual Net Energy for Load
Low Forecast
(GWh)

(1) Year	(2) Total Sales	(3) Residential Conservation [2]	(4) Comm./Ind Conservation [2]	(5) Retail Sales [1]	(6) Wholesale	(7) Utility Use & Losses	(8) Net Energy for Load [1]	(9) Load Factor % [1]
1991	1,830			1,830		122	1,952	54
1992	1,857			1,857		123	1,980	55
1993	1,956			1,956		130	2,086	56
1994	2,016			2,016		134	2,150	53
1995	2,150			2,150		142	2,292	60
1996	2,221			2,221		147	2,368	54
1997	2,186			2,186		132	2,318	53
1998	2,349			2,349		128	2,477	58
1999	2,358			2,358		139	2,497	54
2000	2,441			2,441		154	2,596	56
2001	2,338	6	2	2,330		154	2,484	53
2002	2,396	12	3	2,381		158	2,539	53
2003	2,465	18	5	2,442		162	2,604	53
2004	2,538	24	6	2,508		166	2,674	53
2005	2,595	30	8	2,557		169	2,726	53
2006	2,653	36	9	2,608		173	2,781	53
2007	2,712	36	9	2,667		177	2,844	53
2008	2,769	36	9	2,724		180	2,904	53
2009	2,820	36	9	2,775		184	2,959	53
2010	2,871	36	9	2,826		187	3,013	53

[1] Values include DSM Impacts.
[2] Reduction estimated at customer meter.

City Of Tallahassee

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

(1)	(2)	(3)	(4)	(5)	(6)	(7)
	2000 Actual		2001 Forecast [1]		2002 Forecast [1]	
Month	Peak Demand (MW)	NEL (GWh)	Peak Demand (MW)	NEL (GWh)	Peak Demand (MW)	NEL (GWh)
January	497	207	521	211	538	215
February	445	184	469	188	482	192
March	338	178	357	181	366	185
April	368	177	350	181	359	185
May	491	235	468	240	481	245
June	493	244	470	249	483	254
July	550	259	546	267	558	271
August	530	268	505	273	518	279
September	487	230	464	234	476	239
October	463	199	441	203	453	208
November	426	194	449	198	461	203
December	496	221	523	226	537	231
TOTAL		2,596		2,651		2,707

[1] Peak Demand and NEL include DSM impacts.

City Of Tallahassee

2001 Electric System Load Forecast

Key Explanatory Variables

Model Name	Leon County Population	Residential Customers	Total Customers	Cooling Degree Days	Heating Degree Days	Tallahassee Per Capita Taxable Sales	Price of Electricity	State of Florida Population	Minimum Winter Peak day Temp.	Maximum Summer Peak day Temp.	Appliance Saturation	R Squared [1]
Residential Customers	X											0.989
Residential Consumption		X		X	X	X	X				X	0.921
Florida State University Consumption				X			X	X				0.930
State Capitol Consumption				X			X	X				0.892
Florida A & M University Consumption				X				X				0.926
Street Lighting Consumption	X											0.961
General Service Non-Demand Customers		X										0.958
General Service Demand Customers		X										0.927
General Service Non-Demand Consumption	X			X	X	X	X					0.961
General Service Demand Consumption	X			X	X							0.990
General Service Large Demand Consumption	X			X	X							0.974
Summer Peak Demand			X							X	X	0.982
Winter Peak demand									X		X	0.965

[1] R Squared, sometimes called the coefficient of determination, is a commonly used measure of goodness od fit of a linear model. If the observations fall on the model regression line, R Squared is 1. If there is no linear relationship between the dependent and independent variable, R Squared is 0. A reasonably good R Squared value could be anywhere from 0.6 to 1.

2001 Electric Load Forecast

Sources of Forecast Model Input Information

Energy Model Input Data	Source
1. Leon County Population	City Planning Office
2. Talquin Customers Transferred	City Power Engineering
3. Cooling Degree Days	NOAA reports
4. Heating Degree Days	NOAA reports
5. AC Saturation Rate	Residential Utility Customer Trends
6. Heating Saturation Rate	City Utility Research
7. Real Tallahassee Taxable Sales	Department of Revenue
8. Florida Population	Bureau of Economic and Business Research
9. State Capitol Incremental	Department of Management Services
10. FSU Incremental Additions	FSU Planning Department
11. FAMU Incremental Additions	FAMU Planning Department
12. GSLD Incremental Additions	City Utility Services
13. Other Commercial Customers	Utility Services
14. Tall. Memorial Curtailable	System Planning/ Utilities Accounting.
15. FSU 4th Meter Additions	System Planning/ Utilities Accounting.
16. State Capital Center 2 Special Accounts	Utilities Accounting
17. Customer Definitions	Utility Services
18. System Peak Historical Data	City System Planning
19. Historical Customer Projections by Class	System Planning & Customer Accounting
20. Historical Customer Class Energy	System Planning & Customer Accounting
21. GDP Forecast	Governor's Planning & Budgeting Office
22. CPI Forecast	Governor's Planning & Budgeting Office
23. Florida Taxable Sales	Governor's Planning & Budgeting Office
24. Interruptible, Traffic Light Sales, & Security Light Additions	System Planning & Customer Accounting
25. Historical Residential Real Price of Electricity	Utility Services
26. Historical Commercial Real Price Of Electricity	Utility Services

Banded Summer Peak Load Forecast Vs. Supply Resources
(Load Includes 17% Reserve Margin)

