State of Florida

Public Service Commission

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TALLAHASSEE, FLORIDA 32399-0850

-M-E-M-O-R-A-N-D-U-M-

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COMMISSION CLERK

DATE:	April 12, 2012
TO:	Ann Cole, Commission Clerk, Office of Commission Clerk
FROM:	Phillip O. Ellis, Engineering Specialist II, Division of Regulatory Analysis POE Traci L. Matthews, Government Analyst I, Division of Regulatory Analysis Victor Ma, Engineering Specialist I, Division of Regulatory Analysis
RE:	2012 Ten-Year Site Plan from City of Tallahassee

Attached is the City of Tallahassee's 2012 Ten-Year Site Plan, submitted on April 2, 2012, consistent with Rule 25-22.071, Florida Administrative Code (F.A.C.). Please place this item in Docket No. 120000 – Undocketed Filings for 2012, as it relates to the annual undocketed staff Ten-Year Site Plan Review project.

If you have any additional questions, please contact me.

POE

Attachment

Ten-Year Site Plan: 2012-2021

City of Tallahassee Utilities

DOCUMENT NUMBER-DATE
02359 APR 17 ≌
FPSC-COMMISSION CLERK

Photo: Purdom Power Plant

Report prepared by: City of Tallahassee Electric Utility System Planning

e+ ENERGY SMART PLUS™

City of Tallahassee

CITY OF TALLAHASSEE
TEN YEAR SITE PLAN FOR ELECTRICAL GENERATING FACILITIES AND ASSOCIATED TRANSMISSION LINES
2012-2021
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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 Utility presently serves approximately 114,200 customers located within a 221 square mile service territory (see Figure A). The Electric Utility operates three generating stations with a total summer season net generating capacity of 794 megawatts (MW).

The City has two fossil-fueled generating stations, which contain combined cycle (CC), steam and combustion turbine (CT) 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 six points of interconnection with Progress Energy Florida ("Progress", formerly Florida Power Corporation); three 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 ("Southern")).

As shown in Table 1.1 (Schedule 1), 222 MW (net summer rating) of CC generation, 48 MW (net summer rating) of steam generation and 20 MW (net summer rating) of CT generation facilities are located at the City's Sam O. Purdom Generating Station. The Arvah B. Hopkins Generating Station includes 300 MW (net summer rating) of CC generation, 76 MW (net summer rating) of steam generation and 128 MW (net summer rating) of CT generation facilities.

The City's Hopkins 1 steam generating unit can be fired with natural gas, residual oil or both while the Purdom 7 steam unit can only be fired with natural gas. The CC and CT 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. However, because the hydroelectric generating units are effectively run-of-river (dependent upon rainfall, reservoir and downstream conditions), the City considers these units as "energy only" and not as dependable capacity for planning purposes.

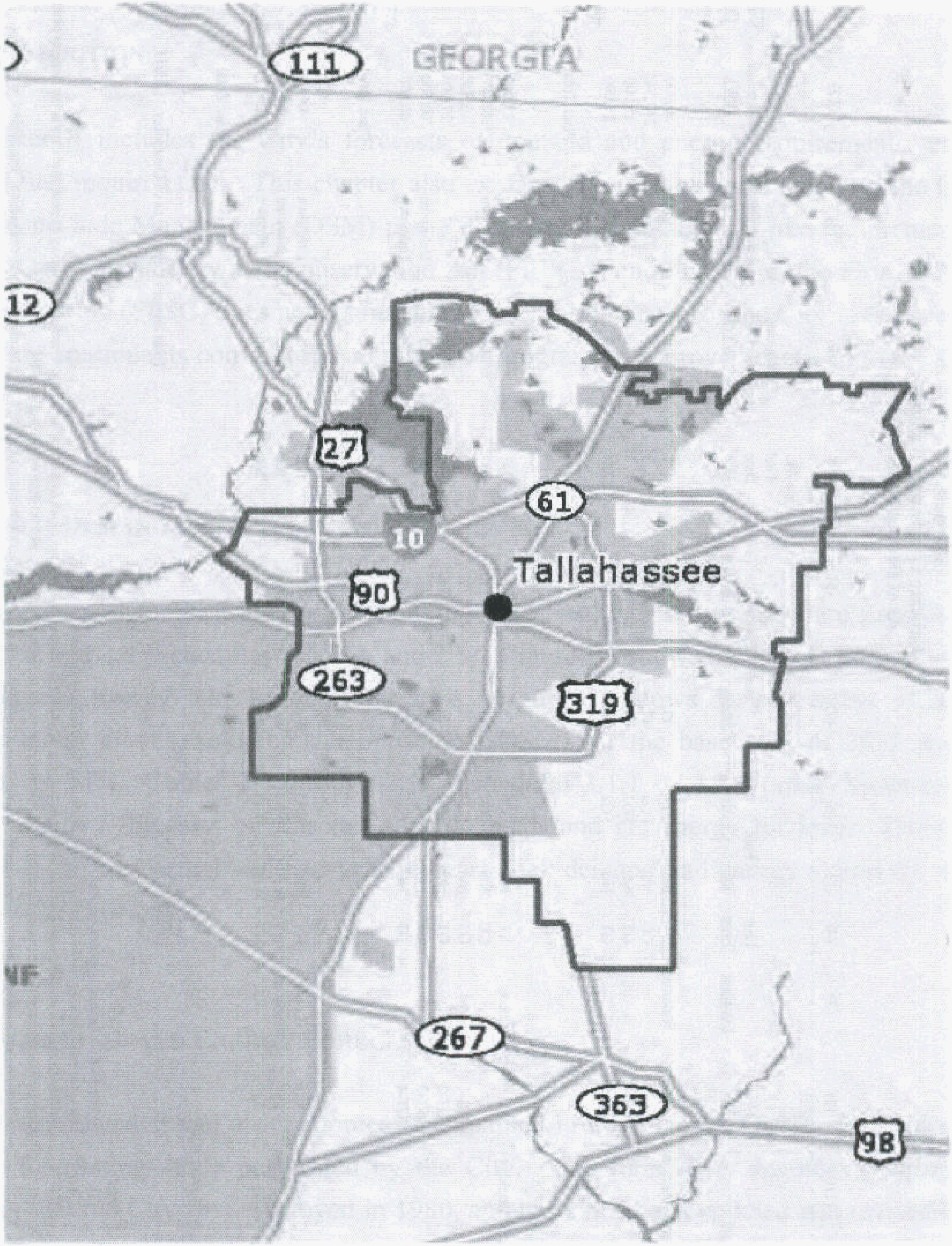
The City's total net summer installed generating capability is 794 MW. The corresponding winter net peak installed generating capability is 870 MW. Table 1.1 contains the details of the individual generating units.

1.2 Purchased Power Agreements

The City has a long-term firm capacity and energy purchase agreement with Progress for 11.4 MW. This purchase is scheduled to expire on December 3, 2016.

City of Tallahassee, Electric Utility

Service Territory Map



City Of Tallahassee

Schedule 1
Existing Generating Facilities
As of December 31, 2011

(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)
Sam O. Purdom	7	Wakulla	ST	NG	NG	PL	PL	[1]	6/66	12/13	50,000	48	48
	8		CC	NG	FO2	PL	TK	[2, 3]	7/00	12/40	247,743	222	258 [8]
	GT-1		GT	NG	FO2	PL	TK	[2, 3]	12/63	12/13	15,000	10	10
	GT-2		GT	NG	FO2	PL	TK	[2, 3]	5/64	12/13	15,000	10	10
											Plant Total	290	326
A. B. Hopkins	1	Leon	ST	NG	FO6	PL	TK	[4]	5/71	3/20	75,000	76	78
	2		CC	NG	FO2	PL	TK	[3]	6/08 [5]	Unknown	358,200 [6]	300	330 [8]
	GT-1		GT	NG	FO2	PL	TK	[3]	2/70	3/15	16,320	12	14
	GT-2		GT	NG	FO2	PL	TK	[3]	9/72	3/17	27,000	24	26
	GT-3		GT	NG	FO2	PL	TK	[3]	9/05	Unknown	60,500	46	48
	GT-4		GT	NG	FO2	PL	TK	[3]	11/05	Unknown	60,500	46	48
											Plant Total	504	544
C. H. Corn	1	Leon/	HY	WAT	WAT	WAT	WAT	NA	9/85	Unknown	4,440	0	0
Hydro Station	2	Gadsden	HY	WAT	WAT	WAT	WAT	NA	8/85	Unknown	4,440	0	0
[7]	3		HY	WAT	WAT	WAT	WAT	NA	1/86	Unknown	3,430	0	0
											Plant Total	0	0
									Total System Capacity as of December 31, 2011			794	870

Notes
- [1] Purdom Unit 7 is limited to natural gas fuel only.
- [2] Due to the Purdom facility-wide emissions caps, utilization of liquid fuel at this facility is limited.
- [3] The City maintains a minimum distillate fuel oil storage capacity equivalent to approximately 12 peak load days at the Purdom plant and approximately 21 peak load days at the Hopkins plant.
- [4] The City maintains a minimum residual fuel oil storage capacity equivalent to approximately 19 peak load days at the Hopkins plant.
- [5] Reflects the commercial operations date of Hopkins 2 repowered to a combined cycle generating unit with a new General Electric Frame 7A combustion turbine. The original commercial operations date of the existing steam turbine generator was October 1977.
- [6] Hopkins 2 nameplate rating is based on combustion turbine generator (CTG) nameplate and modeled steam turbine generator (STG) output in a 1x1 combined cycle (CC) configuration with supplemental duct firing.
- [7] Because the C. H. Corn hydroelectric generating units are effectively run-of-river (dependent upon rainfall, reservoir and downstream conditions), the City considers these units as "energy only" and not as dependable capacity for planning purposes.
- [8] Summer and winter ratings are based on 95 °F and 29 °F ambient temperature, respectively.

CHAPTER II

Forecast of Energy/Demand Requirements and Fuel Utilization

2.0 INTRODUCTION

Chapter II includes the City's forecasts of demand and energy requirements, energy sources and fuel requirements. This chapter also explains the impacts attributable to the City's current Demand Side Management (DSM) plan. The City is not subject to the requirements of the Florida Energy Efficiency and Conservation Act (FEECA) and, therefore, the Florida Public Service Commission (FPSC) does not set numeric conservation goals for the City. However, the City expects to continue its commitment to the DSM programs that prove beneficial to the City's ratepayers.

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 total energy sales and forecast energy sales by customer class. Figure B2 shows the percentage of energy sales by customer class (excluding the impacts of DSM) for the base year of 2012 and the horizon year of 2021. Tables 2.4 through 2.12 (Schedules 3.1.1 - 3.3.3) contain historical and base, high, and low forecasts of seasonal peak demands and net energy for load. Table 2.13 (Schedule 4) compares actual and two-year forecast peak demand and energy values by month for the –2011-2013 period.

