City of Tallahassee

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CITY OF TALLAHASSEE

2024 TEN YEAR SITE PLAN

ELECTRICAL GENERATING FACILITIES AND ASSOCIATED TRANSMISSION LINES

Planning Period: 2024-2033

CITY OF TALLAHASSEE
TEN YEAR SITE PLAN FOR ELECTRICAL GENERATING FACILITIES AND ASSOCIATED TRANSMISSION LINES
2024-2033
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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 123,000 customers located within a 221 square mile service territory (see Figure A). The Electric Utility operates three generating stations and purchases power from two solar farms with a total summer season net generating capacity of 737 megawatts (MW).

The City has three primarily natural gas fueled generating stations, with combined cycle (CC), combustion turbine (CT) and reciprocating internal combustion engine (RICE or IC) electric generating facilities. The Sam O. Purdom Generating Station, located in the City of St. Marks, Florida has been in operation since 1952; the Arvah B. Hopkins Generating Station, located on Geddie Road west of the City, has been in commercial operation since 1970; and the Substation 12 Distributed Generation Facility, located on Medical Drive, has been in operation since late 2018.

The City contracted for 100% of the energy output from two solar farms through Power Purchase Agreements. Both farms are located on City property adjacent to the Tallahassee International Airport. Solar Farm 1 has been in operation since 2017, while Solar Farm 4 was brought online at the end of 2019.

1.1 SYSTEM CAPABILITY

The City maintains four points of interconnection with Duke Energy Florida ("Duke", formerly Progress Energy Florida); one 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 is 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, 92 MW (net summer rating) of CT generation and 92 MW (net summer rating) of RICE generation. The Substation 12 Distributed Generation Facility includes 18 MW (net summer rating) of RICE generation. The CC and CT units can be fired on either natural gas or diesel oil but cannot burn these fuels concurrently. The RICE generators can only be fired on natural gas.

The solar farms consist of 62MW of total nameplate solar PV. Solar Farm 1 is 20MW of nameplate solar PV, while Solar Farm 4 has 42MW of nameplate solar PV. The City has conducted analyses of the output of the solar facilities and while an average of approximately 50% of the facilities' total rated capacity has been available during summer peak and near peak hours, the City has elected to utilize a conservative estimate of 20% of the rated capacity as firm capacity available for the summer peak. The City will continue to review and, if appropriate, revise the assumed firm contribution from its solar power supply resources.

As of December 31, 2023 the City's total net summer capability is 737 MW. The corresponding winter net peak installed generating capability is 795 MW. Table 1.1 contains the details of the individual generating units.

1.2 PURCHASED POWER AGREEMENTS (PPA)

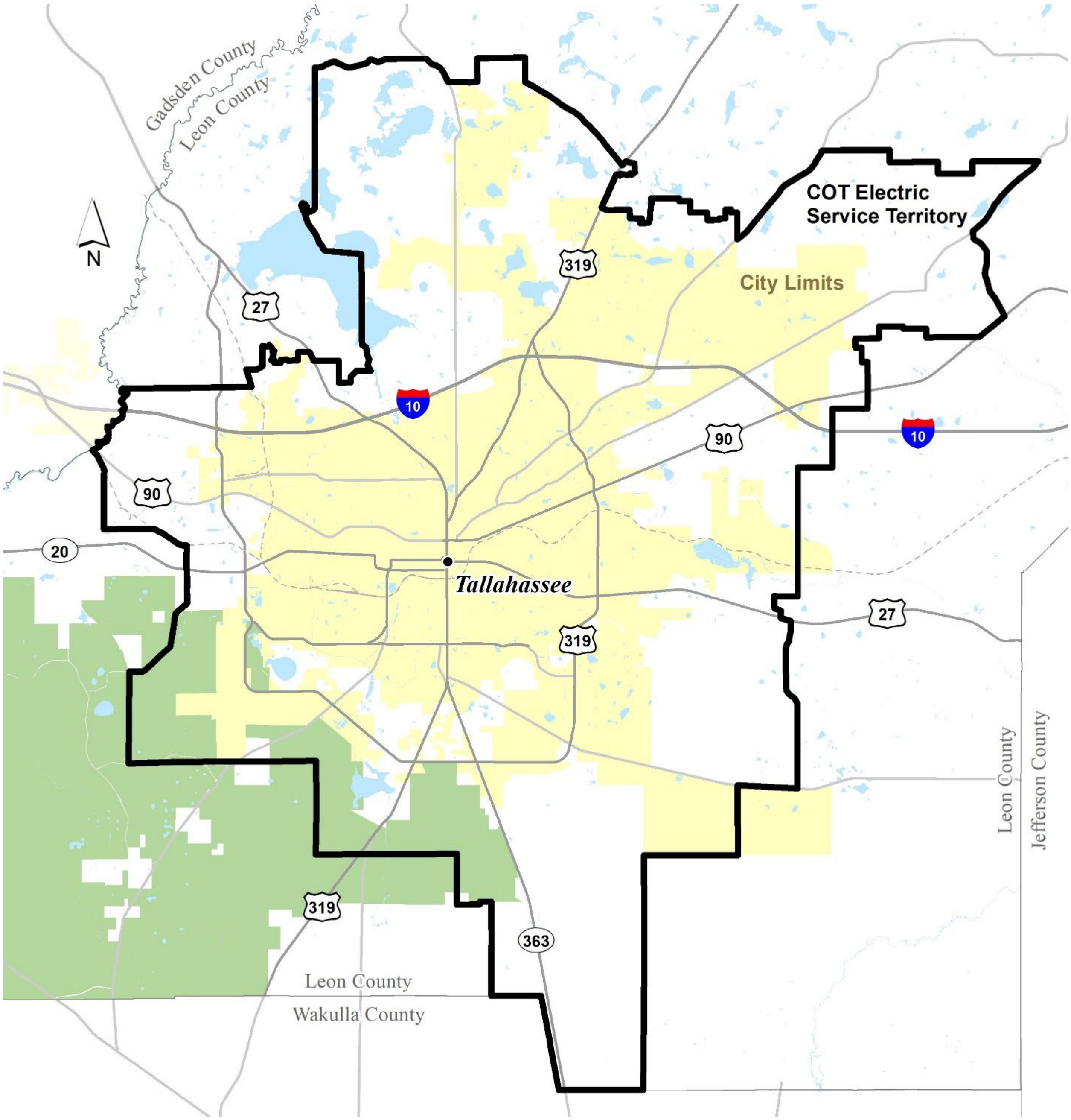
The City has no long-term firm wholesale capacity and energy purchase agreements other than its two solar farms.