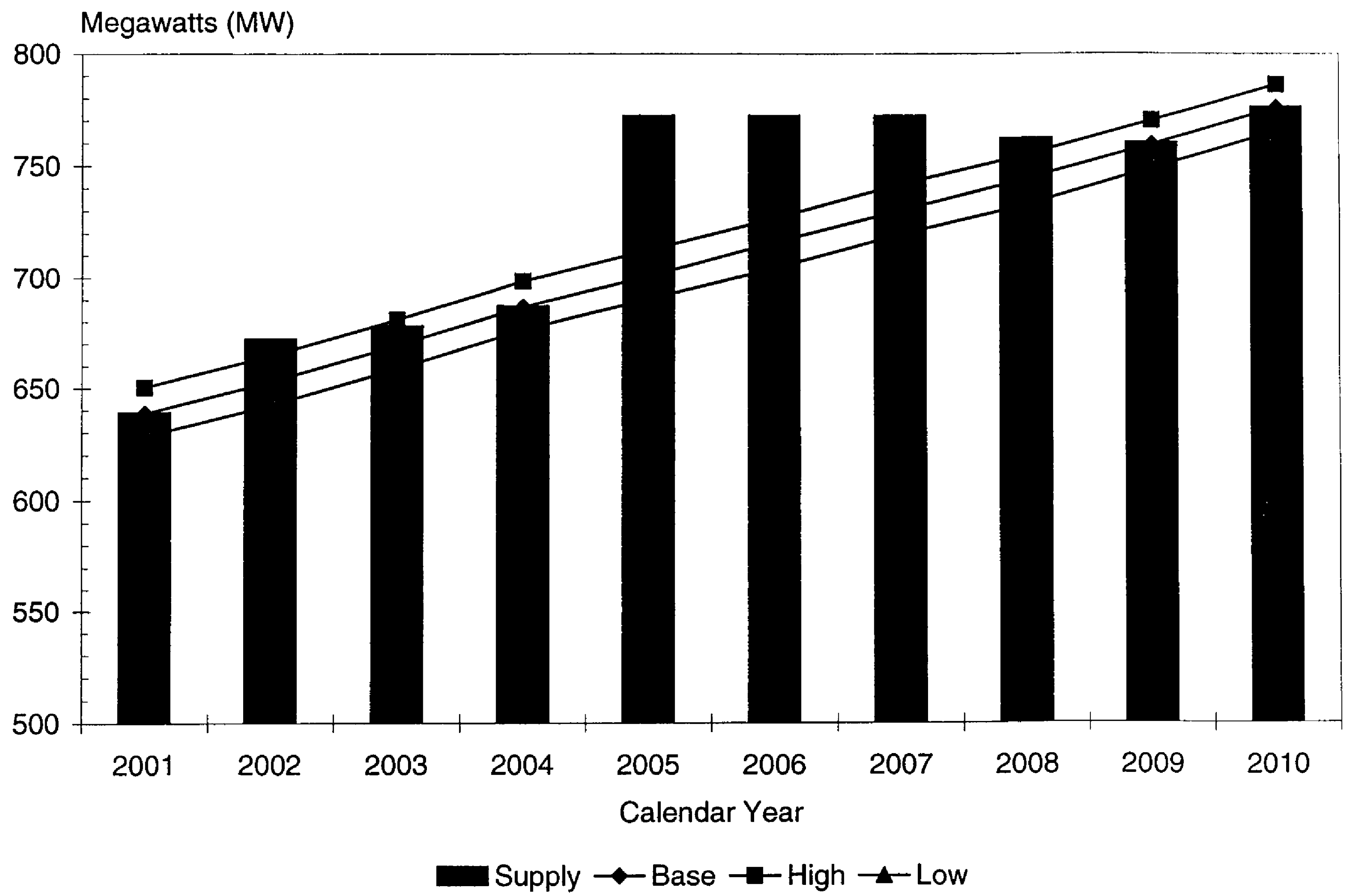


Figure B3

City Of Tallahassee

2001 Electric System Load Forecast

Projected Demand Side Management Energy Reductions [1]

Calendar Year Basis

Year	Residential Impact (MWh)	Commercial Impact (MWh)	Total Impact (MWh)
2001	6,344	1,800	8,144
2002	12,687	3,321	16,008
2003	19,030	5,121	24,151
2004	25,374	6,642	32,016
2005	31,717	8,442	40,159
2006	38,060	9,963	48,023
2007	38,060	9,963	48,023
2008	38,060	9,963	48,023
2009	38,060	9,963	48,023
2010	38,060	9,963	48,023

[1] Reductions estimated at busbar.

City Of Tallahassee

2001 Electric System Load Forecast

Projected Demand Side Management
Seasonal Demand Reductions [1]

Year		Residential Energy Efficiency Impact		Commercial Energy Efficiency Impact		Demand Side Management Total	
Summer	Winter	Summer (MW)	Winter (MW)	Summer (MW)	Winter (MW)	Summer (MW)	Winter (MW)
2001	2000-2001	2	5	1	1	3	6
2002	2001-2002	3	10	1	1	4	11
2003	2002-2003	4	16	2	2	6	18
2004	2003-2004	6	21	2	2	8	23
2005	2004-2005	7	26	3	3	10	29
2006	2005-2006	9	31	3	3	12	34
2007	2006-2007	9	31	3	3	12	34
2008	2007-2008	9	31	3	3	12	34
2009	2008-2009	9	31	3	3	12	34
2010	2009-2010	9	31	3	3	12	34

[1] Reductions estimated at busbar.