2.1.1 SYSTEM LOAD AND ENERGY FORECASTS

The peak demand and energy forecasts contained in this plan are the results of the load and energy forecasting study performed by the City. The forecast is developed utilizing a methodology that the City first employed in 1980, and has since been updated and revised every one or two years. The methodology consists of thirteen 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.

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 customers and 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. In addition to these customer class models, the City's forecasting methodology also incorporates into the demand and energy projections estimated reductions from interruptible and curtailable 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 summarize the details of the models used to generate the system customer, consumption and seasonal peak load forecasts. In addition to those explanatory variables listed, a component is also included in the models that reflect the acquisition of certain Talquin Electric Cooperative (Talquin) customers over the study period consistent with the territorial agreement negotiated between the City and Talquin and approved by the FPSC.

The customer models are used to predict number of customers by customer class, which in turn serve as input into the customer class consumption models. The customer class consumption models are aggregated to form a total base system sales forecast. The effects of DSM programs and system losses are incorporated in this base forecast to produce the system net energy for load (NEL) requirements.

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. The seasonal peak demand forecasts are developed first by forecasting expected system load factor. Based on the historical relationship of seasonal peaks to annual NEL, system load factors are projected separately relative to both summer and winter peak demand. The predictive variables for projected load factors versus summer peak demand include maximum summer temperature, maximum temperature on the day prior to the peak, annual degree-days cooling and real residential price of electricity. For projected load factors versus winter peak demand minimum winter temperature, degree-days heating the day prior to the winter peak day, deviation from a base minimum temperature of 22 degrees and annual degree-days cooling are used as input. The projected load factors are then applied to the forecast of NEL to obtain the summer and winter peak demand forecasts.

Some of the most significant input assumptions for the forecast are the incremental load modifications at Florida State University (FSU), Florida A&M University (FAMU), Tallahassee Memorial Hospital (TMH) and the State Capitol Center. These four customers represented approximately 15% of the City's 2011 energy sales. Their incremental additions are highly dependent upon annual economic and budget constraints, which would cause fluctuations in their demand projections if they were projected using a model. Therefore, each entity submits their proposed incremental additions/reductions to the City and these modifications are included as submitted in the load and energy forecast.

The rate of growth in residential and commercial customers and energy use has decreased in recent years. The City's energy efficiency and demand-side management (DSM) programs (discussed in Section 2.1.3) played a role in these decreases along with the economic conditions during and following the 2008-2009 recession. According to the U.S. Energy Information Administration's 2012 Annual Energy Outlook recovery from this recession is expected to show the slowest growth of any since 1960. Therefore, it is not expected that base demand and energy growth will return to pre-recession levels in the near future.

The City believes that the routine update of forecast model inputs, coefficients and other minor model refinements continue to improve the accuracy of its forecast so that they are more consistent with the historical trend of growth in seasonal peak demand and energy consumption. The changes made to the forecast models for seasonal peak demands and annual sales/net energy for load requirements has resulted in 2012 base forecasts for these characteristics that are generally lower than the corresponding 2011 base forecasts.

2.1.2 Load Forecast Uncertainty & Sensitivities

To provide a sound basis for planning, forecasts are derived from projections of the driving variables obtained from reputable sources. However, there is significant uncertainty in the future level of such variables. To the extent that economic, demographic, weather, or other conditions occur that are different from those assumed or provided, the actual load can be expected to vary from the forecast. For various purposes, it is important to understand the amount by which the forecast can be in error and the sources of error.

To capture this uncertainty, the City produces high and low range results that address potential variance in driving population and economic variables from the values assumed in the base case. The base case forecast relies on a set of assumptions about future population and economic activity in Leon County. However, such projections are unlikely to exactly match actual experience.

Population and economic uncertainty tends to result in a deviation from the trend over the long term. Accordingly, separate high and low forecast results were developed to address population and economic uncertainty. These ranges are intended to capture approximately 80% of occurrences (i.e., 1.3 standard deviations). The high and low forecasts shown in this year's report use statistics provided by Woods & Poole Economics, Inc. (Woods & Poole) to develop a range of potential outcomes. Woods & Poole publishes several statistics that define the average amount by which various projections they have provided in the past are different from actual results. The City's load forecasting consultant, R.W. Beck, interpreted these statistics to develop ranges of the trends of economic activity and population representing approximately 80% of potential outcomes. These statistics were then applied to the base case to develop the high and low load forecasts presented in Tables 2.5, 2.6, 2.8, 2.9, 2.11 and 2.12 (Schedules 3.1.2, 3.1.3, 3.2.2, 3.2.3, 3.3.2 and 3.3.3).

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 forecast sensitivity cases with reductions from proposed DSM portfolio and the base forecast without proposed DSM reductions against the City's existing and planned power supply resources. This graph allows for the review of the effect of load growth and DSM performance 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 currently offers a variety of conservation and DSM programs to its residential and commercial customers, which are listed below:

Residential Programs

- Energy Efficiency Loan Program
- Gas New Construction Rebates
- Gas Appliance Conversion Rebates
- Information and Energy Audits
- Ceiling Insulation Grants
- Low Income Ceiling Insulation Grants
- Low Income HVAC/Water Heater Repair Grants
- Neighborhood REACH Weatherization Assistance
- Energy Star Appliance Rebates
- High Efficiency HVAC Rebates
- Energy Star New Home Rebates
- Solar Water Heater Rebates
- Solar PV Net Metering Program
- Duct Leak Repair Grants

Commercial Programs

- Energy Efficiency Loan Program
- Demonstrations
- Information and Energy Audits
- Commercial Gas Conversion Rebates
- Ceiling Insulation Grants
- Solar Water Heater Rebates
- Solar PV Net Metering Program

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. During the City's last Integrated Resource Planning (IRP) Study potential DSM measures (conservation, energy efficiency, load management, and demand response) were tested for cost-effectiveness utilizing an integrated approach that is based on projections of total achievable capacity and energy reductions and their associated annual costs developed specifically for the City. The measures were combined into bundles affecting similar end uses and /or having similar costs per kWh saved.

Implementation of portions of the City's DSM program was delayed by efforts to contract with an energy services provider to assist staff in deploying some measures. This contract is now in place and work is proceeding. Implementation of the City's demand response/direct load control (DR/DLC) measures has also been postponed as some of the technology to be employed is still evolving and as staff works with consultants and the energy services provider to develop operational and pricing parameters and craft a rate tariff for submission to and approval by the FPSC. The projections of expected demand and energy savings attributable to the City's DSM efforts have therefore been updated versus those reported in the City's 2011 TYSP. The revised projections reflect somewhat of a tempering of expected demand and energy savings versus those contemplated in the City's last IRP Study.

The City is uncertain of the actual versus projected performance of its DSM program going forward. As discussed in Section 2.1.1 the growth in customers and energy use has already been negatively impacted by the economic conditions observed during and following the 2008-2009 recession. It appears that many customers are taking steps on their own to reduce their energy use and costs in response to the changing economy - without taking advantage of the incentives provided through the City's DSM program. These "free drivers" effectively reduce potential participation in the DSM program in the future. And it is questionable whether their energy use reductions will persist beyond the economic recovery. History has shown that post-recession energy use generally rebounds to pre-recession levels.

The City also believes that in the five years since the last IRP was completed several of the technical and economic assumptions made about DSM during the last IRP may have become invalid. For these reasons the City intends in the coming year to revisit and, where appropriate, update these assumptions and re-evaluate cost-effectiveness of our current and prospective DSM measures. This will also allow a reassessment of expected demand and energy savings attributable to DSM. The City will provide further updates regarding its progress with and any changes in future expectations of its DSM program in subsequent TYSP reports.

Energy and demand reductions attributable to the DSM portfolio have been incorporated into the future load and energy forecasts. Tables 2.16 and 2.17 display, respectively, the cumulative potential impacts of the proposed DSM portfolio on system annual energy and seasonal peak demand requirements. Based on the anticipated limits on annual control events it is expected that DR/DLC will be predominantly utilized in the summer months. Therefore, while Table 2.17 reflects expected winter DR/DLC capability, Tables 2.7-2.9 reflect no expected utilization of that capability to reduce winter peak demand.

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 requirements, energy sources by resource/fuel type in gigawatt-hours, and energy sources by resource/fuel type in percent, respectively, for the period 2012-2021. Figure B4 displays the percentage of energy by fuel type in 2012 and 2021.

The City's generation portfolio includes combustion turbine/combined cycle, combustion turbine/simple cycle, conventional steam and hydroelectric units. The City's combustion turbine/combined cycle and combustion turbine/simple cycle units are capable of generating energy using natural gas or distillate fuel oil. Natural gas and residual fuel oil may be burned concurrently in the City's steam units. This mix of generation types coupled with opportunities for firm and economy purchases from neighboring systems provides allows the City to satisfy its total energy requirements consistent with our energy policies that seek to balance the cost of power with the environmental quality of our community.

The projections of fuel requirements and energy sources are taken from the results of computer simulations using Global Energy Decisions, Inc.'s PROSYM production simulation model and are 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 [4]		
Year	Population [1]	Members Per Household	(GWh) [2]	Average No. of Customers [3]	Average kWh Consumption Per Customer	(GWh) [2]	Average No. of Customers [3]	Average kWh Consumption Per Customer
2002	250,820	-	1,048	81,208	12,905	1,527	16,779	91,007
2003	258,627	-	1,035	82,219	12,588	1,555	17,289	89,942
2004	265,393	-	1,064	85,035	12,512	1,604	17,729	90,473
2005	269,619	-	1,088	89,468	12,164	1,623	18,312	88,630
2006	272,648	-	1,097	92,017	11,927	1,604	18,533	86,548
2007	273,684	-	1,099	93,569	11,744	1,657	18,583	89,169
2008	274,926	-	1,054	94,640	11,132	1,626	18,597	87,433
2009	275,059	-	1,050	94,827	11,071	1,611	18,478	87,180
2010	275,783	-	1,136	95,268	11,928	1,618	18,426	87,812
2011	277,229	-	1,117	95,794	11,665	1,598	18,418	86,772
2012	279,782	-	1,111	96,955	11,457	1,612	18,565	86,810
2013	282,359	-	1,112	98,023	11,346	1,617	18,688	86,527
2014	284,961	-	1,113	99,102	11,231	1,619	18,813	86,077
2015	287,584	-	1,114	100,190	11,115	1,620	18,938	85,548
2016	290,226	-	1,114	101,285	11,002	1,619	19,064	84,932
2017	292,893	-	1,115	102,391	10,893	1,618	19,192	84,295
2018	295,581	-	1,117	103,505	10,791	1,616	19,320	83,657
2019	298,292	-	1,119	104,629	10,698	1,615	19,450	83,033
2020	300,958	-	1,122	105,734	10,614	1,614	19,577	82,430
2021	303,526	-	1,126	106,799	10,539	1,612	19,700	81,849

[1] Population data represents Leon County population.
[2] Values include DSM Impacts.
[3] Average end-of-month customers for the calendar year. Marked increase in residential customers between 2004 and 2005 due to change in internal customer accounting practices.
[4] As of 2007 "Commercial" includes General Service Non-Demand, General Service Demand, General Service Large Demand Interruptible (FSU and Goose Pond), Curtailable (TMH), Traffic Control, Security Lights and Street & Highway Lights

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) [2]	Other Sales to Public Authorities (GWh)	Total Sales to Ultimate Consumers (GWh) [3]
2002	-	-	-		13		2,588
2003	-	-	-		12		2,602
2004	-	-	-		14		2,682
2005	-	-	-		14		2,725
2006	-	-	-		15		2,716
2007	-	-	-		0		2,756
2008	-	-	-		0		2,680
2009	-	-	-		0		2,661
2010	-	-	-		0		2,754
2011	-	-	-		0		2,715
2012	-	-	-		0		2,723
2013	-	-	-		0		2,729
2014	-	-	-		0		2,732
2015	-	-	-		0		2,734
2016	-	-	-		0		2,734
2017	-	-	-		0		2,733
2018	-	-	-		0		2,733
2019	-	-	-		0		2,734
2020	-	-	-		0		2,736
2021	-	-	-		0		2,738

[1] Average end-of-month customers for the calendar year.
[2] As of 2007 Security Lights and Street & Highway Lighting use is included with Commercial on Schedule 2.1.
[3] Values include DSM Impacts.