On July 24, 2016, the City executed a PPA for 20 MW_{ac} of non-firm solar PV with Origis Energy USA ("Origis"), doing business as FL Solar 1, LLC (Solar Farm 1). Solar Farm 1 is located adjacent to the Tallahassee International Airport and delivers power to City-owned distribution facility. The City declared commercial operations of the project on December 13, 2017. The City also entered into a second PPA with Origis (dba FL Solar 4, LLC) for a 42 MW_{ac} non-firm solar PV facility (Solar Farm 4). Solar Farm 4 is also located adjacent to the Tallahassee International Airport and interconnected with the City-owned 230 kV transmission system. Solar Farm 4 was placed into commercial operation on December 26, 2019. Together, Solar Farms 1 and 4 are the world's largest airport-based solar facility.

Firm retail electric service is purchased from and provided by the Talquin Electric Cooperative (“Talquin”) to City customers served by the Talquin electric system. Similarly, firm retail electric service is sold to and provided by the City to Talquin customers served by the City electric system. Reciprocal service will continue to be provided to all Talquin customers currently served by the City electric system. Payments for electric service provided to and received from Talquin and the transfer of customers and electric facilities is governed by the territorial agreement between the City and Talquin.

City of Tallahassee Utilities

Electric Service Territory Map



City Of Tallahassee

Schedule 1
Existing Generating Facilities and Power Purchase Agreements
As of December 31, 2023

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	
								Alt.						
								Fuel	Commercial	Expected	Gen. Max.	Net Capability		
	Unit		Unit	Fuel		Fuel Transport		Days	In-Service	Retirement	Nameplate	Summer	Winter	
Plant	No.	Location	Type	Primary	Alternate	Primary	Alternate	Use	Month/Year	Month/Year	(kW)	(MW)	(MW)	
S. O. Purdom	8	Wakulla	CC	NG	FO2	PL	TK	[1, 2]	7/00	12/40	270,100	222.0	258.0	[5]
											Plant Total	222.0	258.0	
A. B. Hopkins	2	Leon	CC	NG	FO2	PL	TK	[2]	6/08 [3]	6/48	458,100 [4]	300.0	330.0	[5]
	GT-3		GT	NG	FO2	PL	TK	[2]	9/05	9/45	60,500	46.0	48.0	
	GT-4		GT	NG	FO2	PL	TK	[2]	11/05	11/45	60,500	46.0	48.0	
	IC-1		IC	NG	NA	PL	TK	[2]	3/19	3/49	18,800	18.5	18.5	
	IC-2		IC	NG	NA	PL	TK	[2]	2/19	2/49	18,800	18.5	18.5	
	IC-3		IC	NG	NA	PL	TK	[2]	2/19	2/49	18,800	18.5	18.5	
	IC-4		IC	NG	NA	PL	TK	[2]	2/19	2/49	18,800	18.5	18.5	
	IC-5		IC	NG	NA	PL	TK	[2]	4/20	4/50	18,800	18.5	18.5	
											Plant Total	484.50	518.5	
Substation 12	IC-1	Leon	IC	NG	NA	PL	TK	NA	10/18	10/48	9,300	9.2	9.2	
	IC-2		IC	NG	NA	PL	TK	NA	10/18	10/48	9,300	9.2	9.2	
											Plant Total	18.4	18.4	
Airport Solar	SF1	Leon	PV	Solar	NA	NA	NA	NA	12/17	12/58	20,000	4.0	0.0	
	SF4		PV	Solar	NA	NA	NA	NA	12/19	12/59	42,000	8.4	0.0	
									Total System Capacity as of December 31, 2023			**737**	**795**	