City Of Tallahassee

Schedule 5
Fuel Requirements

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
	Fuel Requirements		Units	Actual 1999	Actual 2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
(1)	Nuclear		Billion Btu	739	0	0	0	0	0	0	0	0	0	0	0
(2)	Coal		1000 Ton	0	0	0	0	0	0	0	0	0	0	0	0
(3)	Residual	Total	1000 BBL	76	319	0	0	0	0	0	0	0	0	0	0
(4)		Steam	1000 BBL	76	319	0	0	0	0	0	0	0	0	0	0
(5)		CC	1000 BBL	0	0	0	0	0	0	0	0	0	0	0	0
(6)		CT	1000 BBL	0	0	0	0	0	0	0	0	0	0	0	0
(7)		Diesel	1000 BBL	0	0	0	0	0	0	0	0	0	0	0	0
(8)	Distillate	Total	1000 BBL	0	20	0	0	0	0	0	0	0	0	0	0
(9)		Steam	1000 BBL	0	0	0	0	0	0	0	0	0	0	0	0
(10)		CC	1000 BBL	0	16	0	0	0	0	0	0	0	0	0	0
(11)		CT	1000 BBL	0	4	0	0	0	0	0	0	0	0	0	0
(12)		Diesel	1000 BBL	0	0	0	0	0	0	0	0	0	0	0	0
(13)	Natural Gas	Total	1000 MCF	17,448	17,105	19,262	20,821	21,609	22,015	22,967	23,015	23,552	24,070	24,507	24,723
(14)		Steam	1000 MCF	16,930	13,351	7,934	9,482	9,839	10,087	11,510	10,398	10,740	11,063	11,365	11,507
(15)		CC	1000 MCF	0	287	11,247	11,297	11,712	11,869	10,979	12,070	12,182	12,295	12,358	12,433
(16)		CT	1000 MCF	518	3,467	81	42	58	59	478	547	630	712	784	783
(17)	Other (Specify)		Trillion Btu	0	0	0	0	0	0	0	0	0	0	0	0

City Of Tallahassee

Schedule 6.1
Energy Sources

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
	Energy Sources		Units	Actual 1999	Actual 2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
(1)	Annual Firm Interchange [1]		GWh	744	670	269	158	120	137	121	122	122	122	126	152
(2)	Nuclear		GWh	75	0	0	0	0	0	0	0	0	0	0	0
(3)	Residual	Total	GWh	42	191	0	0	0	0	0	0	0	0	0	0
(4)		Steam	GWh	42	191	0	0	0	0	0	0	0	0	0	0
(5)		CC	GWh	0	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	0
(7)		Diesel	GWh	0	0	0	0	0	0	0	0	0	0	0	0
(8)	Distillate	Total	GWh	0	7	0	0	0	0	0	0	0	0	0	0
(9)		Steam	GWh	0	0	0	0	0	0	0	0	0	0	0	0
(10)		CC	GWh	0	3	0	0	0	0	0	0	0	0	0	0
(11)		CT	GWh	0	4	0	0	0	0	0	0	0	0	0	0
(12)		Diesel	GWh	0	0	0	0	0	0	0	0	0	0	0	0
(13)	Natural Gas	Total	GWh	1,625	1,721	2,357	2,524	2,632	2,687	2,759	2,814	2,880	2,944	2,997	3,026
(14)		Steam	GWh	1,583	1,247	729	886	925	954	1,110	998	1,036	1,072	1,106	1,122
(15)		CC	GWh	0	459	1,623	1,635	1,703	1,730	1,605	1,764	1,783	1,804	1,816	1,829
(16)		CT	GWh	42	15	5	3	4	3	44	52	61	68	75	75
(17)	Other (Hydro)		GWh	11	7	25	25	25	25	25	25	25	25	25	25
(18)	Net Energy for Load		GWh	2,497	2,589	2,651	2,707	2,777	2,849	2,905	2,961	3,027	3,091	3,148	3,203

[1] Values for 1999 and 2000 include economy interchange. Values for the perod 2001-2010 do not include economy interchange.

City Of Tallahassee

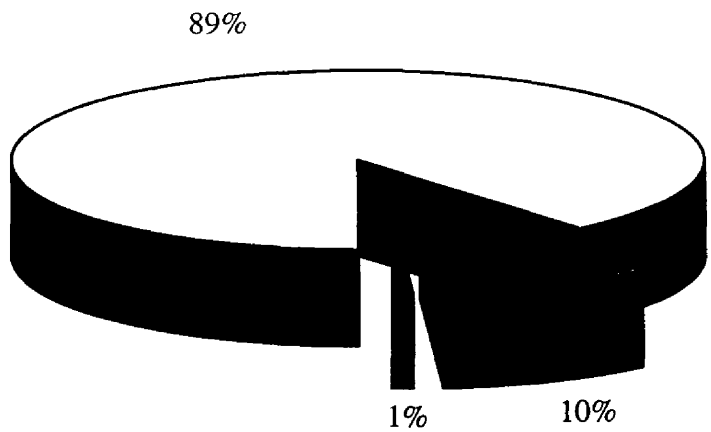
Schedule 6.2
Energy Sources

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
	Energy Sources		Units	Actual 1999	Actual 2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
(1)	Annual Firm Interchange [1]		%	31	26	10	6	4	5	4	4	4	4	4	5
(2)	Nuclear		%	3	0	0	0	0	0	0	0	0	0	0	0
(3)	Residual	Total	%	2	8	0	0	0	0	0	0	0	0	0	0
(4)		Steam	%	2	8	0	0	0	0	0	0	0	0	0	0
(5)		CC	%	0	0	0	0	0	0	0	0	0	0	0	0
(6)		CT	%	0	0	0	0	0	0	0	0	0	0	0	0
(7)		Diesel	%	0	0	0	0	0	0	0	0	0	0	0	0
(8)	Distillate	Total	%	0	0	0	0	0	0	0	0	0	0	0	0
(9)		Steam	%	0	0	0	0	0	0	0	0	0	0	0	0
(10)		CC	%	0	0	0	0	0	0	0	0	0	0	0	0
(11)		CT	%	0	0	0	0	0	0	0	0	0	0	0	0
(12)		Diesel	%	0	0	0	0	0	0	0	0	0	0	0	0
(13)	Natural Gas	Total	%	64	66	89	93	95	94	95	95	95	95	95	94
(14)		Steam	%	63	48	28	33	33	33	38	34	34	35	35	35
(15)		CC	%	0	18	61	60	62	61	55	59	59	58	58	57
(16)		CT	%	1	0	0	0	0	0	2	2	2	2	2	2
(17)	Other (Hydro)		%	0	0	1	1	1	1	1	1	1	1	1	1
(18)	Net Energy for Load		%	100	100	100	100	100	100	100	100	100	100	100	100

[1] Values for 1999 and 2000 include economy interchange. Values for the perod 2001-2010 do not include economy interchange.