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)	Net Energy for Load (GWh) [1]	Other Customers (Average No.)	Total No. of Customers [2]
2002	0	165	2,753	0	97,986
2003	0	153	2,755	0	99,508
2004	0	159	2,841	0	102,764
2005	0	164	2,889	0	107,780
2006	0	154	2,870	0	110,550
2007	0	158	2,914	0	112,151
2008	0	154	2,834	0	113,237
2009	0	144	2,805	0	113,305
2010	0	177	2,931	0	113,693
2011	0	83	2,799	0	114,212
2012	0	162	2,884	0	115,520
2013	0	162	2,891	0	116,712
2014	0	162	2,895	0	117,915
2015	0	162	2,896	0	119,128
2016	0	162	2,896	0	120,349
2017	0	162	2,896	0	121,583
2018	0	162	2,896	0	122,825
2019	0	163	2,897	0	124,079
2020	0	163	2,899	0	125,311
2021	0	163	2,901	0	126,499

[1] Values include DSM Impacts.
[2] Average number of customers for the calendar year.

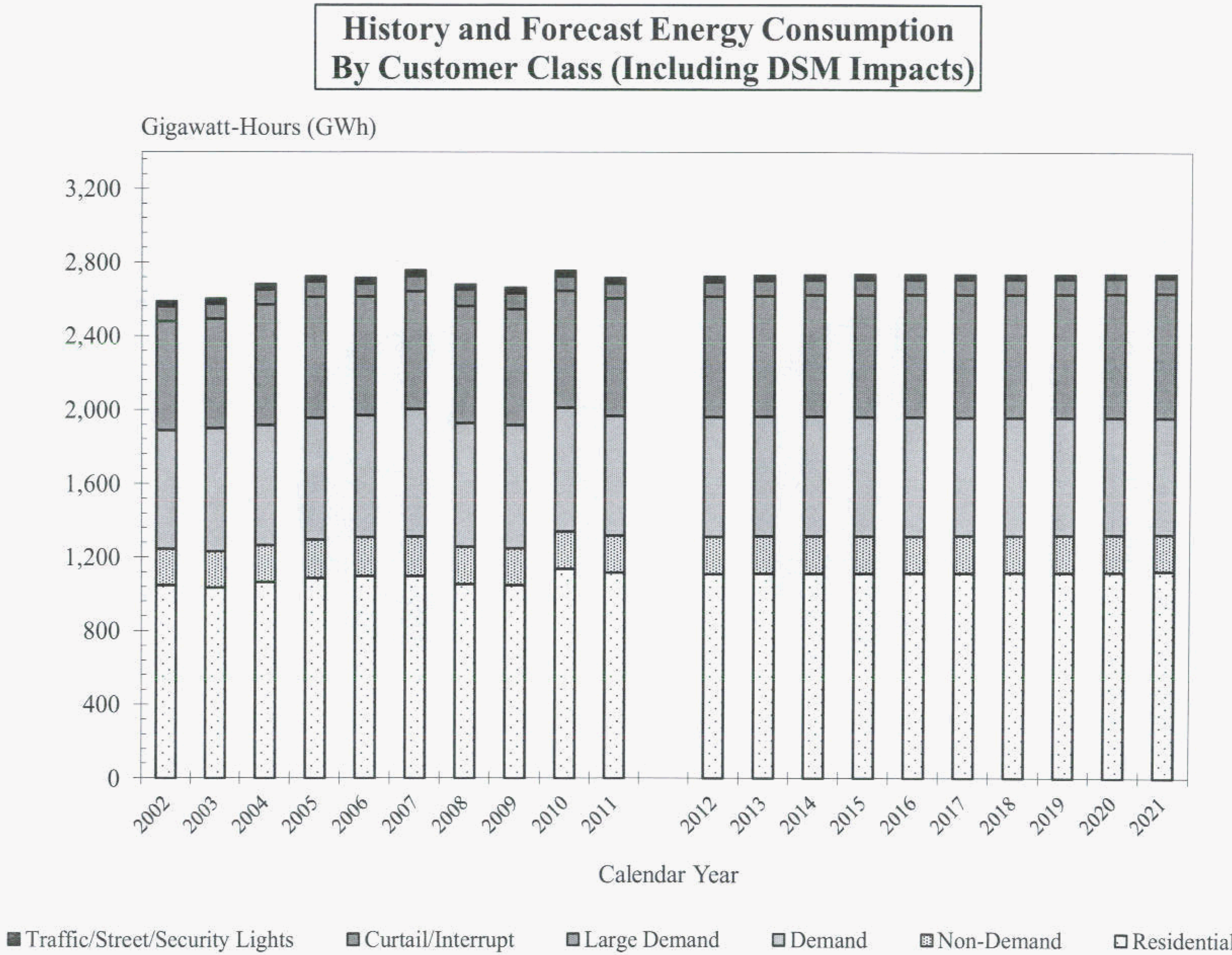
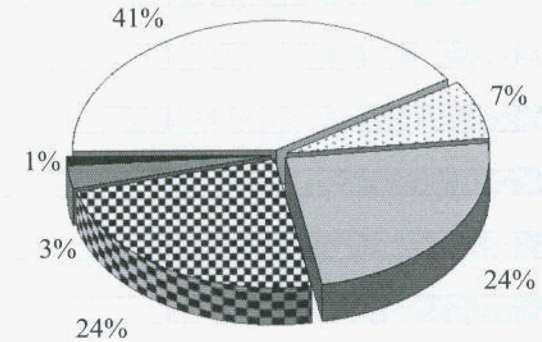

History and Forecast Energy Consumption
By Customer Class (Including DSM Impacts)
Gigawatt-Hours (GWh)
3,200
2,800
2,400
2,000
1,600
1,200
800
400
0
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
Calendar Year
Traffic/Street/Security Lights
Curtail/Interrupt
Large Demand
Demand
Non-Demand
Residential

Figure B1

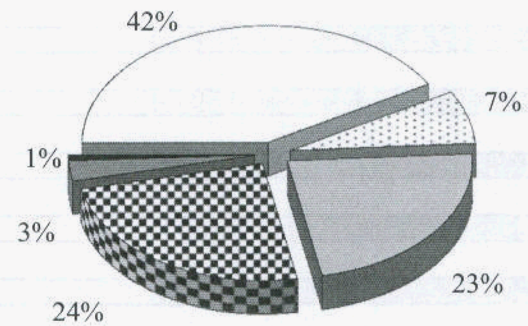
Energy Consumption By Customer Class
(Excluding DSM Impacts)

Calendar Year 2012



Total 2012 Sales = 2,742 GWh

Calendar Year 2021



Total 2021 Sales = 2,998 GWh

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) Year	(2) Total	(3) Wholesale	(4) Retail	(5) Interruptible	(6) Residential Load Management [2]	(7) Residential Conservation [2], [3]	(8) Comm./Ind Load Management [2]	(9) Comm./Ind Conservation [2], [3]	(10) Net Firm Demand [1]
2002	580		580						580
2003	549		549						549
2004	565		565						565
2005	598		598						598
2006	577		577						577
2007	621		621						621
2008	587		587						587
2009	605		605						605
2010	601		601						601
2011	591		591		0	1	0	0	590
2012	597		597		0	3	4	2	588
2013	604		604		5	6	10	7	576
2014	610		610		11	10	14	13	562
2015	616		616		16	14	16	20	550
2016	622		622		21	17	17	27	540
2017	628		628		23	21	17	35	532
2018	634		634		24	25	17	42	527
2019	641		641		24	28	17	48	524
2020	647		647		24	32	17	53	521
2021	653		653		24	35	17	56	520

[1] Values include DSM Impacts.
[2] Reduction estimated at busbar. 2011 DSM is actual at peak.
[3] 2011 values reflect incremental increase from 2010.

City Of Tallahassee

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

(1) Year	(2) Total	(3) Wholesale	(4) Retail	(5) Interruptible	(6) Residential Load Management [2]	(7) Residential Conservation [2], [3]	(8) Comm./Ind Load Management [2]	(9) Comm./Ind Conservation [2], [3]	(10) Net Firm Demand [1]
2002	580		580						580
2003	549		549						549
2004	565		565						565
2005	598		598						598
2006	577		577						577
2007	621		621						621
2008	587		587						587
2009	605		605						605
2010	601		601						601
2011	591		591		0	1	0	0	590
2012	611		611		0	3	4	2	602
2013	621		621		5	6	10	7	593
2014	631		631		11	10	14	13	583
2015	641		641		16	14	16	20	575
2016	651		651		21	17	17	27	569
2017	661		661		23	21	17	35	565
2018	672		672		24	25	17	42	565
2019	682		682		24	28	17	48	565
2020	693		693		24	32	17	53	567
2021	704		704		24	35	17	56	571

[1] Values include DSM Impacts.
[2] Reduction estimated at busbar. 2011 DSM is actual at peak.
[3] 2011 values reflect incremental increase from 2010.

City Of Tallahassee

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

(1) Year	(2) Total	(3) Wholesale	(4) Retail	(5) Interruptible	(6) Residential Load Management [2]	(7) Residential Conservation [2], [3]	(8) Comm./Ind Load Management [2]	(9) Comm./Ind Conservation [2], [3]	(10) Net Firm Demand [1]
2002	580		580						580
2003	549		549						549
2004	565		565						565
2005	598		598						598
2006	577		577						577
2007	621		621						621
2008	587		587						587
2009	605		605						605
2010	601		601						601
2011	591		591		0	1	0	0	590
2012	584		584		0	3	4	2	575
2013	586		586		5	6	10	7	558
2014	589		589		11	10	14	13	541
2015	591		591		16	14	16	20	525
2016	593		593		21	17	17	27	511
2017	595		595		23	21	17	35	499
2018	597		597		24	25	17	42	490
2019	600		600		24	28	17	48	483
2020	601		601		24	32	17	53	475
2021	603		603		24	35	17	56	470

[1] Values include DSM Impacts.
[2] Reduction estimated at busbar. 2011 DSM is actual at peak.
[3] 2011 values reflect incremental increase from 2010.