[1] Due to the Purdom facility-wide emissions caps, utilization of liquid fuel at this facility is limited.
[2] The City maintains a minimum distillate fuel oil storage capacity sufficient to operate the Purdom plant approximately 9 days and the Hopkins plant and approximately 3 days
[3] 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.
[4] Hopkins 2 nameplate rating is the sum of the combustion turbine generator (CTG) nameplate rating of 198.9 MW and steam turbine generator (STG) nameplate rating of 259.2 MW. However, in the current 1x1 combined cycle (CC) configuration with supplemental duct firing the repowered STG's maximum output is steam limited to about 150 MW.
[5] Summer and winter ratings are based on 95 ^{o}F and 29 ^{o}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 2024 and the horizon year of 2033. 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 2022-2024 period.

In 2022, the City implemented new customer management software, and the transition resulted in a lower running average of service points as some service points were consolidated or reclassified. This data anomaly most severely impacts the 2022-2023 average number of residential and commercial customers and the associated average consumption for these customer classes seen in Table 2.1. Data prior to 2022 was not reconciled to match the same counting and classification methodology as with half of 2022 and all of 2023, therefore a step change exists that does not indicate a demographic trend.

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 and its forecast consultant, nFront Consulting LLC (“nFront”). The forecast methodology consists of a combination of multi-variable regression models and other models that utilize subjective escalation assumptions and known incremental additions. All models are 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 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 transfers of certain City and 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 the number of customers by customer class, some of which in turn serve as input into their respective 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.

The seasonal peak demand forecasts are developed first by forecasting expected system load factor. Table 2.14 also shows the key explanatory variables used in developing the monthly load factor model. 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 projected monthly load factors for January and August (the typical winter and summer peak demand months, respectively) are then multiplied by 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 account for a significant percentage of the City's total annual 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 is driven by the projected growth in Leon County population. Leon County population is projected to grow from 2024-2033 at an average annual growth rate (AAGR) of 0.73%. This growth rate is below that for the state of Florida (1.07%) but is slightly higher than that for the United States (~0.71%).

Starting in the 2022 forecast the City incorporated potential increases in the penetration of electric vehicles (EV). Since an increase in EV penetration has the potential to significantly increase the NEL and peak demand requirements for the City, the 2024 forecast produced explicit estimates of the potential impact on the City's load growth related to EV adoption. Historical data obtained from the Florida Department of Motor Vehicles indicates that EV penetration in Leon County (at approximately 0.6%) is lower than for Florida overall (approximately 0.7%). And the forecast results suggest that by 2040, the incremental amount of light duty EV energy sales is estimated to be 1.3 percent of NEL on a gross of DSM basis.

The City's energy efficiency and demand-side management (DSM) programs (discussed in Section 2.1.3) have decreased the average residential and commercial demand and energy requirements and are projected to somewhat offset the increased growth from population in residential and commercial customers. Additionally, the Clean Energy Plan (discussed in this chapter and further in Chapter III), which promotes accelerated installation of distributed solar PV and heightened energy efficiency investment through 2030 is also projected to somewhat offset increased load growth from emerging electrification efforts such as electric vehicle charging. The net effect is the average consumption for residential and commercial customers may be approaching its minimum and leveling out over time (Schedule 2.1).

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 load and energy requirements have resulted in 2024 base forecasts for annual total retail sales/net energy for load and seasonal peak demand forecasts that are essentially equal to those previously projected. NEL growth rate of 0.25% year over year in the projected decade roughly matches the year over year NEL growth from the most recent historical decade.

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, and severe and mild weather sensitivity cases that address the potential variance in driving weather variables from the values assumed in the base case. The base case forecast relies on a set of assumptions about future population, economic activity and weather in Leon County. However, such projections are unlikely to exactly match actual experience.

