CITY OF TALLAHASSEE

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SCOTT MADDOX
Mayor
CHARLES E. BILLINGS
Mayor Pro Tem

JOHN PAUL BAILEY
Commissioner
DEBBIE LIGHTSEY
Commissioner
STEVE MEISBURG
Commissioner

ANITA R. FAVORS
City Manager
ROBERT B. INZER
City Treasurer-Clerk

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

April 15, 2002

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

Dear Mr. Jenkins: 020000

Attached are fifteen (15) copies of the City of Tallahassee's 2002 Ten Year Site Plan, provided pursuant to Section 186.801, F.S. If you have any questions about this plan, please e-mail me at clarkp@talgov.com or call me at 891-3130.

Sincerely,

Paul D. Clark, II
Chief Planning Engineer

Attachments
cc: KGW

CITY OF TALLAHASSEE

ELECTRIC DEPARTMENT

CITY OF TALLAHASSEE, FLORIDA

2002 - 2011 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
2002-2011
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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 97,300 customers located within a 221 square mile service territory. The Electric Department operates three generating stations with a total summer season net generating capacity of 652 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), 233 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 304 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, residual oil or both. The combustion turbine units can be fired on either natural gas or diesel 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 City's total net summer installed generating capability is 652 MW. The corresponding winter net peak installed generating capability is 699 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 a firm capacity and energy purchase agreement with Florida Power Corporation for 11.4 MW.

City Of Tallahassee

Schedule 1
Existing Generating Facilities
As of December 31, 2001

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Plant	Unit No.	Location	Unit Type	Fuel Pri	Fuel Alt	Fuel Transport Primary	Fuel Transport Alternate	Alt. Fuel Days Use	Commercial In-Service Month/Year	Expected Retirement Month/Year	Gen. Max. Nameplate (kW)	Net Capability Summer (MW)	Net Capability Winter (MW)
S. O. Purdom	7	Wakulla	ST	NG	FO6	PL	WA	[1, 2]	6/66	3/11	44,000	48	50
	8		CC	NG	FO2	PL	WA	[2, 3]	7/00	12/40	247,743	233	262
	GT 1		GT	NG	FO2	PL	TK	[2, 3]	12/63	3/08	12,500	10	10
	GT 2		GT	NG	FO2	PL	TK	[2, 3]	5/64	3/09	12,500	10	10
											Plant Total	301	332
A. B. Hopkins	1	Leon	ST	NG	FO6	PL	TK	[1]	5/71	3/16	75,000	76	78
	2		ST	NG	FO6	PL	TK	[1]	10/77	3/22	259,250	228	238
	GT 1		GT	NG	FO2	PL	TK	8.3	2/70	3/15	16,320	12	14
	GT 2		GT	NG	FO2	PL	TK	8.3	9/72	3/17	27,000	24	26
											Plant Total	340	356
C. H. Corn	1	Leon	HY	WAT	WAT	WAT	WAT	NA	9/85	Unknown	4,440	4	4
	2		HY	WAT	WAT	WAT	WAT	NA	8/85	Unknown	4,440	4	4
	3		HY	WAT	WAT	WAT	WAT	NA	1/86	Unknown	3,430	3	3
											Plant Total	11	11
											Total System Capacity as of December 31, 2001	652	699

Notes

[1] The City maintains a minimum inventory of approximately 19 peak load days between the Purdom and Hopkins sites.

[2] Due to the Purdom facility-wide emissions caps, utilization of liquid fuel at this facility is limited.

[3] Purdom has sufficient diesel storage on site for approximately 30 full load hours of operation for all three combustion turbines units.

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	16	750	151,398	152,164
Arvah B. Hopkins	230	35	220	126	74,476	74,822
C. H. Corn (Jackson Bluff)	10,200	10,200	-	-	12,671	12,671
Electric System Totals [1]			236	876	238,545	239,657

Notes

[1] The totals shown represent the fixed assets of those categories as of September 30 , 2001.

City Of Tallahassee

Existing Generating Facilities
Environmental Considerations for Steam Generating Units

Air Pollution Control Strategy

(1)	(2)		(3)	(4)	(5)	(6)
Plant Name	Unit		PM	SOx	NOx	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.

Notes

[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/ $\leq$ 1.0% sulfur or No. 2 fuel oil w/ $\leq$ 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 2002 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 2002 and the horizon year of 2011. 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 2001 - 2003 period.

2.1.1 SYSTEM LOAD AND ENERGY FORECASTS

The peak demand and energy forecasts contained in this plan are the results of an update of the 2001 load and energy forecasting study performed by the City and reviewed by the engineering consulting firm of R. W. Beck. After the completion of the 2001 study the City decided that the 2002 load forecasting study would be performed entirely by its own staff without a subsequent review by R. W. Beck. This decision was made based on the City's consideration of the year-to-year changes of previous years' forecasts, the level of the City's in-house engineering expertise and the historical cost of annually contracting for the services of a consultant to review the forecasting study. Based on this review, the City concluded that the accuracy and usefulness of the load and energy

forecasts could be satisfactorily maintained utilizing its own staff with the consultant review occurring biennially as opposed to annually. The City's staff received training regarding the application and verification of the load and energy forecast models developed by R. W. Beck on the City's behalf. Using this training, staff researched and updated the model inputs, performed sensitivities to gauge the impact of different input assumptions, reviewed the models' outputs and established the City's official 2002 forecast.

The forecast models are the same as those used to develop previous years' forecasts. The energy forecast is developed utilizing a methodology that 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. Several key regression formulas utilize econometric variables.

The two most significant input assumption changes from the 2001 forecast were the Leon County population forecast and an incremental load addition to the National High Magnetic Field Laboratory (NHMFL) at Florida State University. Based on the results of the 2000 U.S. Census, the Leon County population projection represents a slower growth rate than the projection used in the 2001 load forecast. One of the City's largest customers, NHMFL plans to add about 160,000 square feet of conventional office space by the summer of 2002 that will also house the new Center for Applied Power Systems research facility. This incremental load addition was not identified in time for it to be included in the 2001 load forecast models but is included in the 2002 load forecast models. The regression coefficients for the 2002 customer forecasts were updated to reflect the most recent historic data. As a result, it is expected that the accuracy of these forecast models have been improved. These models are used to predict number of customers by customer class. The customer class models are aggregated to form a total base 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 that reflect 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. 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 2002 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.

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 continues 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 2002-2011. Figure B4 displays the percentage of energy by fuel type in 2002 and 2011. 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. (contract expired March 2002), to satisfy its energy requirements.