City Of Tallahassee

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

(1) Year	(2) Total	(3) Wholesale	(4) Retail	(5) Interruptible	(6) Residential Load Management [2], [3]	(7) Residential Conservation [2], [4]	(8) Comm./Ind Load Management [2], [3]	(9) Comm./Ind Conservation [2], [4]	(10) Net Firm Demand [1]
2002 -2003	590		590						590
2003 -2004	509		509						509
2004 -2005	532		532						532
2005 -2006	537		537						537
2006 -2007	528		528						528
2007 -2008	526		526						526
2008 -2009	579		579						579
2009 -2010	633		633						633
2010 -2011	584		584						584
2011 -2012	517		517		0	1	0	0	516
2012 -2013	562		562		0	7	0	9	547
2013 -2014	568		568		0	10	0	15	543
2014 -2015	574		574		0	13	0	21	540
2015 -2016	580		580		0	16	0	28	536
2016 -2017	585		585		0	19	0	34	531
2017 -2018	591		591		0	22	0	40	528
2018 -2019	597		597		0	25	0	45	527
2019 -2020	603		603		0	28	0	48	527
2020 -2021	608		608		0	30	0	50	527
2021 -2022	614		614		0	33	0	52	530

[1] Values include DSM Impacts.
[2] Reduction estimated at busbar. 2011 DSM is actual at peak.
[3] Reflects no expected utilization of demand response (DR) resources in winter. Winter DR capability presented in Table 2.17.
[4] 2011 values reflect incremental increase from 2010.

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 [2], [3]	Residential Conservation [2], [4]	Comm./Ind Load Management [2], [3]	Comm./Ind Conservation [2], [4]	Net Firm Demand [1]
2002 -2,003	590		590						590
2003 -2004	509		509						509
2004 -2005	532		532						532
2005 -2006	537		537						537
2006 -2007	528		528						528
2007 -2008	526		526						526
2008 -2009	579		579						579
2009 -2010	633		633						633
2010 -2011	584		584						584
2011 -2012	517		517		0	1	0	0	516
2012 -2013	579		579		0	7	0	9	564
2013 -2014	588		588		0	10	0	15	563
2014 -2015	597		597		0	13	0	21	563
2015 -2016	607		607		0	16	0	28	563
2016 -2017	616		616		0	19	0	34	562
2017 -2018	626		626		0	22	0	40	563
2018 -2019	636		636		0	25	0	45	566
2019 -2020	646		646		0	28	0	48	570
2020 -2021	656		656		0	30	0	50	575
2021 -2022	665		665		0	33	0	52	581

[1] Values include DSM Impacts.
[2] Reduction estimated at customer meter. 2011 DSM is actual.
[3] Reflects no expected utilization of demand response (DR) resources in winter. Winter DR capability presented in Table 2.17.
[4] 2011 values reflect incremental increase from 2010.

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 [2], [3]	(7) Residential Conservation [2], [4]	(8) Comm./Ind Load Management [2], [3]	(9) Comm./Ind Conservation [2], [4]	(10) Net Firm Demand [1]
2002 -2,003	590		590						590
2003 -2004	509		509						509
2004 -2005	532		532						532
2005 -2006	537		537						537
2006 -2007	528		528						528
2007 -2008	526		526						526
2008 -2009	579		579						579
2009 -2010	633		633						633
2010 -2011	584		584						584
2011 -2012	517		517		0	1	0	0	516
2012 -2013	546		546		0	7	0	9	531
2013 -2014	549		549		0	10	0	15	524
2014 -2015	551		551		0	13	0	21	517
2015 -2016	553		553		0	16	0	28	509
2016 -2017	555		555		0	19	0	34	501
2017 -2018	557		557		0	22	0	40	494
2018 -2019	559		559		0	25	0	45	489
2019 -2020	560		560		0	28	0	48	484
2020 -2021	562		562		0	30	0	50	481
2021 -2022	563		563		0	33	0	52	479

[1] Values include DSM Impacts.
[2] Reduction estimated at customer meter. 2011 DSM is actual.
[3] Reflects no expected utilization of demand response (DR) resources in winter. Winter DR capability presented in Table 2.17.
[4] 2011 values reflect incremental increase from 2010.

City Of Tallahassee

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

(1) Year	(2) Total Sales	(3) Residential Conservation [2], [3]	(4) Comm./Ind Conservation [2], [3]	(5) Retail Sales [1]	(6) Wholesale	(7) Utility Use & Losses	(8) Net Energy for Load [1]	(9) Load Factor % [1]
2002	2,588			2,588		165	2,753	54
2003	2,602			2,602		153	2,755	57
2004	2,682			2,682		159	2,841	57
2005	2,725			2,725		164	2,889	55
2006	2,716			2,716		154	2,870	57
2007	2,756			2,756		158	2,914	54
2008	2,680			2,680		154	2,834	55
2009	2,661			2,661		144	2,805	53
2010	2,754			2,754		177	2,931	56
2011	2,726	11	0	2,715		83	2,799	54
2012	2,742	11	8	2,723		162	2,884	56
2013	2,772	24	19	2,729		162	2,891	57
2014	2,800	37	31	2,732		162	2,895	59
2015	2,829	51	44	2,734		162	2,896	60
2016	2,857	64	59	2,734		162	2,896	61
2017	2,885	78	74	2,733		162	2,896	62
2018	2,913	91	89	2,733		162	2,896	63
2019	2,942	103	105	2,734		163	2,897	63
2020	2,971	115	120	2,736		163	2,899	64
2021	2,998	126	134	2,738		163	2,901	64

[1] Values include DSM Impacts.
[2] Reduction estimated at customer meter. 2011 DSM is actual.
[3] 2011 values reflect incremental increase from 2010.

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], [3]	Comm./Ind Conservation [2], [3]	Retail Sales [1]	Wholesale	Utility Use & Losses	Net Energy for Load [1]	Load Factor % [1]
2002	2,588			2,588		165	2,753	54
2003	2,602			2,602		153	2,755	57
2004	2,682			2,682		159	2,841	57
2005	2,725			2,725		164	2,889	55
2006	2,716			2,716		154	2,870	57
2007	2,756			2,756		158	2,914	54
2008	2,680			2,680		154	2,834	55
2009	2,661			2,661		144	2,805	53
2010	2,754			2,754		177	2,931	56
2011	2,726	11	0	2,715		83	2,799	54
2012	2,803	11	8	2,784		165	2,949	56
2013	2,851	24	19	2,809		167	2,976	57
2014	2,897	37	31	2,829		168	2,997	59
2015	2,943	51	44	2,848		169	3,017	60
2016	2,990	64	59	2,867		170	3,038	61
2017	3,038	78	74	2,886		172	3,057	62
2018	3,086	91	89	2,906		173	3,078	62
2019	3,133	103	105	2,925		174	3,099	63
2020	3,182	115	120	2,947		175	3,122	63
2021	3,231	126	134	2,970		177	3,147	63

[1] Values include DSM Impacts.
[2] Reduction estimated at customer meter. 2011 DSM is actual.
[3] 2011 values reflect incremental increase from 2010.

Table 2.11

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], [3]	(4) Comm./Ind Conservation [2], [3]	(5) Retail Sales [1]	(6) Wholesale	(7) Utility Use & Losses	(8) Net Energy for Load [1]	(9) Load Factor % [1]
2002	2,588			2,588		165	2,753	54
2003	2,602			2,602		153	2,755	57
2004	2,682			2,682		159	2,841	57
2005	2,725			2,725		164	2,889	55
2006	2,716			2,716		154	2,870	57
2007	2,756			2,756		158	2,914	54
2008	2,680			2,680		154	2,834	55
2009	2,661			2,661		144	2,805	53
2010	2,754			2,754		177	2,931	56
2011	2,726	11	0	2,715		83	2,799	54
2012	2,681	11	8	2,662		158	2,820	56
2013	2,693	24	19	2,650		158	2,808	57
2014	2,705	37	31	2,637		157	2,794	59
2015	2,715	51	44	2,620		156	2,776	60
2016	2,724	64	59	2,601		155	2,755	62
2017	2,734	78	74	2,582		153	2,735	63
2018	2,742	91	89	2,562		152	2,715	63
2019	2,753	103	105	2,545		151	2,696	64
2020	2,762	115	120	2,527		150	2,677	64
2021	2,768	126	134	2,508		149	2,657	65

[1] Values include DSM Impacts.
[2] Reduction estimated at customer meter. 2011 DSM is actual.
[3] 2011 values reflect incremental increase from 2010.

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)
	2011 Actual		2012 Forecast [1][2]		2013 Forecast [1]	
Month	Peak Demand (MW)	NEL (GWh)	Peak Demand (MW)	NEL (GWh)	Peak Demand (MW)	NEL (GWh)
January	584	252	549	249	547	249
February	468	198	487	213	485	213
March	364	198	404	207	403	207
April	441	212	419	208	418	208
May	513	238	510	242	508	243
June	590	276	588	282	576	283
July	549	279	576	284	574	285
August	585	301	579	294	576	294
September	513	248	534	263	532	264
October	405	206	475	221	473	222
November	369	191	334	194	332	195
December	424	200	436	227	434	228
TOTAL		2,799		2,884		2,891

[1] Peak Demand and NEL include DSM Impacts.
[2] Represents forecast values for 2012.