Population and economic uncertainty tend 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 represent an 80% confidence interval, implying only a 10% chance each of being higher or lower than the resulting bounds. The high and low forecasts shown in this year’s report were developed based on varied inputs of economic and demographic variables within the forecast models by nFront to capture 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).

In order to evaluate preparedness regarding weather uncertainty, extreme and mild forecast results were developed. In total, five forecasts, base case, high, low, extreme, and mild, are considered to ensure the City's electric system is well positioned to serve all of its customers for the coming decade and into perpetuity.

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 measures to its residential and commercial customers, which are listed below:

Residential Measures	Commercial Measures
Energy Efficiency Loans	Energy Efficiency Loans
Gas New Construction Rebates	Demonstrations
Gas Appliance Conversion Rebates	Information and Energy Audits
Information and Energy Audits	Commercial Gas Conversion Rebates
Ceiling Insulation Grants	Ceiling Insulation Grants
Low Income Ceiling Insulation Grants	Solar Water Heater Rebates
Low Income HVAC/Water Heater Repair Grants	Solar PV Net Metering
Low Income Duct Leak 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
Variable Speed Pool Pump Rebates
Nights & Weekends Pricing Plan

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 recent Energy Integrated Resource Planning (IRP) Study completed in 2023 and the subsequent DSM Assessment Study (due in early 2024), potential DSM measures (conservation, energy efficiency, net-metered solar, electrification, load management, and demand response) were tested for cost-effectiveness utilizing an integrated approach that is based on projections of total achievable load and energy reductions and their associated annual costs developed specifically for the City.

The total demand savings potential for the resources identified in the 2024 DSM Assessment Study appear to compare well with that identified in the 2023 IRP Study providing some assurance that the City's ongoing and planned DSM and renewable efforts remain cost-effective. The latest projections in the TYSP reflect an accelerated outlook for DSM over the coming years guided by analysis from both studies.

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, Tables 2.7-2.9 and 2.17 reflect no expected utilization of DR/DLC 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 2022-2031. Figure B4 displays the percentage of energy by fuel type in 2024 and 2033.

The City's generation portfolio includes combustion turbine/combined cycle (CC), combustion turbine/simple cycle (CT), and reciprocating internal combustion engine (RICE or IC) generators. The City's CC and CT units are capable of generating energy using natural gas or distillate fuel oil. The RICE units utilize natural gas only. This mix of generation types coupled with the contracted solar PPAs and opportunity purchases allows the City to satisfy total energy requirements while balancing the cost of power with the environmental quality of our community. Additional renewable energy sources (solar) identified in the Clean Energy Plan are not shown in the tables.

The projections of fuel requirements and energy sources are taken from the results of computer simulations using the Hitachi ABB Power Grids Portfolio Optimization 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			
Year	Population [1]	Members Per Household	(GWh) [2]	Average No. of Customers		Average kWh Consumption Per Customer	(GWh) [2]	Average No. of Customers		Average kWh Consumption Per Customer
2014	282,471	-	1,089	97,985		11,119	1,548	18,723		82,690
2015	285,651	-	1,088	99,007		10,989	1,567	18,820		83,263
2016	288,972	-	1,080	100,003		10,801	1,559	19,002		82,065
2017	290,466	-	1,059	100,921		10,497	1,558	19,130		81,439
2018	292,700	-	1,122	102,395		10,962	1,552	19,282		80,506
2019	294,200	-	1,152	104,104		11,063	1,565	19,434		80,505
2020	293,800	-	1,149	105,829		10,857	1,432	19,649		72,886
2021	296,400	-	1,139	106,321		10,713	1,427	19,580		72,856
2022	299,130	-	1,149	107,358	[3]	10,703	1,474	19,830	[3]	74,332
2023	297,862	-	1,147	100,719	[3]	11,388	1,525	18,421	[3]	82,786
2024	304,162	-	1,148	101,427		11,318	1,521	18,821		80,814
2025	306,600	-	1,140	102,262		11,148	1,543	18,962		81,373
2026	308,720	-	1,134	103,069		11,002	1,564	19,089		81,932
2027	310,840	-	1,131	103,900		10,885	1,573	19,207		81,897
2028	312,960	-	1,129	104,739		10,779	1,579	19,321		81,725
2029	315,080	-	1,126	105,567		10,666	1,584	19,439		81,486
2030	317,200	-	1,123	106,397		10,555	1,589	19,561		81,233
2031	318,980	-	1,120	107,188		10,449	1,594	19,681		80,992
2032	320,760	-	1,119	107,946		10,366	1,599	19,797		80,770
2033	322,540	-	1,118	108,705		10,285	1,604	19,914		80,546

[1] Population data represents Leon County population.
[2] Values include DSM impacts.
[3] Methodology change in Customer Count occurred in February of 2022, also impacting 2023 customer counts.