The projections of fuel consumption and energy generated are taken from the results of computer simulations using Henwood Energy Services, Inc.'s PROSYM production simulation model and based on the resource plan 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 [3]		
Year	Population [1]	Members Per Household	(GWh)	Average No. of Customers [2]	Average kWh Consumption Per Customer	(GWh)	Average No. of Customers [2]	Average kWh Consumption Per Customer
1992	172,505	-	766	68,176	11,497	1,080	13,616	79,284
1993	176,938	-	796	69,907	11,681	1,149	13,834	83,058
1994	181,577	-	799	71,534	11,432	1,205	14,277	84,380
1995	185,297	-	870	72,998	12,163	1,268	14,780	85,790
1996	189,987	-	893	74,259	12,231	1,316	15,142	86,909
1997	194,746	-	850	75,729	11,446	1,324	15,495	85,447
1998	199,078	-	940	77,357	12,608	1,396	15,779	88,492
1999	200,890	-	926	79,123	12,156	1,416	15,429	91,755
2000	204,129	-	971	79,108	12,269	1,454	15,891	91,518
2001	206,609		959	80,348	11,937	1,456	16,203	89,853
2002	211,239	-	964	81,218	11,869	1,485	17,238	86,147
2003	214,829	-	975	82,613	11,802	1,529	17,576	86,994
2004	218,418	-	986	84,009	11,737	1,573	17,913	87,813
2005	222,086	-	997	85,433	11,670	1,604	18,261	87,837
2006	225,872	-	1,010	86,905	11,622	1,636	18,612	87,900
2007	229,360	-	1,028	88,253	11,648	1,673	18,925	88,402
2008	232,572	-	1,044	89,489	11,666	1,708	19,233	88,806
2009	235,784	-	1,060	90,724	11,684	1,738	19,540	88,946
2010	238,982	-	1,077	91,954	11,712	1,768	19,846	89,086
2011	242,175	-	1,093	93,181	11,730	1,795	20,154	89,064

Notes

[1] Estimated population served.

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

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)
1992	-	-	-	-	11	-	1,856
1993	-	-	-	-	11	-	1,956
1994	-	-	-	-	12	-	2,016
1995	-	-	-	-	12	-	2,150
1996	-	-	-	-	12	-	2,221
1997	-	-	-	-	12	-	2,186
1998	-	-	-	-	12	-	2,349
1999	-	-	-	-	13	-	2,355
2000	-	-	-	-	13	-	2,438
2001	-	-	-	-	13	-	2,428
2002	-	-	-	-	14	-	2,463
2003	-	-	-	-	14	-	2,518
2004	-	-	-	-	14	-	2,573
2005	-	-	-	-	15	-	2,616
2006	-	-	-	-	15	-	2,661
2007	-	-	-	-	15	-	2,716
2008	-	-	-	-	15	-	2,767
2009	-	-	-	-	16	-	2,814
2010	-	-	-	-	16	-	2,861
2011	-	-	-	-	16	-	2,904

Notes

[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]
1992	0	124	1,980	-	80,232
1993	0	130	2,086	-	82,010
1994	0	134	2,150	-	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	2,477	-	91,508
1999	0	142	2,497	-	92,786
2000	0	158	2,596	-	94,999
2001	0	128	2,556	-	97,335
2002	0	163	2,626	-	98,330
2003	0	167	2,685	-	100,064
2004	0	170	2,743	-	101,797
2005	0	173	2,789	-	103,564
2006	0	176	2,837	-	105,386
2007	0	180	2,896	-	107,064
2008	0	183	2,950	-	108,607
2009	0	186	3,000	-	110,150
2010	0	189	3,050	-	111,687
2011	0	192	3,096	-	113,221

Notes

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

History and Forecast Energy Consumption By Customer Class

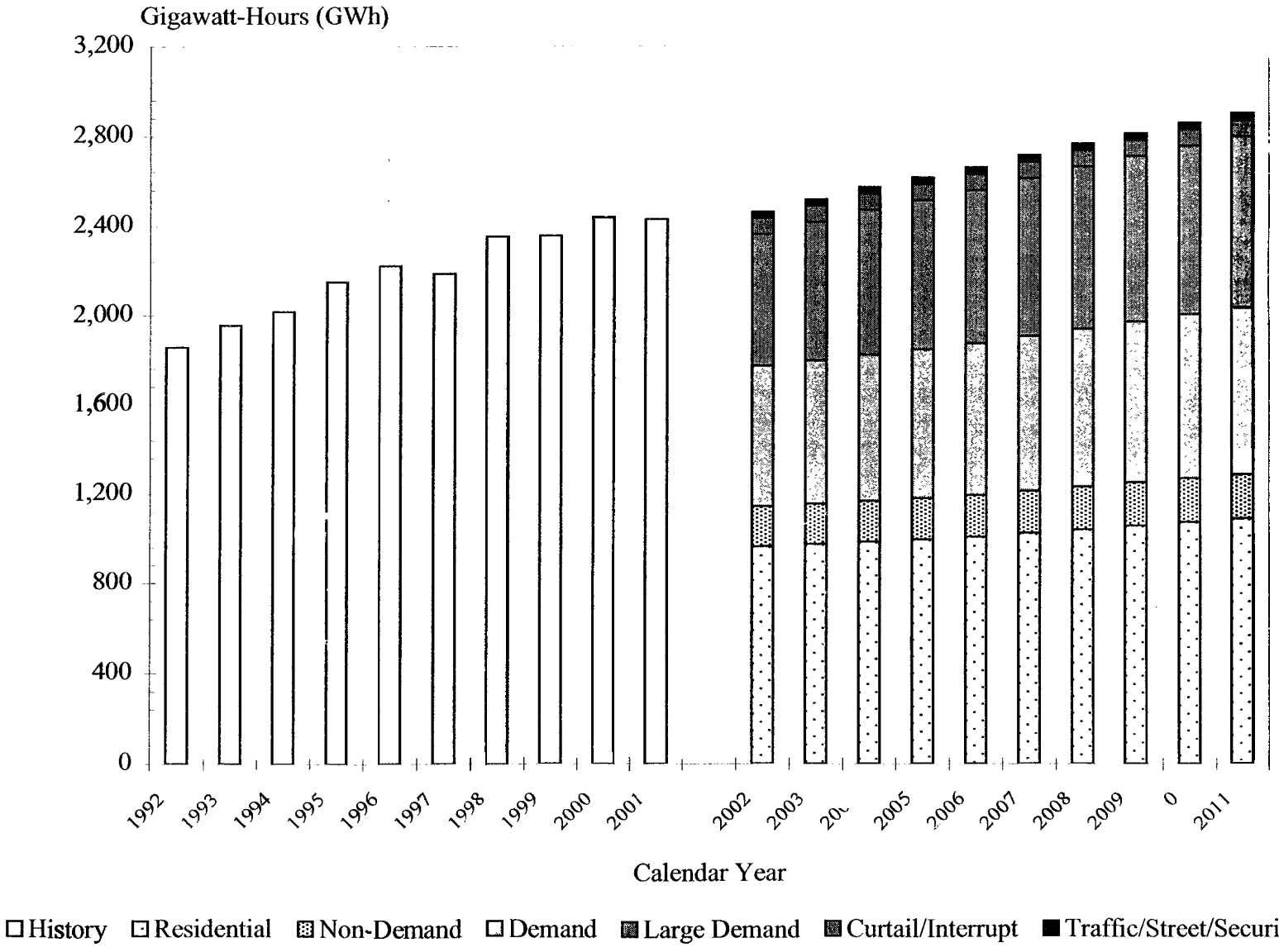
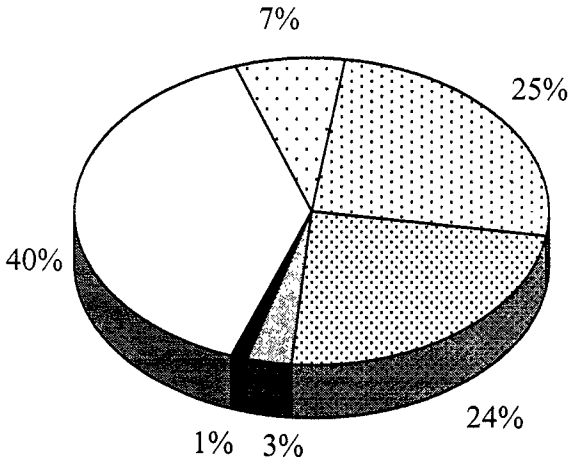