City of Tallahassee, Florida

2012 Electric System Load Forecast

Key Explanatory Variables

Ln. No.	Model Name	Leon County Population	Residential 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]
1	Residential Customers	X										0.994
2	Residential Consumption		X	X	X	X	X				X	0.925
3	Florida State University Consumption			X				X				0.930
4	State Capitol Consumption			X				X				0.892
5	Florida A&M University Consumption			X				X				0.926
6	Lighting Consumption	X										0.961
7	General Service Non-Demand Customers		X									0.996
8	General Service Demand Customers		X									0.987
9	General Service Non-Demand Consumptioi	X		X	X		X					0.956
10	General Service Demand Consumption	X		X	X							0.979
11	General Service Large Demand Consumption	X		X	X							0.933
12	Summer Peak Demand			X			X			X		0.914
13	Winter Peak Demand			X	X				X			0.880

[1] R Squared, sometimes called the coefficient of determination, is a commonly used measure of goodness of 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

2012 Electric System Load Forecast

Sources of Forecast Model Input Information

Energy Model Input Data	Source
1. Leon County Population	Bureau of Economic and Business Research
2. Talquin Customers Transferred	City Power Engineering
3. Cooling Degree Days	NOAA reports
4. Heating Degree Days	NOAA reports
5. AC Saturation Rate	Appliance Saturation Study
6. Heating Saturation Rate	Appliance Saturation Study
7. Real Tallahassee Taxable Sales	Florida 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	City Utility Services
14. Tall. Memorial Curtailable	System Planning/ Utilities Accounting.
15. System Peak Historical Data	City System Planning
16. Historical Customer Projections by Class	System Planning & Customer Accounting
17. Historical Customer Class Energy	System Planning & Customer Accounting
18. GDP Forecast	Blue Chip Economic Indicators
19. CPI Forecast	Blue Chip Economic Indicators
20. Florida Taxable Sales	Florida Department of Revenue
21. Interruptible, Traffic Light Sales, & Security Light Additions	System Planning & Customer Accounting
22. Historical Residential Real Price of Electricity	Calculated from Revenues, kWh sold, CPI
23. Historical Commercial Real Price Of Electricity	Calculated from Revenues, kWh sold, CPI

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

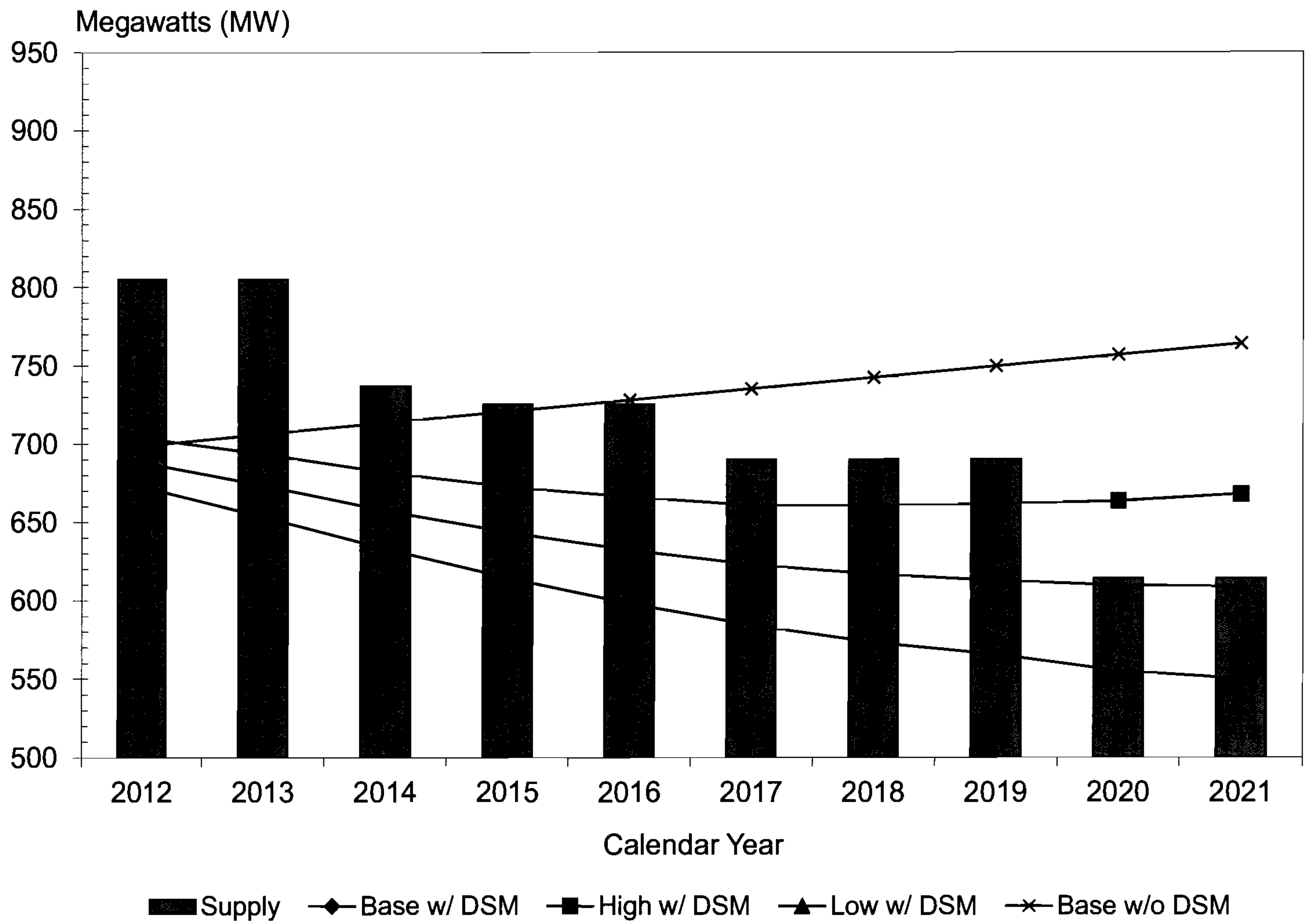


Figure B3

City Of Tallahassee

2012 Electric System Load Forecast

Projected Demand Side Management Energy Reductions [1]

Calendar Year Basis

Year	Residential Impact (MWh)	Commercial Impact (MWh)	Total Impact (MWh)
2012	12,086	8,744	20,830
2013	25,333	19,827	45,160
2014	39,337	32,761	72,098
2015	53,738	47,096	100,834
2016	68,215	62,422	130,637
2017	82,494	78,366	160,860
2018	96,341	94,595	190,936
2019	109,565	110,814	220,379
2020	122,016	126,768	248,784
2021	133,589	142,239	275,828

[1] Reductions estimated at generator busbar.

City Of Tallahassee

2012 Electric System Load Forecast

Projected Demand Side Management
Seasonal Demand Reductions [1]

Year		Residential Energy Efficiency Impact		Commercial Energy Efficiency Impact		Residential Demand Response Impact		Commercial Demand Response Impact		Demand Side Management Total	
Summer	Winter	Summer (MW)	Winter (MW)	Summer (MW)	Winter (MW)	Summer (MW)	Winter [2] (MW)	Summer (MW)	Winter [2] (MW)	Summer (MW)	Winter (MW)
2012	2012-2013	3	7	2	9	0	5	4	10	9	30
2013	2013-2014	6	10	7	15	5	11	10	14	28	50
2014	2014-2015	10	13	13	21	11	16	14	16	48	67
2015	2015-2016	14	16	20	28	16	21	16	17	66	82
2016	2016-2017	17	19	27	34	21	23	17	17	82	94
2017	2017-2018	21	22	35	40	23	24	17	17	96	103
2018	2018-2019	25	25	42	45	24	24	17	17	107	111
2019	2019-2020	28	28	48	48	24	24	17	17	117	118
2020	2020-2021	32	30	53	50	24	24	17	17	126	122
2021	2021-2022	35	33	56	52	24	24	17	17	133	126

[1] Reductions estimated at busbar.

[2] Represents projected winter peak reduction capability associated with demand response (DR) resource. However, as reflected on Schedules 3.1.1-3.2.3 (Tables 2.4-2.9), DR utilization expected to be predominantly in the summer months.

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 2010	Actual 2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
(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	12	4	0	0	0	0	0	0	0	0	0	0
(4)		Steam	1000 BBL	12	4	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	8	1	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	2	0	0	0	0	0	0	0	0	0	0	0
(11)		CT	1000 BBL	6	1	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	21,282	21,745	21,427	21,562	21,670	21,452	21,440	21,998	21,976	21,788	21,587	21,666
(14)		Steam	1000 MCF	2,497	1,746	1,087	1,417	1,443	1,010	1,011	1,247	1,001	914	312	0
(15)		CC	1000 MCF	18,265	19,209	19,194	19,363	19,009	19,818	19,716	19,796	20,136	19,917	19,694	20,391
(16)		CT	1000 MCF	519	790	1,146	782	1,218	623	713	955	839	958	1,581	1,275
(17)		Diesel	1000 MCF	0	0	0	0	0	0	0	0	0	0	0	0
(18)	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 2010	Actual 2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
(1)	Annual Firm Interchange		GWh	100	97	131	121	122	123	115	29	30	31	51	32
(2)	Coal		GWh	0	0	0	0	0	0	0	0	0	0	0	0
(3)	Nuclear		GWh	0	0	0	0	0	0	0	0	0	0	0	0
(4)	Residual	Total	GWh	6	2	0	0	0	0	0	0	0	0	0	0
(5)		Steam	GWh	6	2	0	0	0	0	0	0	0	0	0	0
(6)		CC	GWh	0	0	0	0	0	0	0	0	0	0	0	0
(7)		CT	GWh	0	0	0	0	0	0	0	0	0	0	0	0
(8)		Diesel	GWh	0	0	0	0	0	0	0	0	0	0	0	0
(9)	Distillate	Total	GWh	3	0	0	0	0	0	0	0	0	0	0	0
(10)		Steam	GWh	0	0	0	0	0	0	0	0	0	0	0	0
(11)		CC	GWh	0	0	0	0	0	0	0	0	0	0	0	0
(12)		CT	GWh	3	0	0	0	0	0	0	0	0	0	0	0
(13)		Diesel	GWh	0	0	0	0	0	0	0	0	0	0	0	0
(14)	Natural Gas	Total	GWh	2,614	2,703	2,781	2,786	2,787	2,794	2,799	2,870	2,874	2,865	2,849	2,872
(15)		Steam	GWh	191	131	91	121	128	89	89	111	89	81	28	0
(16)		CC	GWh	2378	2501	2587	2585	2542	2642	2637	2659	2698	2684	2656	2739
(17)		CT	GWh	45	71	103	80	117	63	73	100	87	100	165	133
(18)		Diesel	GWh	0	0	0	0	0	0	0	0	0	0	0	0
(19)	Hydro		GWh	20	5	16	16	16	16	13	16	16	16	16	16
(20)	Economy Interchange[1]		GWh	188	-8	-45	-32	-31	-36	-31	-18	-24	-15	-17	-19
(21)	Renewables		GWh	0	0	0	0	0	0	0	0	0	0	0	0
(22)	Net Energy for Load		GWh	2,931	2,799	2,884	2,891	2,895	2,896	2,896	2,896	2,896	2,897	2,899	2,901

[1] Negative values reflect expected need to sell off-peak power to satisfy generator minimum load requirements, primarily in winter and shoulder months.