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				Street &	Other Sales	Total Sales
		Average			Highway	to Public	to Ultimate
		No. of	Average kWh	Railroads	Lighting	Authorities	Consumers
		Customers	Consumption	and Railways	(GWh)	(GWh)	(GWh)
Year	(GWh)	[1]	Per Customer	(GWh)	[2]	[3]	[4]
2014	-	-	-		0	(7)	2,631
2015	-	-	-		0	1	2,656
2016	-	-	-		0	4	2,643
2017	-	-	-		0	17	2,634
2018	-	-	-		0	23	2,698
2019	-	-	-		0	22	2,739
2020	-	-	-		0	26	2,607
2021	-	-	-		0	25	2,590
2022	-	-	-		0	24	2,647
2023	-	-	-		0	22	2,694
2024	-	-	-		0	22	2,669
2025	-	-	-		0	22	2,683
2026	-	-	-		0	22	2,697
2027	-	-	-		0	22	2,704
2028	-	-	-		0	22	2,708
2029	-	-	-		0	22	2,710
2030	-	-	-		0	22	2,712
2031	-	-	-		0	22	2,714
2032	-	-	-		0	22	2,718
2033	-	-	-		0	22	2,722

[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] Reflects net of Talquin sales (for Talquin customers served by the City) and Talquin purchases (for City customers served by Talquin).
[4] Values include DSM impacts.