Figure B1

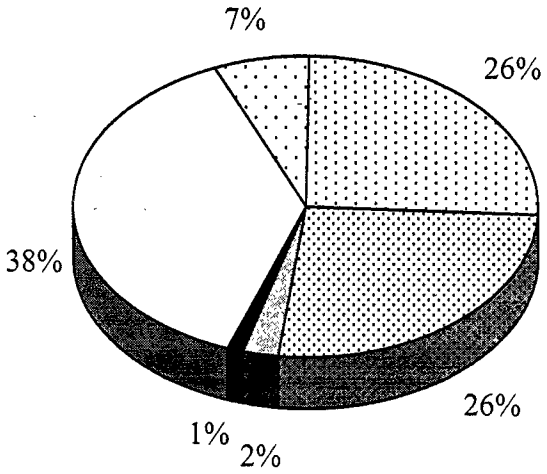
Energy Consumption By Customer Class

Calendar Year 2002



Total 2002 Sales = 2,470 GWh
Values exclude DSM impacts

Calendar Year 2011



Total 2011 Sales = 2,942 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]
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	522		522			2		0	520
2002	555		555			1		0	554
2003	569		569			3		1	565
2004	583		583			4		1	578
2005	595		595			6		2	587
2006	608		608			7		3	598
2007	620		620			7		3	610
2008	630		630			7		3	620
2009	641		641			7		3	631
2010	653		653			7		3	643
2011	664		664			7		3	654

Notes

[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]
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	522		522			2		0	520
2002	565		565			1		0	564
2003	578		578			3		1	574
2004	593		593			4		1	588
2005	605		605			6		2	597
2006	618		618			7		3	608
2007	629		629			7		3	619
2008	639		639			7		3	629
2009	651		651			7		3	641
2010	663		663			7		3	653
2011	674		673			7		3	663

Notes

[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]
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	522		522			2		0	520
2002	546		546			1		0	545
2003	559		559			3		1	555
2004	574		574			4		1	569
2005	586		586			6		2	578
2006	599		599			7		3	589
2007	610		610			7		3	600
2008	620		620			7		3	610
2009	631		632			7		3	622
2010	644		644			7		3	634
2011	654		654			7		3	644

Notes

[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]
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						521
2001 -2002	516		516			6		0	510
2002 -2003	545		545			11		1	533
2003 -2004	563		563			16		1	546
2004 -2005	577		577			21		2	554
2005 -2006	593		593			26		2	565
2006 -2007	608		608			26		2	580
2007 -2008	620		620			26		2	592
2008 -2009	631		631			26		2	603
2009 -2010	643		643			26		2	615
2010 -2011	654		654			26		2	626
2011 -2012	666		666			26		2	638

Notes

[1] Values include DSM Impacts.

[2] Reduction estimated at busbar.

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]
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						521
2001 -2002	516		516			6		0	510
2002 -2003	566		566			11		1	554
2003 -2004	584		584			16		1	567
2004 -2005	598		598			21		2	575
2005 -2006	614		614			26		2	586
2006 -2007	629		629			26		2	601
2007 -2008	641		641			26		2	613
2008 -2009	653		653			26		2	625
2009 -2010	665		665			26		2	637
2010 -2011	675		675			26		2	647
2011 -2012	685		685			26		2	657

Notes

[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)	(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]
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						521
2001 -2002	516		516			6		0	510
2002 -2003	520		520			11		1	508
2003 -2004	537		52[illegible]			16		1	520
2004 -2005	551		55[illegible]			21		2	528
2005 -2006	567		567			26		2	539
2006 -2007	582		58[illegible]			26		2	554
2007 -2008	594		594			26		2	566
2008 -2009	605		60[illegible]			26		2	577
2009 -2010	617		617			26		2	589
2010 -2011	628		628			26		2	600
2011 -2012	638		638			26		2	610

Notes

[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]
1992	1,856			1,856		124	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	2,355			2,355		142	2,497	59
2000	2,438			2,438		158	2,596	56
2001	2,441	13	0	2,428		128	2,556	56
2002	2,471	6	2	2,463		163	2,626	55
2003	2,534	13	3	2,518		167	2,685	55
2004	2,597	19	5	2,573		170	2,743	55
2005	2,648	25	7	2,616		173	2,789	54
2006	2,701	32	8	2,661		176	2,837	54
2007	2,756	32	8	2,716		180	2,896	54
2008	2,807	32	8	2,767		183	2,950	54
2009	2,854	32	8	2,814		186	3,000	54
2010	2,901	32	8	2,861		190	3,051	54
2011	2,944	32	8	2,904		192	3,096	53

Notes

[1] Values include DSM Impacts.

[2] Reduction estimated at customer meter.

City Of Tallahassee

Schedule 3.3.2
History and Forecast of Annual Net Energy for Load
High 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]
1992	1,856			1,856		124	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	2,355			2,355		142	2,497	59
2000	2,438			2,438		158	2,596	56
2001	2,441	13	0	2,428		128	2,556	56
2002	2,657	6	2	2,649		176	2,825	58
2003	2,723	13	3	2,707		179	2,886	58
2004	2,797	19	5	2,773		184	2,957	58
2005	2,877	25	7	2,845		188	3,033	58
2006	2,942	32	8	2,902		192	3,094	58
2007	2,948	32	8	2,908		193	3,101	57
2008	3,009	32	8	2,969		197	3,166	57
2009	3,061	32	8	3,021		200	3,221	57
2010	3,122	32	8	3,082		204	3,286	57
2011	3,187	32	8	3,147		208	3,355	57

Notes

[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)	(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]
1992	1,856			1,856		124	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	2,355			2,355		142	2,497	54
2000	2,438			2,438		158	2,596	56
2001	2,441	13	0	2,428		128	2,556	56
2002	2,346	6	2	2,338		155	2,493	53
2003	2,407	13	3	2,391		158	2,549	53
2004	2,476	19	5	2,452		162	2,614	53
2005	2,549	25	7	2,517		167	2,684	53
2006	2,609	32	8	2,569		170	2,739	53
2007	2,612	32	8	2,572		170	2,742	52
2008	2,667	32	8	2,627		174	2,801	52
2009	2,715	32	8	2,675		177	2,852	52
2010	2,774	32	8	2,734		181	2,915	52
2011	2,834	32	8	2,794		185	2,979	52

Notes

[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)
	2001 Actual		2002 Forecast [1]		2003 Forecast [1]	
Month	Peak Demand (MW)	NEL (GWh)	Peak Demand (MW)	NEL (GWh)	Peak Demand (MW)	NEL (GWh)
January	521	233	533	239	546	245
February	394	175	403	180	413	184
March	356	188	364	193	373	198
April	394	188	404	193	414	198
May	456	215	467	221	479	226
June	489	234	501	241	513	246
July	520	259	554	266	565	272
August	519	258	532	265	545	271
September	475	223	487	229	499	234
October	403	204	413	210	423	214
November	351	180	359	185	368	189
December	406	199	415	204	425	208
TOTAL		2,556		2,626		2,685

Notes

[1] Peak Demand and NEL include DSM impacts.