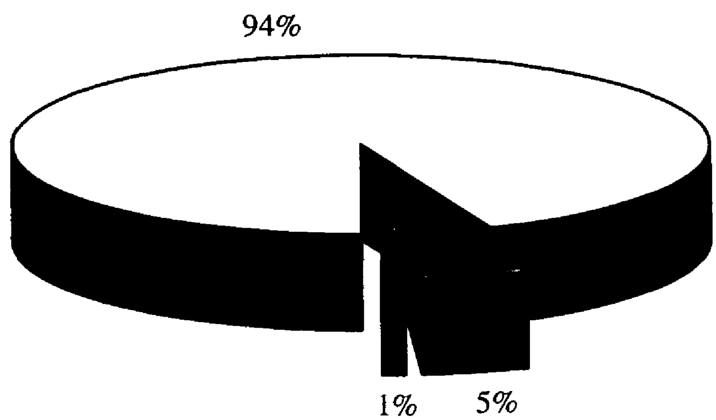
Generation By Fuel Type

Calendar Year 2001



Total 2001 NEL = 2,651 GWh

Calendar Year 2010



Total 2010 NEL = 3,203 GWh

☐ Gas and Oil ■ Purchases ■ Hydro

Chapter III

Projected Facility Requirements

3.0 Introduction

The review and approval by the City Commission of the electric utility's recommended resource plan is guided by the objectives in the City's Energy Policy:

> It is the policy of the City of Tallahassee to provide a reliable, economically-competitive energy system which meets citizens' energy needs and reduces total energy requirements. These requirements will be reduced through energy conservation, public education, and appropriate technologies. The energy system will protect and improve the quality of life and the environment.

3.1 Projected Resource Requirements

Based on the 1999 Load Forecast, it was determined that with the completion of Purdom Combined Cycle Unit #8, the retirement of Purdom Steam Units #5 and #6, the June 1, 2000 termination of the 79 MW purchased power contract with the Southern Company, and continued load growth, the City would be able to maintain its 17% load reserve margin criterion through the winter of 2005/06. It was also based on the 1999 Load Forecast forecast that the City entered into a short-term firm power sales agreement with the Seminole Electric Cooperative, Incorporated (Seminole). The agreement provides Seminole with 75 MW of year-round capacity and associated energy for the period of May 2000 through November 30, 2001 and is contingent on the availability of Purdom 8. An additional 50 MW was sold to Seminole for the period of December 1, 2000 to March 31, 2001 on the condition that the City's Hopkins Unit #2 is available.

Comparing the capability of City's supply resources without any subsequent additions to its 2001 Load Forecast, the Seminole sale obligation and 17% load reserve margin criterion, a reserve shortfall of 18 MW occurs in the summer of 2001. The City is carefully reviewing its options to meet this previously unexpected reserve shortfall. One consideration will be the actual versus forecast net summer generating capability of Purdom 8. Other possibilities include peak-season purchases from other inter- and/or intra-regional sources. The City will continue to review its options and take appropriate action as the year progresses and as experience is gained with Purdom 8.

After the expiration of the Seminole power sales agreement, the City would be able to maintain it's 17% load reserve margin criterion through the winter of 2003/04. The cumulative reserve shortfall, absent of any supply acquisition during the reporting period covered by this Ten Year Site Plan (beyond that forecasted to occur in 2001 discussed above and considering only existing resources) is shown in the table below:

Cumulative Reserve Shortfall (17% Reserve Margin)	
Year	***MW***
2004	15
2005	29
2006	44
2007	58
2008	82
2009	108
2010	124

It is important to note that the MW values in the table above represent the cumulative shortfall in reserves *NOT* capacity. Beyond that forecasted for 2001 (discussed above and considering only existing resources) and assuming the base case load forecast, reserve deficiency first occurs in the summer of 2004; assuming the high load forecast reserve deficiency occurs a year earlier in the summer of 2003. However, and again, considering only existing resources, *capacity deficiency* would not occur until the summer of 2010 assuming the base case load forecast; the high band forecast would cause capacity deficiency to occur in the summer of 2009.

Preliminary resource planning studies conducted by the City have identified the addition of two (2) 50 MW class combustion turbines in 2005 as part of the least-cost plan under the base case conditions. These units would be located at the City's existing Hopkins Plant site or possibly at a "green field" or any other appropriate site. The City has included these CTs in its current five-year financial plan. This additional generating capacity would meet the majority of the need identified through 2010 while the remaining small reserve shortfalls could be met with peak-season purchases from other systems either within FRCC or systems outside of Florida. Other supplement power supply options being considered for the study period include, but are not limited to, accelerating the in-service date of the CTs described above, repowering and conversion of an existing steam unit to combined cycle operation and the construction of a new combined cycle unit.

The operational flexibility provided by the addition of "quick start" combustion turbine generating units would produce immediate and significant annual savings. First, these units would allow the City to reduce the amount of operating reserves that must be maintained as spinning reserves by 75%. Also, without "quick start" generating capability the City has had to reserve use of its transmission import capability to allow for the purchase of sufficient replacement power in the event of the worst single contingency (loss of our largest generating unit). The addition of "quick start" units would allow the City to back up the aforementioned contingency in part with those units. This would free up a portion of our transmission import capability and afford the City the option of entering into a purchase contract(s), an option that has previously been dismissed as infeasible due to concerns about reliability. Purchase contracts could provide some of the diversity desired in the City's power supply resource portfolio. Resource diversity has long been sought after by the City because of our heavy reliance on natural gas as our primary fuel source. Increased resource diversity has received even greater emphasis in light of the volatility in natural gas prices seen over the last year.