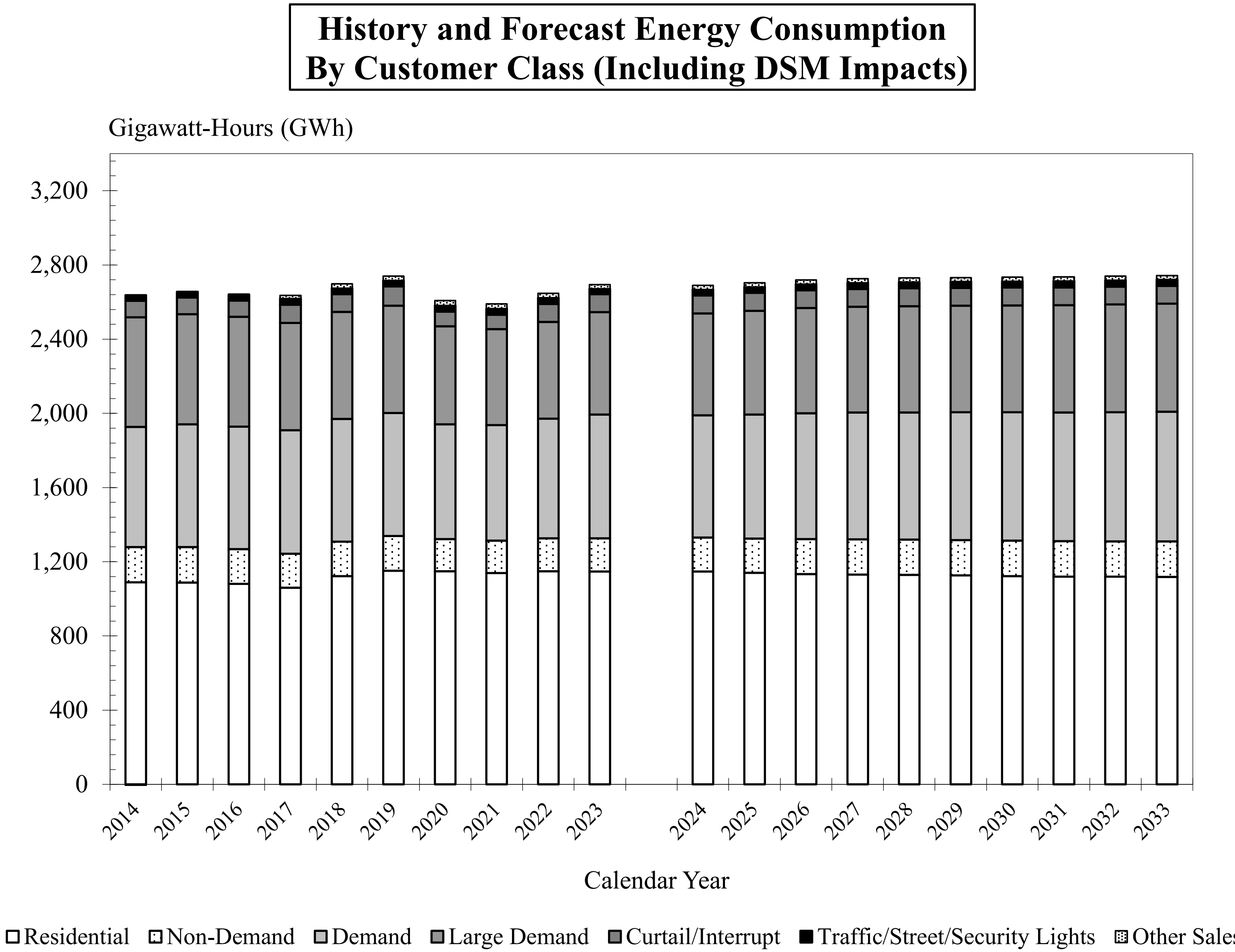
City Of Tallahassee

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

Base Load Forecast

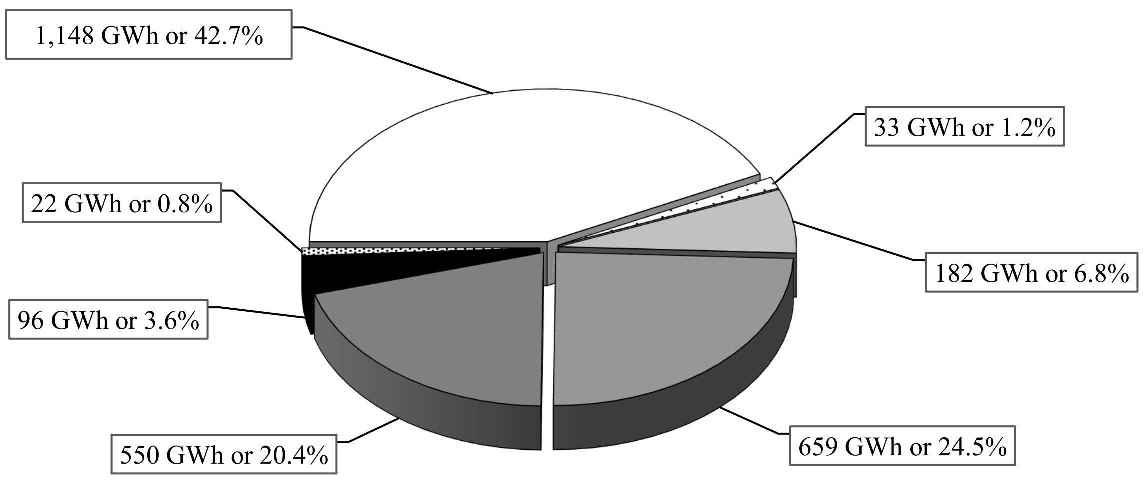
(1)	(2)	(3)	(4)	(5)	(6)
Year	Sales for Resale (GWh)	Utility Use & Losses (GWh)	Net Energy for Load (GWh) [1]	Other Customers (Average No.)	Total No. of Customers [2]
2014	0	121	2,751	0	116,708
2015	0	120	2,776	0	117,827
2016	0	135	2,779	0	119,005
2017	0	124	2,758	0	120,051
2018	0	126	2,824	0	121,677
2019	0	112	2,851	0	123,538
2020	0	120	2,727	0	125,478
2021	0	111	2,701	0	125,901
2022	0	119	2,766	0	127,188
2023	0	60	2,754	0	119,140
2024	0	116	2,807	0	120,248
2025	0	111	2,816	0	121,224
2026	0	111	2,830	0	122,158
2027	0	112	2,838	0	123,107
2028	0	117	2,847	0	124,060
2029	0	112	2,844	0	125,006
2030	0	112	2,846	0	125,958
2031	0	112	2,848	0	126,869
2032	0	118	2,858	0	127,743
2033	0	112	2,856	0	128,619

[1] Reflects NEL served by City electric system. 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
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
2026
2027
2028
2029
2030
2031
2032
2033
Calendar Year
Residential
Non-Demand
Demand
Large Demand
Curtail/Interrupt
Traffic/Street/Security Lights
Other Sales