City Of Tallahassee

2002 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

Notes

[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.

City of Tallahassee

2002 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	Governor's Office of Budget & Planning
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)

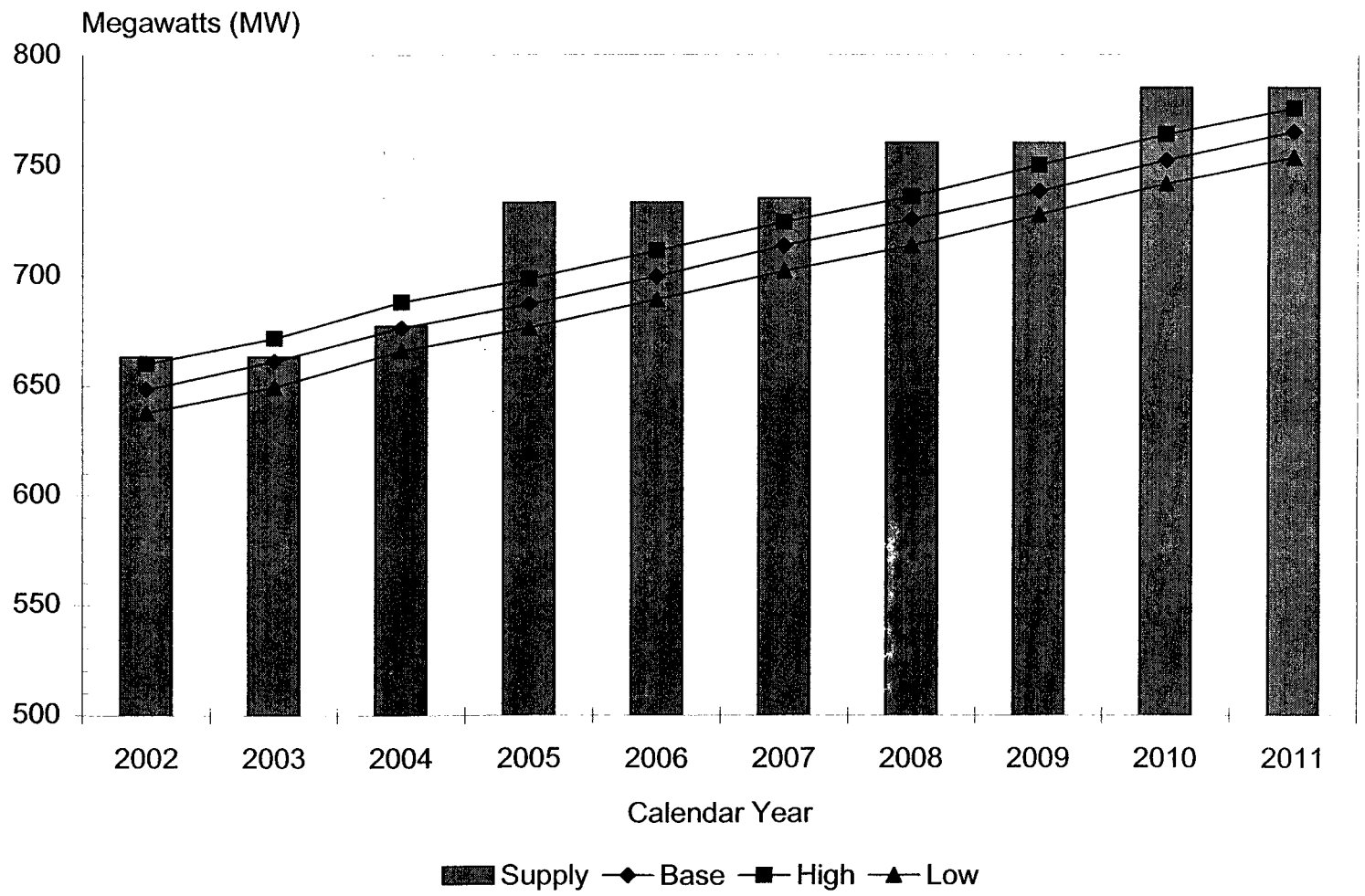


Figure B3

City Of Tallahassee

2002 Electric System Load Forecast

Projected Demand Side Management Energy Reductions [1]

Calendar Year Basis

Year	Residential Impact (MWh)	Commercial Impact (MWh)	Total Impact (MWh)
2002	6,343	1,521	7,864
2003	12,687	3,321	16,008
2004	19,030	4,842	23,872
2005	25,373	6,642	32,015
2006	31,716	8,163	39,879
2007	31,716	8,163	39,879
2008	31,716	8,163	39,879
2009	31,716	8,163	39,879
2010	31,716	8,163	39,879
2011	31,716	8,163	39,879

Notes

[1] Reductions estimated at customer meter.

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)
2002	2001-2002	1	6	0	0	1	6
2003	2002-2003	3	11	1	1	4	12
2004	2003-2004	4	16	1	1	5	17
2005	2004-2005	6	21	2	2	8	23
2006	2005-2006	7	26	3	2	10	28
2007	2006-2007	7	26	3	2	10	28
2008	2007-2008	7	26	3	2	10	28
2009	2008-2009	7	26	3	2	10	28
2010	2009-2010	7	26	3	2	10	28
2011	2010-2011	7	26	3	2	10	28