Table 2.19

City Of Tallahassee

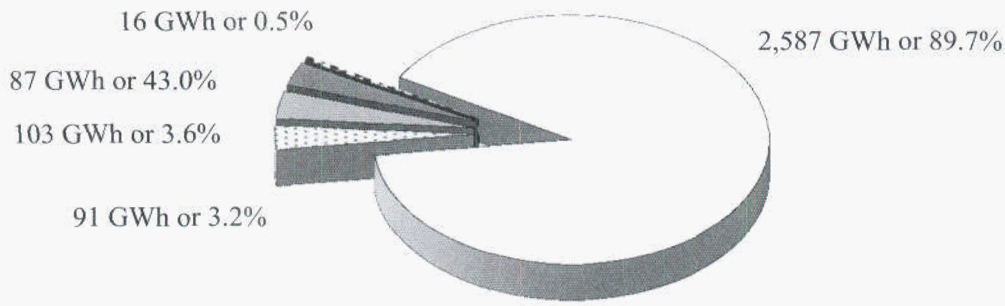
Schedule 6.2
Energy Sources

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
	Energy Sources		Units	Actual 2010	Actual 2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
(1)	Annual Firm Interchange		%	3.4	3.5	4.6	4.2	4.2	4.2	4.0	1.0	1.0	1.1	1.8	1.1
(2)	Coal		%	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)	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
(4)	Residual	Total	%	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(5)		Steam	%	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(6)		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
(7)		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
(8)		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
(9)	Distillate	Total	%	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(10)		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
(11)		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
(12)		CT	%	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(13)		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
(14)	Natural Gas	Total	%	89.2	96.6	96.4	96.4	96.3	96.5	96.6	99.1	99.3	98.9	98.3	99.0
(15)		Steam	%	6.5	4.7	3.2	4.2	4.4	3.1	3.1	3.8	3.1	2.8	1.0	0.0
(16)		CC	%	81.1	89.4	89.7	89.4	87.8	91.3	91.0	91.8	93.2	92.7	91.6	94.4
(17)		CT	%	1.5	2.5	3.6	2.8	4.0	2.2	2.5	3.4	3.0	3.4	5.7	4.6
(18)		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
(19)	Hydro		%	0.7	0.2	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
(20)	Economy Interchange		%	6.4	-0.3	-1.5	-1.1	-1.1	-1.3	-1.1	-0.6	-0.8	-0.5	-0.6	-0.7
(21)	Renewables		%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(22)	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

Table 2.20

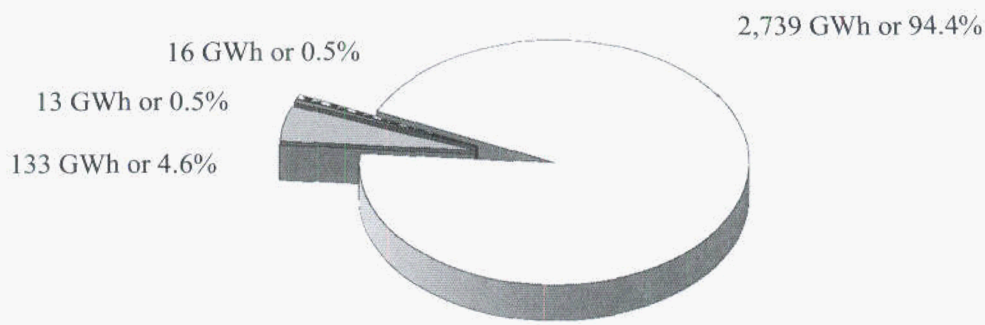
Generation By Resource/Fuel Type

Calendar Year 2012



Total 2012 NEL = 2,884 GWh

Calendar Year 2021



Total 2021 NEL = 2,901 GWh

□ CC - Gas □ Steam - Gas □ CT/Diesel - Gas ■ Net Interchange ■ Hydro

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Chapter III

Projected Facility Requirements

3.1 PLANNING PROCESS

In December 2006 the City completed its last comprehensive IRP Study. The purpose of this study was to review future DSM and power supply options that are consistent with the City's policy objectives. Included in the IRP Study was a detailed analysis of how the DSM and power supply alternatives perform under base and alternative assumptions.

As reported in the 2011 TYSP, the resource plan identified in the IRP Study included the repowering of Hopkins Unit 2 to combined cycle operation, renewable energy purchases, a commitment to an aggressive DSM portfolio and the latter year addition of peaking resources to meet energy demand over the next ten years.

Based on more recent information including but not limited to the updated forecast of the City's demand and energy requirements (discussed in Chapter II) the City has made revisions to its resource plan. These revisions will be discussed in this chapter.

3.2 PROJECTED RESOURCE REQUIREMENTS

3.2.1 TRANSMISSION LIMITATIONS

The City's projected transmission import capability is a major determinant of the need for future power supply resource additions. As has been seen in other parts of the country, there has been little investment in the regional transmission system around Tallahassee. Consequently, the City's internal transmission studies have reflected a gradual deterioration of the system's transmission import (and export) capability into the future, due in part to this lack of investment in facilities as well as the impact of unscheduled power flow-through on the City's transmission system. The City has worked with its neighboring utilities, Progress and Southern, to plan and maintain, at minimum, sufficient transmission import capability to allow the City to make emergency power purchases in the event of the most severe single contingency, the loss of the system's largest generating unit. To satisfy load, planning reserve and operational requirements in the reporting period, the City may need to advance the in-service date of new power supply resources to complement available transmission import capability.

The prospects for significant expansion of the regional transmission system around Tallahassee hinges on (i) the City's ongoing discussions with Progress and Southern, (ii) the Florida Reliability Coordinating Council's (FRCC) regional transmission planning process, (iii) the evolving set of mandatory reliability standards issued by the North American Electric Reliability Corporation (NERC), and (iv) alternative mechanisms envisioned by the U.S. Department of Energy (DOE) regarding key transmission corridors. Unfortunately, none of these efforts is expected to produce substantive improvements to the City's transmission import/export capability in the short-term. The City continues to discuss the limitations of the existing transmission grid in the Florida panhandle region with Progress. In consideration of the City's projected transmission import capability reductions and the associated grid limitations, the results of the IRP Study and other internal analysis of options tend to favor local generation alternatives as the means to satisfy future power supply requirements.

3.2.2 Reserve Requirements

The City uses a load reserve margin of 17% in its resource planning studies. This margin was established in the 1990s then re-evaluated via a loss of load probability (LOLP) analysis of the City's system performed in 2002. The City periodically conducts LOLP analyses to determine if conditions warrant a change in the reserve margin criterion. The City has used a 17% reserve margin criterion for the purposes of this year's TYSP report.

3.2.3 Recent and Near Term Resource Additions

At their October 17, 2005 meeting the City Commission gave the Electric Utility approval to proceed with the repowering of Hopkins Unit 2 to combined cycle operation. The repowering was completed and the unit began commercial operation in June 2008. The former Hopkins Unit 2 boiler was retired and replaced with a combustion turbine generator (CTG) and a heat recovery steam generator (HRSG). The Hopkins 2 steam turbine and generator is now powered by the steam generated in the HRSG. Duct burners have been installed in the HRSG to provide additional peak generating capability. The repowering project provides additional capacity as well as increased efficiency versus the unit's capabilities prior to the repowering project. The repowered unit has achieved official seasonal net capacities of 300 MW in the summer and 330 MW in the winter.

No new resource additions are expected to be needed in the near term (2012-2016). Resource additions expected in the longer term (2017-2021) are discussed in Section 3.2.6, "Future Power Supply Resources".

3.2.4 POWER SUPPLY DIVERSITY

Resource diversity, particularly with regard to fuels, has long been a priority concern for 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. The City has also attempted to address this concern by implementing an Energy Risk Management (ERM) program in an effort to limit the City's exposure to energy price fluctuations. The ERM program established a organizational structure of interdepartmental committees and working groups and included the adoption of an Energy Risk Management Policy that, among other things, identifies acceptable risk mitigation products to prevent asset value losses, ensure price stability and provide protection against market volatility for fuels and energy to the City's electric and gas utilities and their customers.

Another important consideration in the City's planning process is the number and diversity of power supply resources in terms of their sizes and expected duty cycles. To satisfy electric system requirements the City must not only assess the adequacy of its total capability of power supply resources but also must evaluate the appropriate mix of those resources. Currently, about two-thirds of the City's power supply comes from two generating units, Purdom 8 and Hopkins 2. The outage of either of these units can present operational challenges especially when coupled with transmission limitations (as discussed in Section 3.2.1). For this reason the City is evaluating alternative and/or supplemental metrics to its current load reserve margin criterion that may better balance resource adequacy and operational needs with utility and customer costs. Preliminary results of this evaluation suggest that the City's current deterministic load reserve margin criterion based on total generation capability may need to be supplemented by a probabilistic criterion that takes into account the number and sizes of power supply resources to ensure adequacy and reliability. An update of the City's efforts in this regard will be provided in a future TYSP report(s).

Purchase contracts can provide some of the diversity desired in the City's power supply resource portfolio. The City's last IRP Study evaluated both short and long-term purchased power options based on conventional sources as well as power offers based on renewable resources. A consultant-assisted study completed in 2008 evaluated the potential reliability and economic benefits of prospectively increasing the City's transmission import (and export) capabilities. The results of this study indicate the potential for some electric reliability improvement resulting from addition of facilities to achieve more transmission import capability. However, the study's model of the Southern and Florida markets reflects, as with the City's generation fleet, natural gas-fired generation on the margin the majority of the time. Therefore, the cost of increasing the City's transmission import capability could not likely be offset by the potential economic benefit from increased power purchases from conventional sources.

The City entered into a purchased power agreement with a renewable energy provider, which was to involve the purchase of energy when available from a project developed by a private company and located either within the City's or a neighboring utility's electric service territory (see Section 3.2.5 for details on this purchased power agreement).

As an additional strategy to address the City's lack of power supply diversity, planning staff has investigated options for a significantly enhanced DSM portfolio. Commitment to this expanded DSM effort (see Section 2.1.3) and an increase in customer-sited renewable energy projects (primarily solar panels) improve the City's overall resource diversity. However, diversity remains a significant issue for the City.

3.2.5 Renewable Resources

As part of its continuing commitment to explore clean energy alternatives, the City has continued to invest in opportunities to develop viable solar photovoltaic (PV) projects as part of our efforts to offer "green power" to our customers. The City believes that offering green power alternatives to its customers is a sound business strategy: it will provide for a measure of supply diversification, reduce dependence on fossil fuels, promote cleaner energy sources, and enhance the City's already strong commitment to protecting the environment and the quality of life in Tallahassee.

As of the end of calendar year 2011 the City has a portfolio of 137 kW of solar PV operated and maintained by the Electric Utility and a cumulative total of 1,187 kW of solar PV has been installed by customers. The City promotes and encourages environmental responsibility in our community through a variety of programs available to citizens. The commitment to renewable energy sources (and particularly to solar PV) by its customers is made possible through the Go Green Tallahassee initiative, that includes many options related to becoming a greener community such as the City's Solar PV Net Metering offer. Solar PV Net Metering promotes customer investment in renewable energy generation by allowing residential and commercial customers with small to moderate sized PV installations to return excess generated power back to the City at the full retail value.

In 2011, the City of Tallahassee signed contracts with SunnyLand Solar and Solar Developers of America (SDA) for over 3 MWs of solar PV. The projects are to be built within the City's service area and will utilize new technology pioneered by Florida State University.

In the 2011 TYSP, the City reported on the status of the PPA with Green Power Systems/Renewable Fuels Tallahassee LLC (GPS/RFT). The City of Tallahassee had negotiated a contract with GPS/RFT to build and operate a 35-MW power plant that will use plasma arc technology to gasify a municipal solid waste fuel supply. GPS/RFT later assigned the contract to Ecosphere LLC for financing and development but, due to the tightening of the credit market, EcoSphere terminated the contract in late 2011.