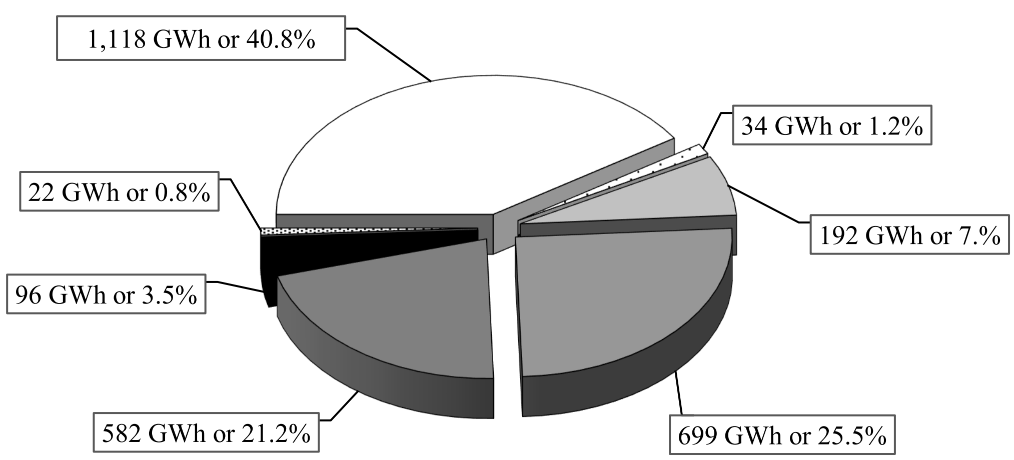
Energy Consumption By Customer Class
(Excluding DSM Impacts)

Calendar Year 2024



2024 Total Sales = 2,669 GWh

Calendar Year 2033



2033 Total Sales = 2,722 GWh

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]
2014	565		565						565
2015	600		600						600
2016	597		597						597
2017	598		598						598
2018	596		596						596
2019	616		616						616
2020	576		576						576
2021	573		573						573
2022	590		590						590
2023	616		616		0	1	0	0	615
2024	601		601		0	2	0	0	599
2025	606		606		0	4	0	0	602
2026	611		611		0	6	0	0	605
2027	613		613		0	7	0	0	606
2028	617		617		0	9	0	2	606
2029	621		621		0	11	0	4	606
2030	623		623		1	12	1	5	604
2031	627		627		2	14	3	6	602
2032	629		629		3	15	4	7	600
2033	630		630		4	15	6	7	598

[1] Values include DSM Impacts.
[2] Reduction estimated at busbar. 2023 DSM is actual at peak.
[3] 2023 values reflect incremental increase from 2022.

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]
2014	565		565						565
2015	600		600						600
2016	597		597						597
2017	598		598						598
2018	596		596						596
2019	616		616						616
2020	576		576						576
2021	573		573						573
2022	590		590						590
2023	616		616		0	1	0	0	615
2024	609		609		0	2	0	0	607
2025	622		622		0	4	0	0	618
2026	634		634		0	6	0	0	628
2027	642		642		0	7	0	0	635
2028	651		651		0	9	0	2	640
2029	660		660		0	11	0	4	645
2030	668		668		1	12	1	5	649
2031	676		676		2	14	3	6	651
2032	683		683		3	15	4	7	654
2033	689		689		4	15	6	7	657

[1] Values include DSM Impacts.
[2] Reduction estimated at busbar. 2023 DSM is actual at peak.
[3] 2023 values reflect incremental increase from 2022.

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]
2014	565		565						565
2015	600		600						600
2016	597		597						597
2017	598		598						598
2018	596		596						596
2019	616		616						616
2020	576		576						576
2021	573		573						573
2022	590		590						590
2023	616		616		0	1	0	0	615
2024	593		593		0	2	0	0	591
2025	591		591		0	4	0	0	587
2026	590		590		0	6	0	0	584
2027	587		587		0	7	0	0	580
2028	586		586		0	9	0	2	575
2029	585		585		0	11	0	4	570
2030	583		583		1	12	1	5	564
2031	582		582		2	14	3	6	557
2032	579		579		3	15	4	7	550
2033	576		576		4	15	6	7	544

[1] Values include DSM Impacts.
[2] Reduction estimated at busbar. 2023 DSM is actual at peak.
[3] 2023 values reflect incremental increase from 2022.

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]
2014 -2015	556		556						556
2015 -2016	511		511						511
2016 -2017	533		533						533
2017 -2018	621		621						621
2018 -2019	508		508						508
2019 -2020	528		528						528
2020 -2021	504		504						504
2021 -2022	538		538						538
2022 -2023	561		561						561
2023 -2024	592		592		0	1	0	0	591
2024 -2025	567		567		0	3	0	0	564
2025 -2026	572		572		0	4	0	0	568
2026 -2027	576		576		0	6	0	0	570
2027 -2028	579		579		0	7	0	0	572
2028 -2029	582		582		0	9	0	1	572
2029 -2030	584		584		0	10	0	1	573
2030 -2031	585		585		0	10	0	1	574
2031 -2032	586		586		0	11	0	1	574
2032 -2033	589		589		0	12	0	2	575
2033 -2034	593		593		0	13	0	2	578

[1] Values include DSM Impacts.
[2] Reduction estimated at busbar. 2023-2024 DSM is actual at peak.
[3] Reflects no expected utilization of demand response (DR) resources in winter.
[4] 2023-2024 values reflect incremental increase from 2022-2023.