Notes

[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 2000	Actual 2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
(1)	Nuclear		Billion Btu	0	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	319	194	0	0	0	0	0	0	0	0	0	0
(4)		Steam	1000 BBL	319	194	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	20	14	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	16	11	0	0	0	0	0	0	0	0	0	0
(11)		CT	1000 BBL	4	3	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	17,105	19,081	21,506	22,044	21,906	22,467	22,780	23,289	24,009	24,513	24,961	24,610
(14)		Steam	1000 MCF	13,351	8,153	9,742	9,844	9,451	8,761	8,314	7,889	7,364	7,728	7,473	6,310
(15)		CC	1000 MCF	287	10,827	11,710	12,041	12,334	12,491	11,903	13,750	15,128	15,138	16,085	16,812
(16)		CT	1000 MCF	3,467	101	54	159	121	1,215	2,563	1 650	1,517	1,647	1,403	1,488
(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 2000	Actual 2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
(1)	Annual Firm Interchange [1]		GWh	670	189	140	121	174	122	123	124	125	125	126	127
(2)	Nuclear		GWh	0	0	0	0	0	0	0	0	0	0	0	0
(3)	Residual	Total	GWh	191	75	0	0	0	0	0	0	0	0	0	0
(4)		Steam	GWh	191	75	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	7	10	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	3	9	0	0	0	0	0	0	0	0	0	0
(11)		CT	GWh	4	1	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	1,721	2,265	2,477	2,552	2,560	2,654	2,701	2,757	2,811	2,860	2,908	2,951
(14)		Steam	GWh	1,247	734	914	924	885	822	777	737	685	721	695	579
(15)		CC	GWh	459	1,527	1,559	1,618	1,667	1,708	1,658	1,849	1,969	1,969	2,067	2,217
(16)		CT	GWh	15	4	4	10	8	124	266	171	157	170	146	155
(17)	Other (Hydro)		GWh	7	17	9	9	9	9	9	9	9	9	9	9
(18)	Net Energy for Load		GWh	2,596	2,556	2,626	2,682	2,743	2,785	2,833	2,890	2,945	2,994	3,043	3,087

Notes

[1] Values for 2000 and 2001 include economy interchange. Values for the period 2002-2011 do not include economy interchange.

City Of Tallahassee

Schedule 6.2
Energy Sources

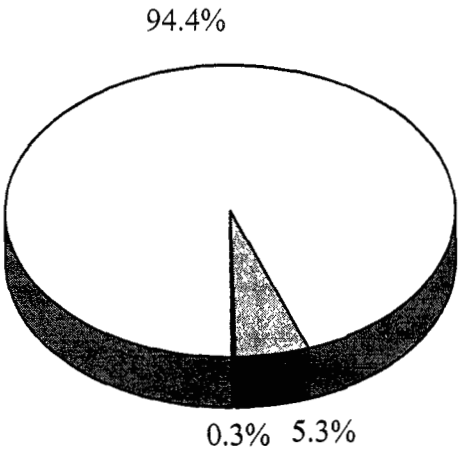
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
	Energy Sources		Units	Actual 2000	Actual 2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
(1)	Annual Firm Interchange [1]		%	25.8	7.4	5.3	4.5	6.3	4.4	4.3	4.3	4.2	4.2	4.1	4.1
(2)	Nuclear		%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(3)	Residual	Total	%	7.4	2.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(4)		Steam	%	7.4	2.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(5)		CC	%	0.0	0.0	0.0	0.0	0.0	0.0	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	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	0.0	0.0	0.0	0.0	0.0	0.0
(8)	Distillate	Total	%	0.3	0.4	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0
(10)		CC	%	0.1	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(11)		CT	%	0.2	0.0	0.0	0.0	0.0	0.0	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	0.0	0.0	0.0	0.0	0.0	0.0
(13)	Natural Gas	Total	%	66.3	88.6	94.3	95.2	93.3	95.3	95.3	95.4	95.4	95.5	95.6	95.6
(14)		Steam	%	48.0	28.7	34.8	34.5	32.3	29.5	27.4	25.5	23.3	24.1	22.8	18.8
(15)		CC	%	17.7	59.7	59.4	60.3	60.8	61.3	58.5	64.0	66.9	65.8	67.9	71.8
(16)		CT	%	0.6	0.2	0.2	0.4	0.3	4.5	9.4	5.9	5.3	5.7	4.8	5.0
(17)	Other (Hydro)		%	0.3	0.7	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
(18)	Net Energy for Load		%	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Notes

[1] Values for 2000 and 2001 include economy interchange. Values for the period 2002-2011 do not include economy interchange.

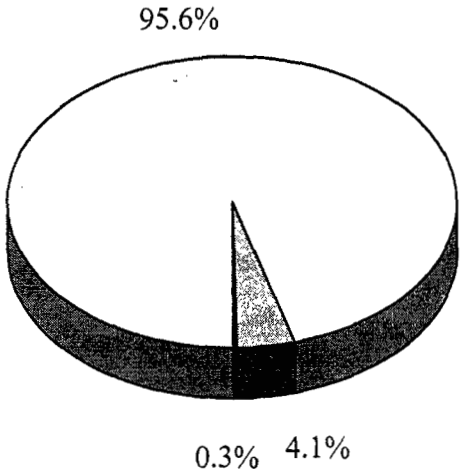
Generation By Fuel Type

Calendar Year 2002



Total 2002 NEL = 2,626 GWh

Calendar Year 2011



Total 2011 NEL = 3,096 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 PLANNING PROCESS

As of the time of this report, the City and Black and Veatch Consultants are conducting a comprehensive integrated resource planning (IRP) study to review future power supply options that are consistent with the objectives of the City's Energy Policy stated above in Section 3.0. The first draft of the IRP study report and the preliminary results were received on January 25. The City's proposed generation expansion plan described in Section 3.2 is based on the preliminary results of this study.

The City's internal energy strategy and business development groups have met and discussed the preliminary study results and strategic considerations. The City Commission has been updated with information regarding the study progress and preliminary results to generate discussion regarding developing strategic issues that could impact the effort and to solicit input and direction to ensure consideration of City policy and Commission objectives. With the City Commission's direction, staff will revisit and (if necessary) revise the original IRP situation analysis and goals. Specifically, the City needs to review its options with regard to extending existing and/or pursuing new power purchase agreements and consider the implications of significant events such as Enron's demise on further consideration of partnership/alliance options. Working with Black &

deterioration of the City's transmission import capability discussed in the previous paragraph, (ii) the stipulation made by the state's three investor-owned utilities (Florida Power & Light, Florida Power Corporation and Tampa Electric Company) to increase their respective reserve margins to 20% by 2004 in response to the Florida Public Service Commission's reserve margin docket of 1998, and (iii) the size of the City's individual generating units as a percent of its total supply resource capability.

An evaluation of alternative reliability criteria/levels was performed in the IRP study currently being conducted (as of the time of this report) by the City and Black & Veatch Consultants. Two specific reliability criteria were evaluated. First, a traditional reserve margin approach was used to determine the reserve margin level at which the City's total system cost is minimized. Second, the loss of load probability was analyzed.

The traditional reserve margin approach showed that a 15 percent reserve margin was the least cost point to operate the City's system. The loss of load probability approach demonstrated that, for an isolated system, a 28 percent reserve margin was required to meet the commonly accepted 1 day in ten year criterion. This result was primarily due to the fact that a large percentage of the City's generating capability comes from just two units, namely Purdom 8 and Hopkins 2. However, considering that the City is an assisted system and assuming base case transmission import capabilities, only a 12.5 percent reserve margin would be required to minimize total system costs.

Therefore, the 17 percent reserve margin target currently used by the City is believed to represent a reasonable compromise and an appropriate reliability criteria/level for the City's system. The City will revisit the issue of the appropriate reliability index/level as changes to the City's power supply and the regional transmission system are realized in the future and again consider whether any adjustments are needed.