The City has contracted the services of a consultant to assist in conducting a comprehensive resource planning study to review the future power supply options discussed above and identify specific alternatives that are consistent with the objectives of the City's Energy Policy stated in Section 3.0.

3.2 Planning Process

3.2.1 Future Considerations

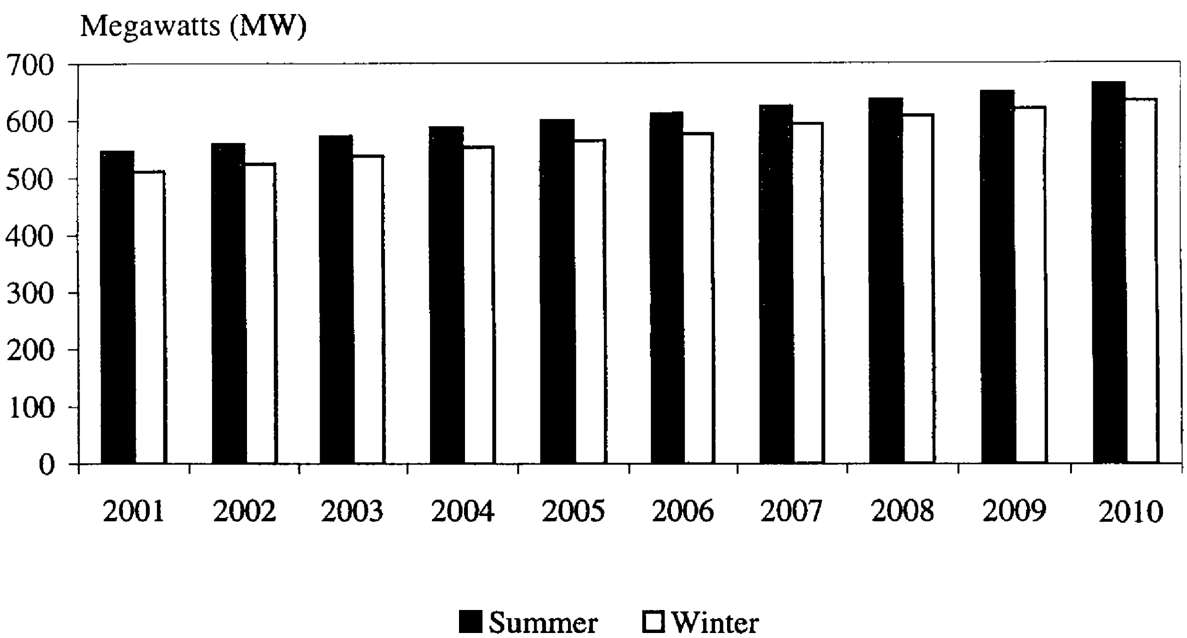
Tables 3.1 and 3.2 (Schedules 7.1 and 7.2) provide information on the resources and reserve margins during the next ten years for the City's system. The City currently plans its system to maintain a load reserve margin of at least 17% but is giving consideration to the possibility of increasing its load reserve margin criterion in the future.

As a result of its Docket #981890-EU and subsequent Order #PSC- 99-2507-S-EU regarding the adequacy of reserve margins planned for Peninsular Florida, the FPSC approved a stipulation proposed by the three investor-owned utilities (IOU) for their voluntary adoption of a planning reserve margin criterion of 20%. These utilities (Florida Power and Light, Florida Power Corporation and Tampa Electric Company) proposed to achieve this 20% margin by the summer of 2004. The FPSC noted that these three utilities plan for 80% of the load in Peninsular Florida and that the increase in reserve margin for the three utilities addressed the FPSC's basic concern about the adequacy of planned reserve margins for the region.

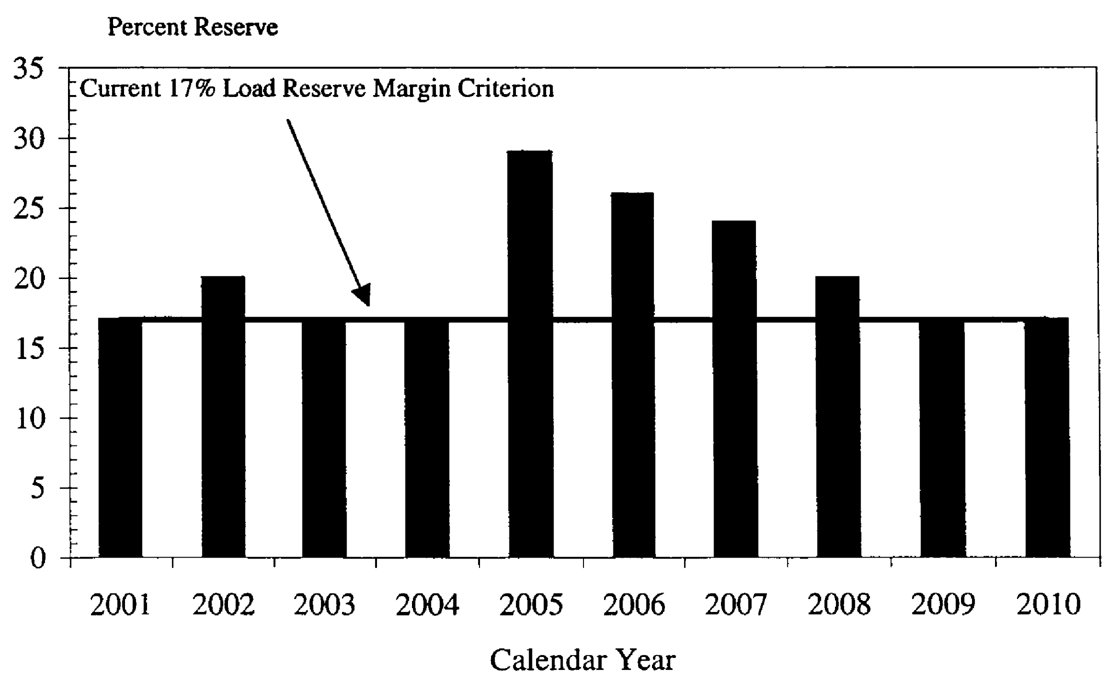
The FPSC's Docket and subsequent Order on planned reserve margins provides the City with a valuable opportunity to review the adequacy of its own planning reserve margin criterion. In its future analyses the City will be giving careful consideration to the implications of the FPSC's endorsement of the IOU's 20% reserve margin criterion, the nature of the City's interconnections with other utilities and subsequent import limitations, the increase in the City's forecast peak load requirements versus previous year's forecasts, and the size of the City's individual generating units as a percent of its total supply resource capability.