The City continues to seek out replacement projects that utilize the renewable fuels available within the big bend and panhandle of Florida.

3.2.6 Future Power Supply Resources

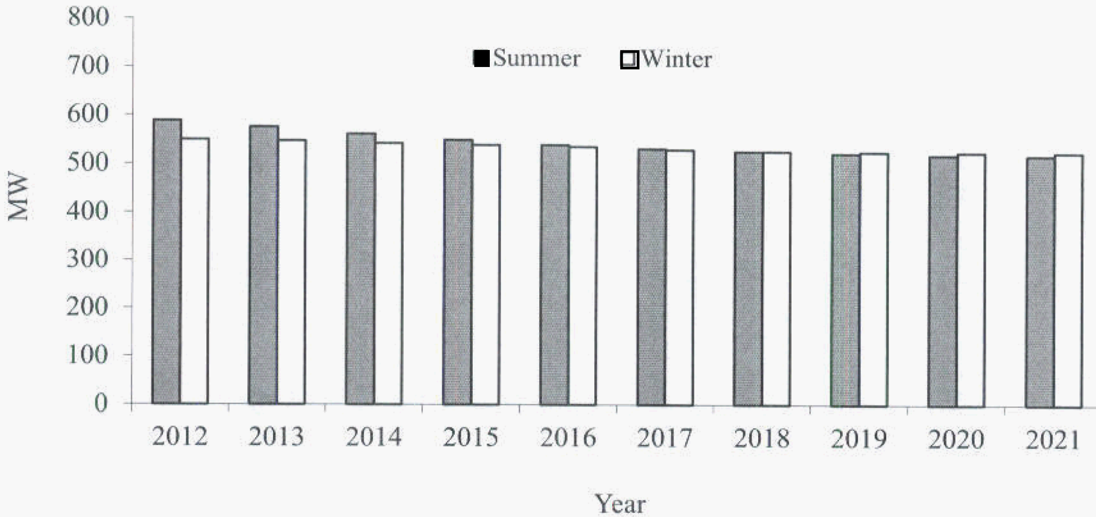
The City currently projects that no additional power supply resources will be needed to maintain electric system adequacy and reliability through the 2021 horizon year. In last year's report, the City identified the need for additional capacity in the summer of 2020 following the retirement of Hopkins 1. With the City's updated forecasts of base peak demand and expected

DSM impacts the City's next capacity need has slipped to the summer of 2025. However, it is noteworthy that the need for additional capacity would again occur in the summer of 2020 if the summer peak demand projected for that season were to increase by a mere 5 MW. The timing, site, type and size of any new power supply resource may vary as the nature of the need becomes better defined. Any proposed addition could be a generator or a peak season purchase. The suitability of this resource plan is dependent on the aggressive DSM portfolio (described in Section 2.1.3 of this report) and the City's projected transmission import capability but, as previously discussed, does not count the capacity associated with the C.H. Corn Hydroelectric Station toward meeting the City's planning reserve requirement. If only 50% of the DSM target is achieved, the City would require about 70 MW to meet its planning reserve requirements in the summer of 2020 (following the retirement of Hopkins 1).

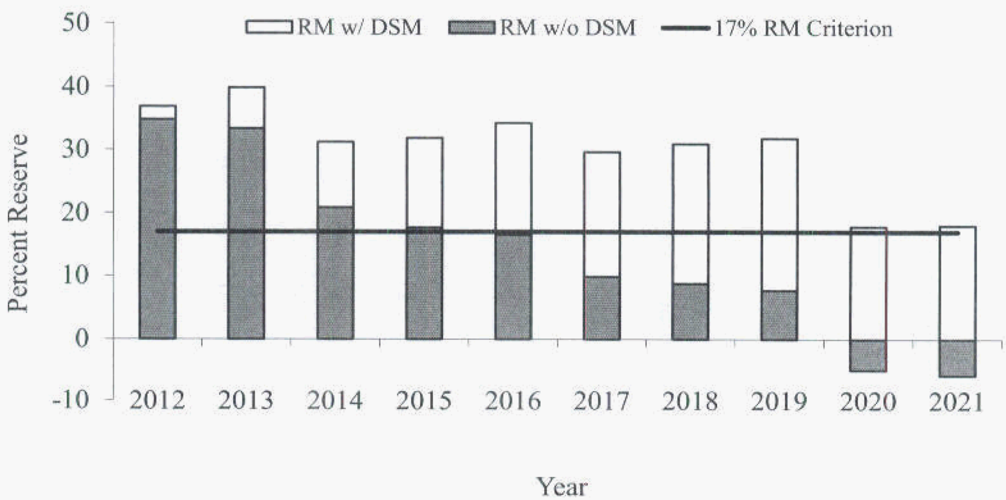
The City continues to monitor closely the performance of the DSM portfolio and, as mentioned in Section 2.1.3, will be revisiting and, where appropriate, updating assumptions regarding and re-evaluating cost-effectiveness of our current and prospective DSM measures. This will also allow a reassessment of expected demand and energy savings attributable to DSM.

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 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 which reflects no additional power supply resources in the period from 2012 through 2021.

System Peak Demands
(Including DSM Impacts)



Summer Reserve Margin (RM)



City Of Tallahassee

Schedule 7.1
Forecast of Capacity, Demand, and Scheduled Maintenance at Time of Summer Peak [1]

(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
2012	794	11	0	0	805	588	217	37	0	217	37
2013	794	11	0	0	805	576	229	40	0	229	40
2014	726	11	0	0	737	562	175	31	0	175	31
2015	714	11	0	0	725	550	175	32	0	175	32
2016	714	11	0	0	725	540	185	34	0	185	34
2017	690	0	0	0	690	532	158	30	0	158	30
2018	690	0	0	0	690	527	163	31	0	163	31
2019	690	0	0	0	690	524	166	32	0	166	32
2020	614	0	0	0	614	521	93	18	0	93	18
2021	614	0	0	0	614	520	94	18	0	94	18

[1] All installed and firm import capacity changes are identified in the proposed generation expansion plan (Table 3.4).

City Of Tallahassee

Schedule 7.2
Forecast of Capacity, Demand, and Scheduled Maintenance at Time of Winter Peak [1]

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Total Installed Capacity	Firm Capacity Import	Firm Capacity Export		Total Capacity Available	System Firm Winter Peak Demand	Reserve Margin Before Maintenance		Scheduled Maintenance	Reserve Margin After Maintenance	
Year	(MW)	(MW)	(MW)	QF (MW)	(MW)	(MW)	(MW)	% of Peak	(MW)	(MW)	% of Peak
2012/13	870	11	0	0	881	547	334	61	0	334	61
2013/14	802	11	0	0	813	543	270	50	0	270	50
2014/15	802	11	0	0	813	540	273	51	0	273	51
2015/16	788	11	0	0	799	536	263	49	0	263	49
2016/17	788	0	0	0	788	531	257	49	0	257	49
2017/18	762	0	0	0	762	528	234	44	0	234	44
2018/19	762	0	0	0	762	527	235	45	0	235	45
2019/20	762	0	0	0	762	527	235	45	0	235	45
2020/21	684	0	0	0	684	527	157	30	0	157	30
2021/22	684	0	0	0	684	530	154	29	0	154	29

[1] All installed and firm import capacity changes are identified in the proposed generation expansion plan (Table 3.4).

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
Purdom	CT-1	Wakulla	GT	NG	DFO	PL	TK	NA	12/63	12/13	15,000	-10	-10	RT
Purdom	CT-2	Wakulla	GT	NG	DFO	PL	TK	NA	5/64	12/13	15,000	-10	-10	RT
Purdom	7	Wakulla	ST	NG	RFO	PL	WA	NA	6/66	12/13	50,000	-48	-48	RT
Hopkins	CT-1	Leon	GT	NG	DFO	PL	TK	NA	2/70	3/15	16,320	-12	-14	RT
Hopkins	CT-2	Leon	GT	NG	DFO	PL	TK	NA	9/72	3/17	27,000	-24	-26	RT
Hopkins	1	Leon	ST	NG	RFO	PL	TK	NA	5/71	3/20	75,000	-76	-78	RT

Acronyms

GT	Gas Turbine	Pri	Primary Fuel	kW	Kilowatts
ST	Steam Turbine	Alt	Alternate Fuel	MW	Megawatts
		NG	Natural Gas	RT	Existing generator scheduled for retirement.
		DFO	Diesel Fuel Oil	P	Planned for installation but not utility authorized. Not under construction.
		RFO	Residual Fuel Oil		
		PL	Pipeline		
		TK	Truck		

City Of Tallahassee

Generation Expansion Plan

	Load Forecast & Adjustments										
Year	Forecast Peak Demand (MW)	DSM [1] (MW)	Net Peak Demand (MW)	Existing Capacity Net (MW)		Firm Imports [2] (MW)	Firm Exports (MW)	Resource Additions (Cumulative) (MW)	Total Capacity (MW)	Res %	New Resources
2012	597	9	588	794		11			805	37	
2013	604	28	576	794	[3]	11			805	40	
2014	610	48	562	726		11			737	31	
2015	616	66	550	714	[4]	11			725	32	
2016	622	82	540	714		11			725	34	
2017	628	96	532	690	[5]				690	30	
2018	634	107	527	690					690	31	
2019	641	117	524	690					690	32	
2020	647	126	521	614	[6]				614	18	
2021	653	133	520	614					614	18	

Notes

[1] Demand Side Management includes energy efficiency and demand response/control measures. Identified as maximum achieveable reductions in the City's integrated resource planning (IRP) study completed in December 2006.

[2] Firm imports include 11 MW purchase from Progress Energy Florida (formerly Florida Power Corporation). Expires 12/3/2016.

[3] Purdom ST 7 and Purdom CTs 1 and 2 official retirement currently scheduled for December 2013.

[4] Hopkins CT 1 official retirement currently scheduled for March 2015.

[5] Hopkins CT 2 official retirement currently scheduled for March 2017.

[6] Hopkins ST 1 official retirement currently scheduled for March 2020.

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Chapter IV

Proposed Plant Sites and Transmission Lines

4.1 Proposed Plant Site

As discussed in Chapter 3 the City currently expects that no additional power supply resources will be required in the reporting period to meet future system needs.

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 majority of these improvements are planned for the City's 115 kV transmission network.

As discussed in Section 3.2, the City has been working with its neighboring utilities, Progress and 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. This reduction in capability is driven in part by the lack of investment in facilities in the panhandle region as well as the impact of unscheduled power flow-through on the City's transmission system. The City is committed to continue to work with Progress and Southern as well as existing and prospective regulatory bodies 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.

Beyond assessing import and export capability, the City also conducts annual studies of its transmission system to identify further improvements and expansions to provide increased reliability and respond more effectively to certain critical contingencies both on the system and in the surrounding grid in the panhandle. These evaluations indicate that additional infrastructure projects are needed to address (i) improvements in capability to deliver power from the Hopkins Plant (on the west side of the City's service territory) to the load center, and (ii) the strengthening of the system on the east side of the City's service territory to improve the voltage profile in that area and enhance response to contingencies.