The cumulative future power supply needed to maintain a 17% planning reserve margin during the reporting period covered by this Ten Year Site Plan is shown in the table below:

Cumulative Power Supply Needs (17% Reserve Margin)	
Year	*MW*
2004	*14*
2005	*24*
2006	*37*
2007	*51*
2008	*73*
2009	*96*
2010	*110*
2011	*171*

It is important to note that the MW values in the table above represent the amount of additional power supply needed to maintain the City's self-imposed planning reserve requirement. Considering only existing resources and assuming the 2002 base case load forecast, the City has adequate capacity to serve its load requirements through the summer of 2010; assuming the 2002 high band forecast would dictate the need for additional capacity a year earlier in the summer of 2009.

Assuming the base case load forecast, additional power supply need to maintain a 17% planning reserve margin first occurs in the summer of 2004; assuming the high load forecast, additional power supply would be needed a year earlier, in the summer of 2003. An additional 14 MW of power supply is needed by the summer of 2004 to allow the City to meet its capacity and reserve requirements. The City is carefully reviewing its options to satisfy this need. As of the time of this report, the City is in preliminary discussions with several power marketers and utilities with excess power supply available from inter- and/or intra-regional sources about possible purchase opportunities. The City's power purchase contract with Entergy expired in March 2002. The City has had discussions with Entergy about the possibility of extending the contract but no agreement has been made at

this time. If purchase options are determined to not be economical or feasible, the City has a back up plan to accelerate the installation of a combustion turbine (CT) unit(s) (discussed in the following paragraphs) currently scheduled for summer 2005 in time to meet the system's needs for the summer of 2004. The City will provide the FPSC with an update regarding its efforts to acquire power supply to meet the capacity and reserve requirements for the summer of 2004 as soon as additional information becomes available.

The preliminary IRP study results suggest that the addition of two (2) 50 MW class combustion turbines would best satisfy the need in 2005 as part of a least-cost plan under the base case conditions. These units could possibly be located at a "green field" site yet to be determined. The City is currently evaluating a number of potential new sites in or around Tallahassee. If a suitable, alternative site is not determined, the addition of these units could easily be accommodated at the City's existing Hopkins Plant site. The City has included these new CTs in its current ten-year financial plan and proposed five-year capital improvement plan. The City is considering the possible early retirements of Purdom CTs 1 & 2 (10 MW each) in 2005 coincident with the installation of the two new combustion turbines though no final decision has yet been made. Assuming the early retirement of the Purdom CTs, the new CT generating capacity will fulfill the City's needs through the summer of 2007.

Another more recently considered alternative is the possibility of adding multiple natural gas/diesel-fired generators similar to those installed by the City of Lakeland at their Winston Substation. These 2-3 MW units are of comparable efficiency to the 50 MW class CTs contemplated by the City's preliminary IRP study results and provide additional reliability versus the addition of fewer units of greater capability. These units would also afford greater flexibility with regard to siting. As Lakeland's application of these units has shown, they could be installed at one or more substations on the City's electric system and, in this way, address localized transmission and distribution loading concerns. The City will be giving further consideration to these and other types of distributed generating units as alternatives to satisfy its future needs.

The operational flexibility provided by the addition of "quick start" generating units, whether they are combustion turbines or smaller, distributed 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 the system's 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 the system's 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, particularly with regard to fuels, has long been sought after by the City because of the system's heavy reliance on natural gas as its primary fuel source and has received even greater emphasis in light of the volatility in natural gas prices seen over recent years. The City has also attempted to address this concern by securing more of its future gas supply needs in contracts which limit the City's exposure to price fluctuations.

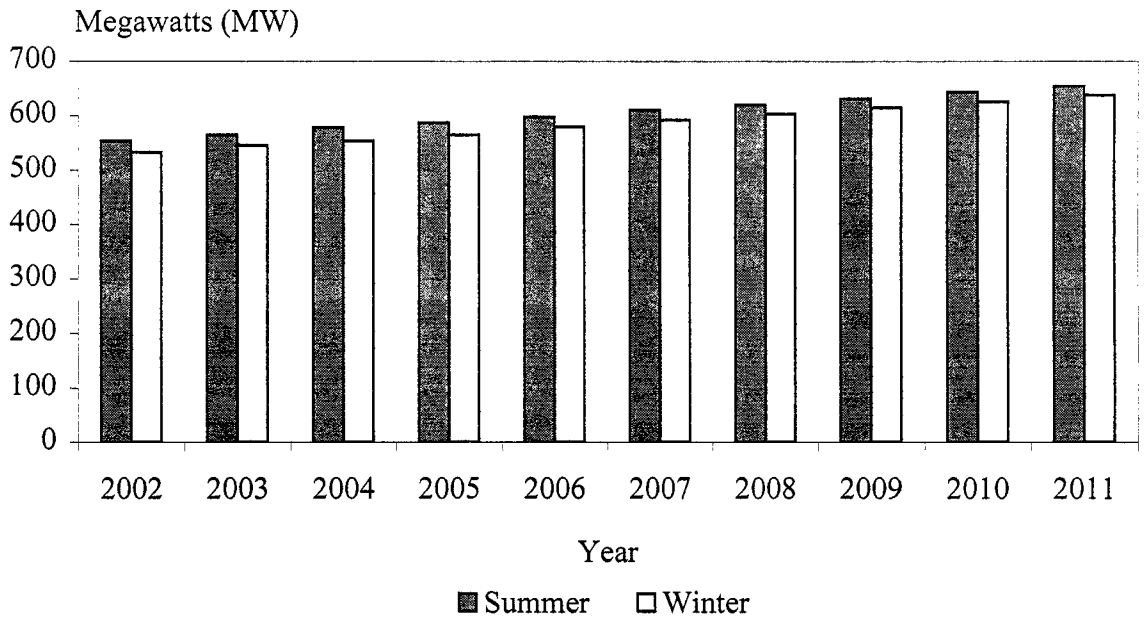
The City's proposed resource addition to meet system needs in the summer of 2007 and beyond is represented in this report as an increasing ownership/purchase of capacity and energy from the equivalent of a new 1-on-1 combined cycle (CC) unit. Possible CC alternatives include a self -built unit; an asset modification (Hopkins 1 CC repowering); alliance purchase by wire (if transmission is available) or a combination thereof. The City will be continuing its evaluation of the different CC alternatives and update the FPSC in future TYSP reports.

The CC ownership/purchase reflected in this report begins with 50 MW in 2007 coupled with the early retirement of Purdom 7 (48MW) steam unit. As with the Purdom CTs discussed earlier, the City is currently considering the early retirement of Purdom 7 but no final decision has yet been made. The CC ownership/purchase increases to 75 MW by the summer of 2008 and to 100 MW by the summer of 2010 to meet the balance of needs throughout the 2002-2011 study period.