The City has specified its planned capacity additions, retirements and changes on Table 3.3 (Schedule 8). These capacity resources have been incorporated into the City's dispatch simulation model in order to provide information related to fuel consumption and energy mix (see Tables 2.18, 2.19 and 2.20). Figure C compares seasonal net peak load and the system reserve margin based on summer peak load requirements. Table 3.4 provides the City's generation expansion plan. The additional supply capacity required to maintain the City's current 17% reserve margin criterion is included in the "Resource Additions" column. As discussed in Section 3.1 above, the City has contracted with a consultant to assist in conducting a comprehensive resource planning study to identify specific expansion alternatives that are consistent with the objectives of the City's Energy Policy stated in Section 3.0.

System Peak Demands Net of Conservation



Summer Reserve Margin



City Of Tallahassee

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)
	Total Installed Capacity	Firm Capacity Import	Firm Capacity Export	QF	Total Capacity Available	System Firm Summer Peak Demand	Reserve Margin Before Maintenance		Scheduled Maintenance	Reserve Margin After Maintenance	
Year	(MW)	(MW)	(MW)	(MW)	(MW)	(MW)	(MW)	% of Peak	(MW)	(MW)	% of Peak
2001	661	53	75	0	639	546	93	17	0	93	17
2002	661	11	0	0	672	558	114	20	0	114	20
2003	661	11	0	0	672	572	100	17	0	100	17
2004	661	26	0	0	687	587	100	17	0	100	17
2005	761	11	0	0	772	599	173	29	0	173	29
2006	761	11	0	0	772	612	160	26	0	160	26
2007	761	11	0	0	772	624	148	24	0	148	24
2008	751	11	0	0	762	636	126	20	0	126	20
2009	741	19	0	0	760	649	111	17	0	111	17
2010	741	35	0	0	776	663	113	17	0	113	17

City Of Tallahassee

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 (MW)	Firm Capacity Import (MW)	Firm Capacity Export (MW)	QF (MW)	Total Capacity Available (MW)	System Firm Winter Peak Demand (MW)	Reserve Margin Before Maintenance (MW)	Reserve Margin Before Maintenance % of Peak	Scheduled Maintenance (MW)	Reserve Margin After Maintenance (MW)	Reserve Margin After Maintenance % of Peak
2000/01	711	34	125	0	620	512	108	21	0	108	21
2001/02	711	34	0	0	745	524	221	42	0	221	42
2002/03	711	11	0	0	722	538	184	34	0	184	34
2003/04	711	11	0	0	722	553	169	31	0	169	31
2004/05	711	11	0	0	722	565	157	28	0	157	28
2005/06	811	11	0	0	822	576	246	43	0	246	43
2006/07	811	11	0	0	822	593	229	39	0	229	39
2007/08	811	11	0	0	822	607	215	35	0	215	35
2008/09	801	11	0	0	812	620	192	31	0	192	31
2009/10	801	11	0	0	812	634	178	28	0	178	28

City Of Tallahassee

Schedule 8
Planned and Prospective Generating Facility Additions and Changes

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
								Const.	Commercial	Expected	Gen. Max.	Net Capability		
	Unit		Unit	Fuel		Fuel Transportation		Start	In-Service	Retirement	Nameplate	Summer	Winter	
Plant Name	No.	Location	Type	Pri	Alt	Pri	Alt	Mo/Yr	Mo/Yr	Mo/Yr	(kW)	(MW)	(MW)	Status
GT A		Undetermined	GT	NG	DFO	PL	TK	Unknown	May-05			50	50	P
GT B		Undetermined	GT	NG	DFO	PL	TK	Unknown	May-05			50	50	P

Acronym	Definition
GT	Gas Turbine
PRI	Primary Fuel
ALT	Alternate Fuel
NG	Natural Gas
DFO	Diesel Fuel Oil
PL	Pipeline
TK	Truck
P	Planned
kW	Kilowatts

City Of Tallahassee

Generation Expansion Plan

Year	Load Forecast & Adjustments Fcst Peak Demand (MW)	DSM [1] (MW)	Net Peak Demand (MW)	Existing Capacity Net (MW)		Firm Imports (MW)	Firm Exports (MW)	Resource Additions (Cumulative) (MW)	Total Capacity (MW)	Res %	New Resources
2001	548	2	546	661		35	75	18	639	17	[3]
2002	562	4	558	661		11		0	672	20	
2003	578	6	572	661		11		0	672	17	
2004	595	8	587	661		11		15	687	17	[3]
2005	609	10	599	661		11		100	772	29	[3]
2006	624	12	612	661		11		100	772	26	[3]
2007	636	12	624	661		11		100	772	24	[3]
2008	648	12	636	651	[2]	11		100	762	20	[3]
2009	661	12	649	641	[2]	11		108	760	17	[3]
2010	675	12	663	641	[2]	11		124	776	17	[3]

[1] DSM = Demand Side Management
[2] Purdom CT1 & CT2 will be retired in March of 2008 and 2009 unless power purchases are not an economical or a reliable alternative.
[3] New Resources are two new 50 MW combustion turbines in 2005 and inter-and/or intra-regional peak season purchases as needed to maintain a 17% reserve margin.