The City's transmission expansion plan includes a 230 kV loop around the City to be completed by summer 2016 to address these needs and ensure continued reliable service consistent with current and anticipated FERC and NERC requirements. For this proposed transmission project, the City intends to tap its existing Hopkins-PEF Crawfordville 230 kV transmission line and extend a 230 kV transmission line to the east terminating at the existing Substation BP-5 as the first phase of the project to be in service as early as winter 2012/2013, and then upgrade existing 115 kV lines to 230 kV from Substation BP-5 to Substation BP-4 to Substation BP-7 as the second phase of the project completing the loop by summer 2016. This new 230 kV loop would address a number of potential line overloads for the single contingency loss of other key transmission lines in the City's system. Additional 230/115 kV transformation along the new 230 kV line is expected to be added at Substations BP-5 and BP-4. Table 4.2 summarizes the proposed new facilities or improvements from the transmission planning study that are within this Ten Year Site Plan reporting period.

The City's budget planning cycle for FY 2013 is currently ongoing, and any revisions to project budgets in the electric utility will not be finalized until the summer of 2012. Some of the preliminary engineering and design work for the aforementioned 230 kV transmission projects has been authorized and is currently underway. If these improvements do not remain on the approved project list, or if other budget priorities result in the postponement of budgeted but not initiated projects, the City has prepared operating solutions to mitigate adverse system conditions that might occur as a result of the delay in the in-service date of these improvements.

City Of Tallahassee

Schedule 9
Status Report and Specifications of Proposed Generating Facilities

(1)	Plant Name and Unit Number:	No new power supply resources anticipated from 2012-2021
(2)	Capacity a.) Summer: b.) Winter:	
(3)	Technology Type:	
(4)	Anticipated Construction Timing a.) Field Construction start - date: b.) Commercial in-service date:	
(5)	Fuel a.) Primary fuel: b.) Alternate fuel:	
(6)	Air Pollution Control Strategy:	
(7)	Cooling Status:	
(8)	Total Site Area:	
(9)	Construction Status:	
(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:	

Figure D-1 – Hopkins Plant Site

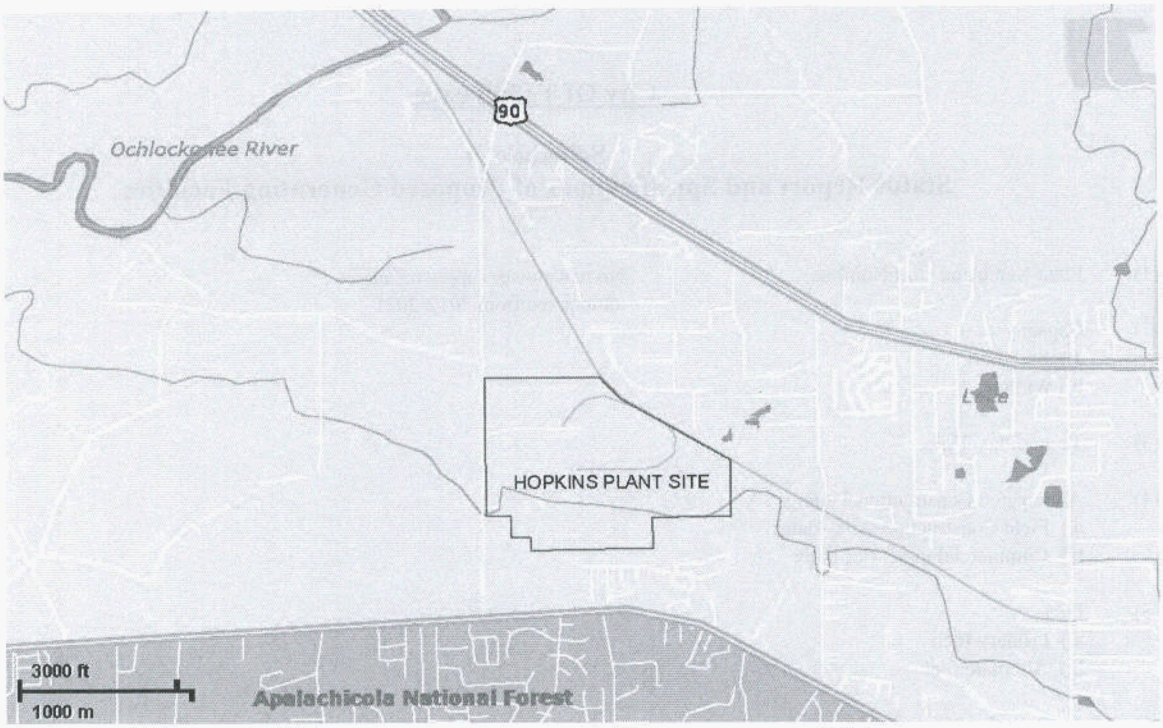
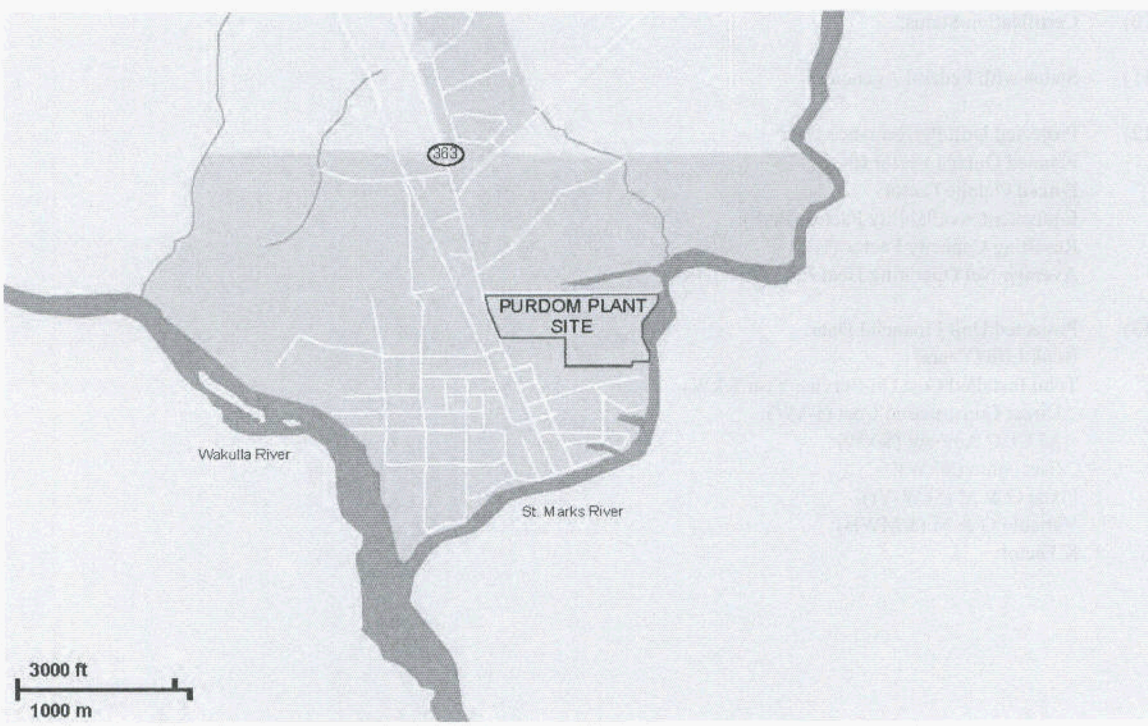


Figure D-2 – Purdom Plant Site



City Of Tallahassee

Planned Transmission Projects, 2012-2021

Project Type	Project Name	From Bus Name	From Bus Number	To Bus Name	To Bus Number	Expected In-Service Date	Voltage (kV)	Line Length (miles)
New Lines	Line 55	Sub 14	7514	Sub 7	7507	6/30/13	115	6.0
	Line 54	Sub 17	7517	Sub 14	7514	6/30/13	115	4.0
	Line 53	Sub 21	7521	Sub 17	7517	7/31/13	115	6.0
	230 Loop Phase I - Line33	Hopkins S	7610	Sub 5	7605	12/31/13	230	8.0
	230 Loop Phase II	Sub 5	7605	Sub 7	7607	6/1/16	230	12.8
Line Rebuild/ Reconductor	Line 15A	Sub 5	7505	Sub 4	7504	12/30/13	115	9.0
	Line 15B	Sub 5	7505	Sub 9	7509	12/30/13	115	6.0
	Line 15C	Sub 9	7509	Sub 4	7504	12/30/13	115	4.0
	Line 7A	Hopkins	7550	Sub 10	7510	6/1/14	115	5.0
Transformers	Sub 5 230/115 Auto	Sub 5 230	7605	Sub 5 115	7505	12/31/13	NA	NA
	Sub 4 230/115 Auto	Sub 4 230	7604	Sub 4 115	7504	6/1/16	NA	NA
Substations	Sub 14 (Bus 7514)	NA	NA	NA	NA	6/30/12	115	NA
	Sub 3 (Bus 7503)	NA	NA	NA	NA	6/30/12	115	NA
	Sub 17 (Bus 7517)	NA	NA	NA	NA	6/30/13	115	NA
	Sub 22 (Bus 7522)	NA	NA	NA	NA	6/30/14	115	NA
	Sub 23 (Bus 7523)	NA	NA	NA	NA	6/30/14	115	NA

City Of Tallahassee

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

(1)	Point of Origin and Termination:	Hopkins South - Substation 5
(2)	Number of Lines:	1
(3)	Right-of -Way:	TAL Owned and New Acquisitions
(4)	Line Length:	8 miles
(5)	Voltage:	230 kV
(6)	Anticipated Capital Timing:	Start - 2009 End - 2013
(7)	Anticipated Capital Investment:	See note [1]
(8)	Substations:	Hopkins South (tap Hopkins-Crawfordville 230 kV) [2]
(9)	Participation with Other Utilities:	None

Notes

[1] Capital investment included with other projects in FY 2012 budget. Requirement identified in FY 2011 budget was $11.0 million.

[2] New substation to serve as west terminus for new 230 kV line. Existing Substation 5 will be east terminus.

City Of Tallahassee

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

(1)	Point of Origin and Termination:	Substation 5 - Substation 4 - Substation 7
(2)	Number of Lines:	1
(3)	Right-of -Way:	TAL Owned
(4)	Line Length:	12.8 miles
(5)	Voltage:	230 kV
(6)	Anticipated Capital Timing:	Not yet determined; target in service summer 2016
(7)	Anticipated Capital Investment:	See note [1]
(8)	Substations:	See note [2]
(9)	Participation with Other Utilities:	None

Notes

[1] Anticipated capital investment associated with rebuilding/reconductoring associated existing transmission and substation facilities has not been segregated from that related to other improvements being made to these facilities for purposes other than that of establishing this 230 kV transmission line.

[2] North terminus will be existing Substation 7; south terminus will be existing Substation 5; intermediate terminus will be existing Substation 4.

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