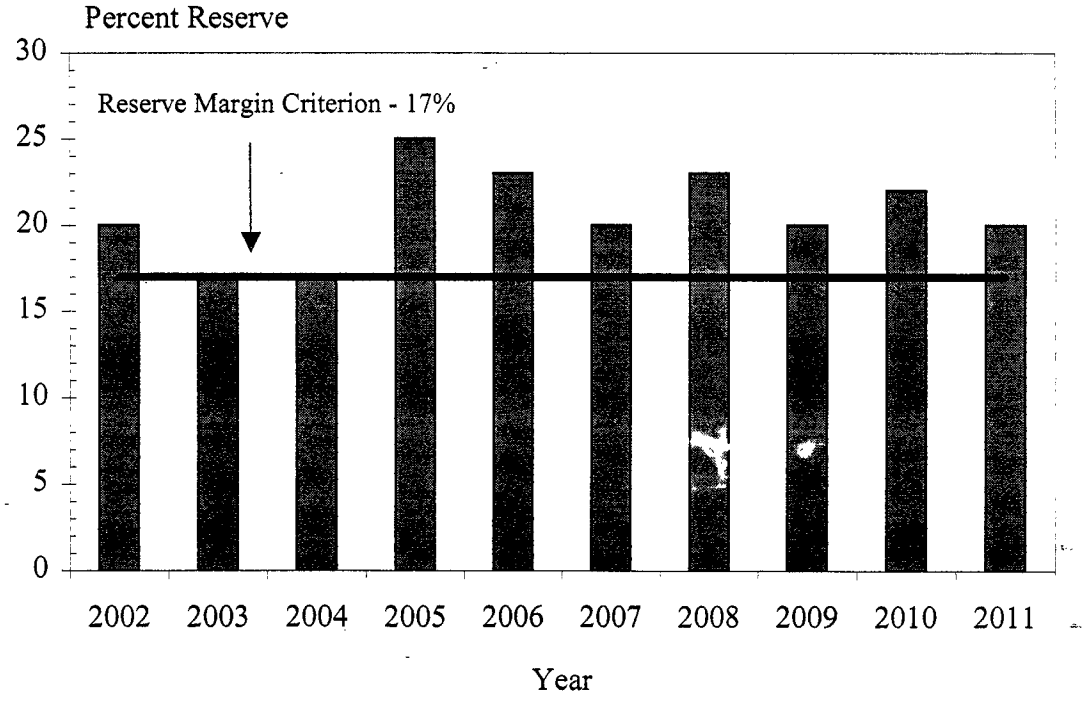
Tables 3.1 and 3.2 (Schedules 7.1 and 7.2) provide information on the resources and reserve margins during the next ten years for the City's system. The City has

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 17% reserve margin criterion is included in the "Resource Additions" column.

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)
Year	Total Installed Capacity (MW)	Firm Capacity Import (MW)	Firm Capacity Export (MW)	QF (MW)	Total Capacity Available (MW)	System Firm Summer Peak Demand (MW)	Reserve Margin Before Maintenance (MW)	% of Peak	Scheduled Maintenance (MW)	Reserve Margin After Maintenance (MW)	% of Peak
2002	652	11	0	0	663	554	109	20	0	109	20
2003	652	11	0	0	663	565	98	17	0	98	17
2004	652 [1]	25	0	0	677	578	99	17	0	99	17
2005	722 [1]	11	0	0	733	587	146	25	0	146	25
2006	722	11	0	0	733	598	135	23	0	135	23
2007	724 [1]	11	0	0	735	610	125	20	0	125	20
2008	749 [1]	11	0	0	760	620	140	23	0	140	23
2009	749	11	0	0	760	631	129	20	0	129	20
2010	774 [1]	11	0	0	785	643	142	22	0	142	22
2011	774 [1]	11	0	0	785	654	131	20	0	131	20

Notes

[1] All installed and firm import capacity changes are included in the proposed generation expansion plan. (Please see Chapter 3 text for details.)

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
2001/02	699	34	0	0	733	510	223	44	0	223	44
2002/03	699	11	0	0	710	533	177	33	0	177	33
2003/04	699	11	0	0	710	546	164	30	0	164	30
2004/05	699	11	0	0	710	554	156	28	0	156	28
2005/06	779 [1]	11	0	0	790	565	225	40	0	225	40
2006/07	779	11	0	0	790	580	210	36	0	210	36
2007/08	781 [1]	11	0	0	792	592	200	34	0	200	34
2008/09	806 [1]	11	0	0	817	603	214	35	0	214	35
2009/10	806	11	0	0	817	615	202	33	0	202	33
2010/11	831 [1]	11	0	0	842	626	216	35	0	216	35
2011/12	831 [1]	11	0	0	842	638	204	32	0	204	32

Notes

[1] All installed and firm import capacity changes are included in the proposed generation expansion plan. (Please see Chapter 3 text for details.)

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)
				Fuel		Fuel Transportation		Const. Start	Commercial In-Service	Expected Retirement	Gen. Max. Nameplate	Net Capability		
Plant Name	Unit No.	Location	Unit Type	Pri	Alt	Pri	Alt	Mo/Yr	Mo/Yr	Mo/Yr	(kW)	Summer (MW)	Winter (MW)	Status
GT A		Undetermined	GT	NG	DFO	PL	TK	Unknown	May-05			45	50	P
GT B		Undetermined	GT	NG	DFO	PL	TK	Unknown	May-05			45	50	P
CC A [1]		Undetermined	CC	NG	DFO	PL	TK	Unknown	May-07	May-08		50	50	P
CC A [1]		Undetermined	CC	NG	DFO	PL	TK	Unknown	May-08	May-10		75	75	P
CC A [1]		Undetermined	CC	NG	DFO	PL	TK	Unknown	May-10			100	100	P

Notes

[1] This combined cycle capability is reflected as an alliance ownership/purchase beginning with 50 MW in May 2007, increasing to 75 MW in 2008 and to 100 MW in 2010. This capacity could take the form of a new, self-build unit; an asset modification (Hopkins 1 CC repowering); an alliance purchase "by wire" (if transmisssion is available) and/or joint generation project; or a combination thereof. The City's back up plan for this capacity would be to self-build the CC. (Please see Chapter 3 text for details.)

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
MW	Megawatts

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
2002	555	1	554	652		11		0		663	20	
2003	569	4	565	652		11		0		663	17	
2004	583	5	578	652		11		14	[2]	677	17	
2005	595	8	587	632	[3]	11		90		733	25	[5]
2006	608	10	598	632		11		90		733	23	
2007	620	10	610	584	[4]	11		140		735	20	[6]
2008	630	10	620	584		11		165		760	23	[6]
2009	641	10	631	584		11		165		760	20	
2010	653	10	643	584		11		190		785	22	[6]
2011	664	10	654	584		11		190		785	20	

Notes

[1] DSM = Demand Side Management

[2] Peak season purchase of 14 MW for summer of 2004 only. Purchase options from inter- and/or intra-regional sources such as utilities and power marketers. As back-up, City would accelerate installation of a CT(s) contemplated for 2005 in-service. (Please see Chapter 3 text for details).

[3] Contemplated early retirement of Purdom CT 1 & CT 2 in 2005 has not been finalized.

[4] Contemplated early retirement of Purdom Steam Unit 7 in 2007 has not been finalized.