Chapter IV

Proposed Plant Sites and Transmission Lines

4.1 PROPOSED PLANT SITE

As discussed in Chapter III, preliminary resource planning studies conducted by the City have identified the addition of two (2) 50 MW class combustion turbines in 2005 as part of the least-cost plan under the base case conditions. These units could be located at the City's existing Hopkins Plant site or possibly at a "green field" site to be determined (see Schedule 9). The City has included these CTs in its current five-year financial plan. This additional generating capacity would meet the majority of the need identified through 2010 while the remaining reserve shortfalls could be met with peak-season purchases from other systems either within FRCC or systems outside of Florida. Other options being considered include but are not limited to accelerating the in-service date of the CTs described above, repowering and conversion of an existing steam unit to combined cycle operation and the construction of a new combined cycle unit.

The City has contracted the services of a consultant to conduct a comprehensive resource planning study to review the future power supply options discussed in Chapter III and identify specific alternatives that are consistent with the objectives of the City's Energy Policy stated in Section 3.0.

4.2 TRANSMISSION LINE ADDITIONS

A study of the transmission system has identified a number of system improvements and additions that will be required to reliably serve future load. The attached transmission system map (Figure D1), shows the planned transmission additions covered by this Ten Year Site Plan.

The City plans several new substations on the east side of its system. These are intended to serve future load in this rapidly-growing area. The new substations (14, 17, 18) will be connected with 115 kV transmission, which is the standard voltage throughout the City's service territory. When complete, the area will be served by two reliable "loops" between substations 7 and 9, and between substations 9 and 5. The anticipated in-service dates for these new substations and lines are shown in Figure D1.

Other improvements to the transmission system will take the form of line upgrades. (Schedule 10, "Status Report and Specifications of Proposed Directly Associated Transmission Lines" is included in this report but reflects no additions or improvements at this time.)

City Of Tallahassee

Schedule 9
Status Report and Specifications of Proposed Generating Facilities

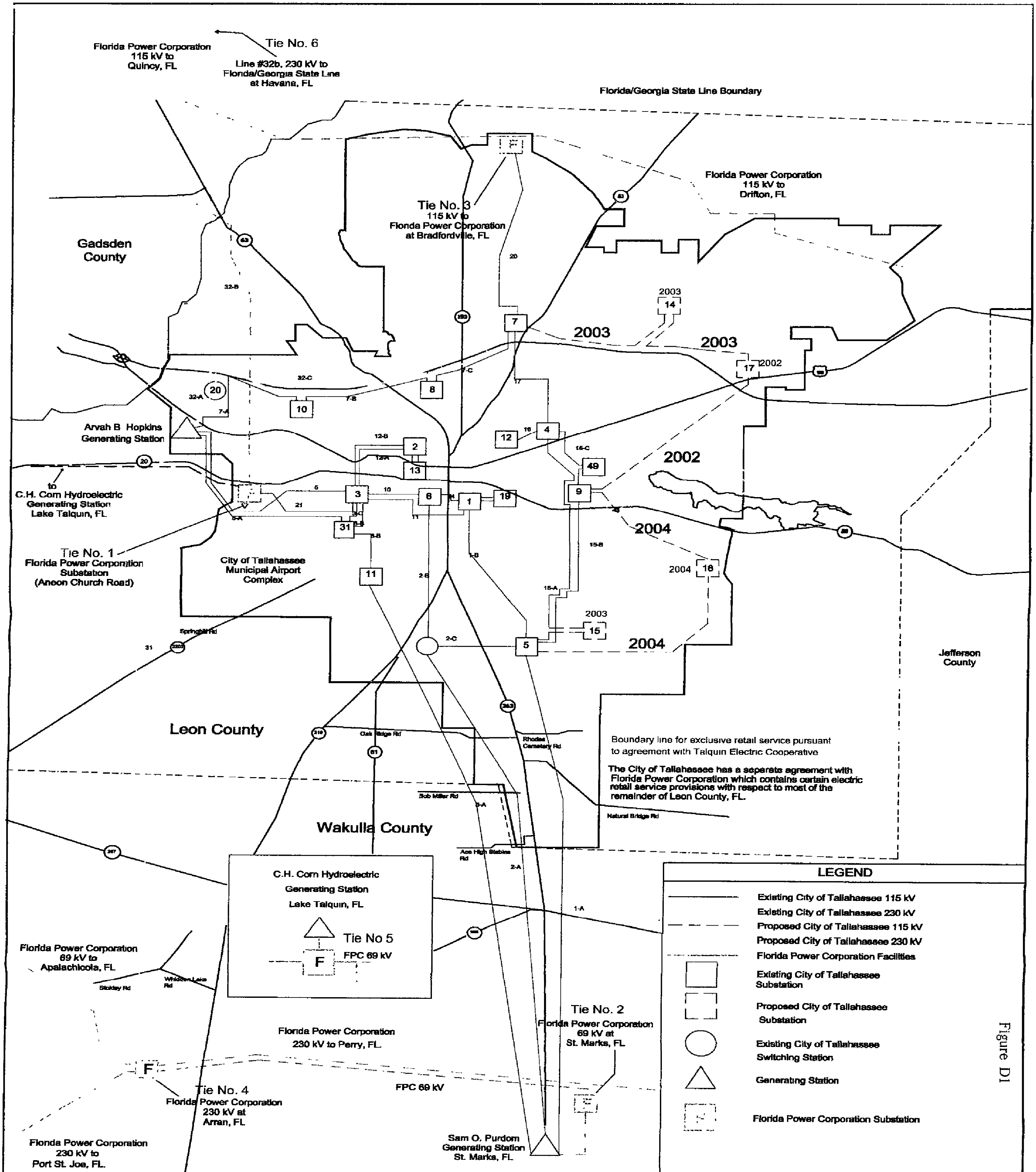
(1)	Plant Name and Unit Number:	GTA	GTB
(2)	Capacity	50	50
	a.) Summer:	50	50
	b.) Winter:	50	50
(3)	Technology Type:	CT	CT
(4)	Anticipated Construction Timing		
	a.) Field Construction start - date:	Unknown	Unknown
	b.) Commercial in-service date:	May-05	May-05
(5)	Fuel		
	a.) Primary fuel:	NG	NG
	b.) Alternate fuel:	DFO	DFO
(6)	Air Pollution Control Strategy:	Unknown	Unknown
(7)	Cooling Status:	Unknown	Unknown
(8)	Total Site Area:	Unknown	Unknown
(9)	Construction Status:	Planned	Planned
(10)	Certification Status:		
(11)	Status with Federal Agencies:		
(12)	Projected Unit Performance Data		
	Planned Outage Factor (POF):		
	Forced Outage Factor:		
	Equivalent Availability Factor (EAF):		
	Resulting Capacity Factor (%):		
	Average Net Operating Heat Rate (ANOHR):		
(13)	Projected Unit Financial Data		
	Book Life (Years)		
	Total Installed Cost (In-Service Year $/kW)		
	Direct Construction Cost ($/kW):		
	AFUDC Amount ($/kW):		
	Escalation ($/kW):		
	Fixed O & M ($kW-Yr):		
	Variable O & M ($/MWH):		
	K Factor:		