[5] New Resources assumed to be two new 45 MW (summer net) combustion turbines in 2005 to maintain a 20% reserve margin.

[6] This combined cycle capability could take the form of a new, self-built unit; an asset modification (Hopkins 1 CC repowering); an alliance purchase "by wire" (if transmisssion is available) and/or joint generation project; or a combination thereof. The City's back up plan for this capacity would be to self-build the CC. (Please see Chapter 3 text for details.)

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 possibly be located at a "green field" site yet to be determined (see Schedule 9). The City is currently evaluating a number of potential new sites in or around Tallahassee. If a suitable, alternative site is not determined, the City could easily accommodate the addition of these units at its existing Hopkins Plant site. This additional generating capacity would meet the majority of the need identified through the summer of 2008.

The City's proposed resource addition to meet system needs in the summer 2007 and beyond is an increasing ownership/purchase of capacity and energy from a new 1-on-1 combined cycle unit beginning with 50 MW in 2007. The ownership increases to 75 MW by the summer of 2008 and to 100 MW by the summer of 2010 to meet the balance of needs throughout the 2002-2011 study period. This is a proposed resource addition as previously mentioned and is not final. Other possible combined cycle opportunities include a self-built unit, an asset modification (Hopkins 1 CC repowering) and an alliance purchase by wire (if transmission is available) or a combination thereof. In addition to the CTs previously discussed, any of the contemplated combined cycle unit options could also be accommodated at the City's existing Hopkins Plant Site. It is also possible that a new "green field" site might be identified (see Schedule 9) if the self–build option is pursued.

4.2 TRANSMISSION LINE ADDITIONS/UPGRADES

Internal studies of the transmission system have identified a number of system improvements and additions that will be required to reliably serve future load. The attached transmission system map (Figure D2) shows the planned transmission additions covered by this Ten Year Site Plan.

The City is currently planning 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, 15, 17, and 18) will be connected to the City's 115 kV transmission system, 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 on Figure D2.

As discussed in Section 3.2, the City has been working with its neighboring utilities, Florida Power Corporation (FPC) and the Southern Company (Southern), to identify improvements to assure the continued reliability and commercial viability of the transmission systems in and around Tallahassee. At a minimum, the City attempts to plan for and maintain sufficient transmission import capability to allow for emergency power purchases in the event of the most severe single contingency, the loss of the system's largest generating unit. The City's internal transmission studies have reflected a gradual deterioration of the system's transmission import (and export) capability into the future. The prospect for improvements to the regional transmission system around Tallahassee hinges greatly on (i) the City's ongoing discussions with FPC and Southern, and (ii) the Regional Transmission Organization (RTO) development activities of both SeTrans and GridFlorida. Unfortunately, neither of these efforts is expected to produce substantive improvements to the City's transmission import/export capability in the short term. The City is committed to continue to work with FPC and Southern and the developing RTOs

in an effort to pursue improvements to the regional transmission systems that will allow the City to continue to provide reliable and affordable electric service to the citizens of Tallahassee in the future. The City will provide the FPSC with information regarding any such improvements as it becomes available.

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:	45	45
	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.

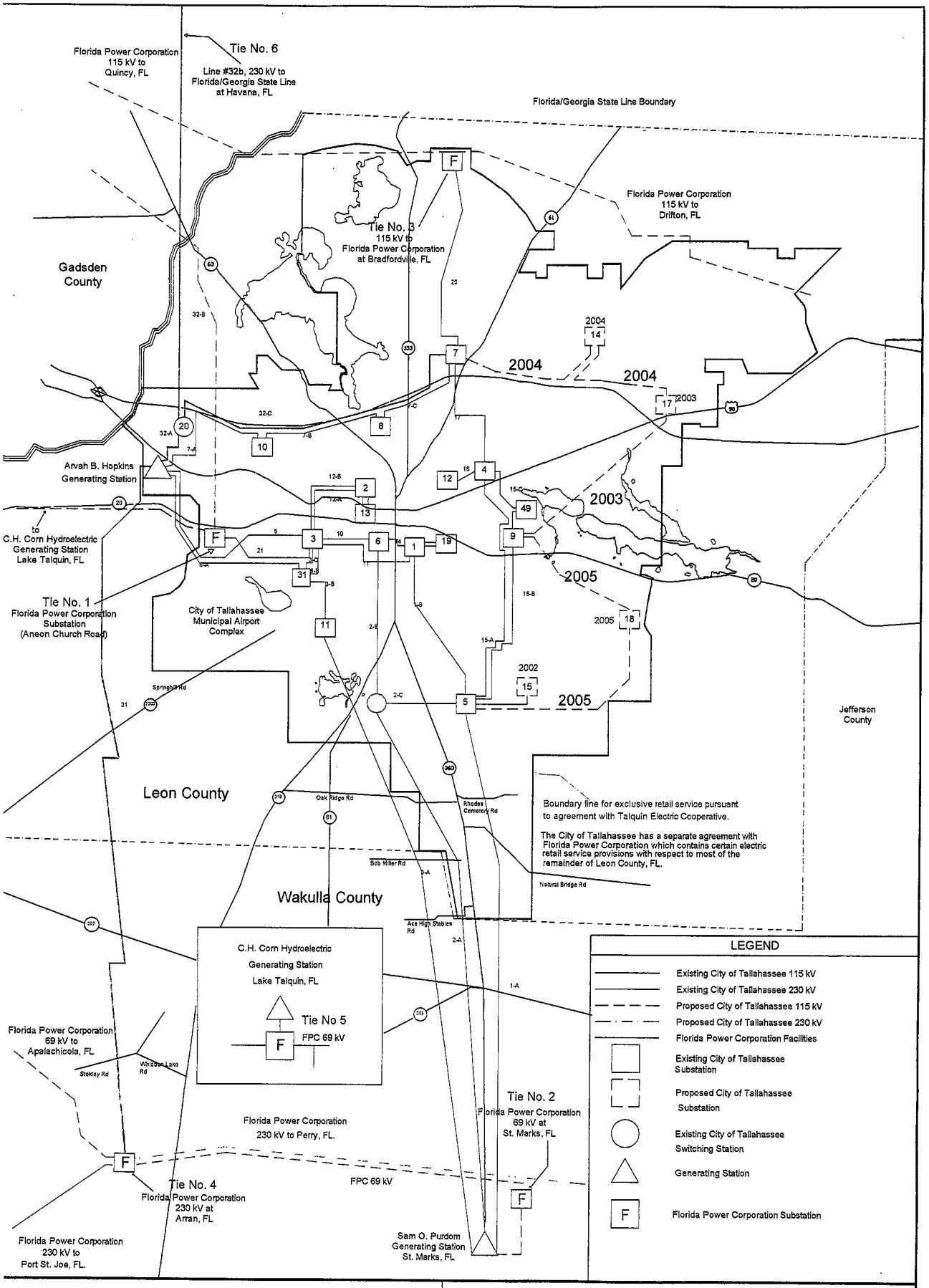


Plate II-1

City of Tallahassee

Electric Transmission System
January 1, 2002

revised
3/21/2002