Data dependent on selected unit manufacturer, nature of contracts, etc. To be determined.

City Of Tallahassee

Schedule 10
Status Report and Specifications of Proposed Directly Associated Transmission Lines

(1)	Point of Origin and Termination:	No facility additions or improvements to report at this time.
(2)	Number of Lines:	
(3)	Right-of -Way:	
(4)	Line Length:	
(5)	Voltage:	
(6)	Anticipated Capital Timing:	
(7)	Anticipated Capital Investment:	
(8)	Substations:	
(9)	Participation with Other Utilities:	



revised 2/15/2001

Plate II-1

City of Tallahassee

Electric Transmission System
January 1, 2001

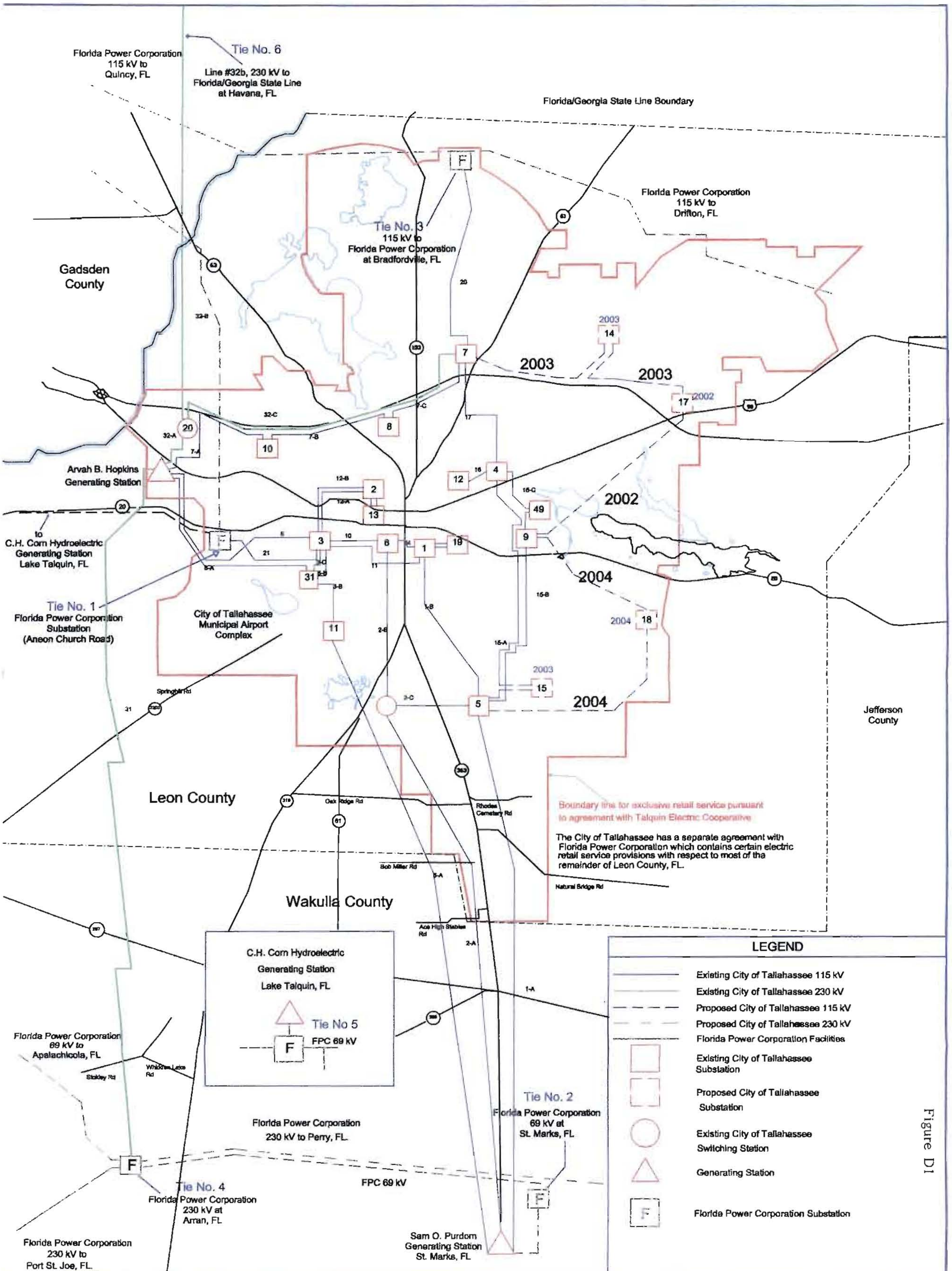


Figure DI

Plate II-1

revised
2/15/2001

City of Tallahassee

Electric Transmission System
January 1, 2001