City Of Tallahassee

Schedule 3.2.2
History and Forecast of Winter Peak Demand
High 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]
2014 -2015	556		556						556
2015 -2016	511		511						511
2016 -2017	533		533						533
2017 -2018	621		621						621
2018 -2019	508		508						508
2019 -2020	528		528						528
2020 -2021	504		504						504
2021 -2022	538		538						538
2022 -2023	561		561						561
2023 -2024	592		592		0	1	0	0	591
2024 -2025	579		579		0	3	0	0	576
2025 -2026	590		590		0	4	0	0	586
2026 -2027	600		600		0	6	0	0	594
2027 -2028	607		607		0	7	0	0	600
2028 -2029	616		616		0	9	0	1	606
2029 -2030	622		622		0	10	0	1	611
2030 -2031	627		627		0	10	0	1	616
2031 -2032	633		633		0	11	0	1	621
2032 -2033	641		641		0	12	0	2	627
2033 -2034	649		649		0	13	0	2	634

[1] Values include DSM Impacts.
[2] Reduction estimated at busbar. 2023-2024 DSM is actual at peak.
[3] Reflects no expected utilization of demand response (DR) resources in winter.
[4] 2023-2024 values reflect incremental increase from 2022-2023.

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]
2014 -2015	556		556						556
2015 -2016	511		511						511
2016 -2017	533		533						533
2017 -2018	621		621						621
2018 -2019	508		508						508
2019 -2020	528		528						528
2020 -2021	504		504						504
2021 -2022	538		538						538
2022 -2023	561		561						561
2023 -2024	592		592		0	1	0	0	591
2024 -2025	556		556		0	3	0	0	553
2025 -2026	555		555		0	4	0	0	551
2026 -2027	554		554		0	6	0	0	548
2027 -2028	551		551		0	7	0	0	544
2028 -2029	551		551		0	9	0	1	541
2029 -2030	548		548		0	10	0	1	537
2030 -2031	545		545		0	10	0	1	534
2031 -2032	542		542		0	11	0	1	530
2032 -2033	541		541		0	12	0	2	527
2033 -2034	541		541		0	13	0	2	526

[1] Values include DSM Impacts.
[2] Reduction estimated at busbar. 2023-2024 DSM is actual at peak.
[3] Reflects no expected utilization of demand response (DR) resources in winter.
[4] 2023-2024 values reflect incremental increase from 2022-2023.

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 [1]	Comm./Ind Conservation [1]	Retail Sales [2], [3]	Wholesale [4]	Utility Use & Losses	Net Energy for Load [3], [5]	Load Factor % [3]
2014	2,638			2,638	(7)	121	2,752	55
2015	2,655			2,655	1	120	2,776	53
2016	2,640			2,640	4	135	2,779	53
2017	2,617			2,617	17	124	2,758	53
2018	2,675			2,675	23	126	2,824	54
2019	2,716			2,716	22	112	2,851	53
2020	2,581			2,581	26	120	2,727	54
2021	2,566			2,566	25	111	2,702	54
2022	2,623			2,623	24	119	2,766	53
2023	2,676	4	0	2,672	22	60	2,754	51
2024	2,675	6	0	2,669	22	116	2,807	53
2025	2,697	14	0	2,683	22	111	2,816	53
2026	2,720	23	0	2,697	22	111	2,830	53
2027	2,736	32	0	2,704	22	112	2,838	53
2028	2,749	33	8	2,708	22	117	2,847	54
2029	2,759	33	16	2,710	22	112	2,844	54
2030	2,770	38	20	2,712	22	112	2,846	54
2031	2,781	43	24	2,714	22	112	2,848	54
2032	2,794	48	28	2,718	22	118	2,858	54
2033	2,807	57	28	2,722	22	112	2,856	55

[1] Reduction estimated at customer meter. 2023 DSM is actual incremental increase from 2022.
[2] History is total sales to City customers. Forecast is sales served by City electric system.
[3] Values include DSM Impacts.
[4] Reflects net of Talquin sales (for Talquin customers served by the City) and Talquin purchases (for City customers served by Talquin).
[5] Reflects NEL served by City electric system.

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 [1]	Comm./Ind Conservation [1]	Retail Sales [2], [3]	Wholesale [4]	Utility Use & Losses	Net Energy for Load [3], [5]	Load Factor % [3]
2014	2,638			2638	-7	121	2,752	55
2015	2,655			2655	1	120	2,776	53
2016	2,640			2640	4	135	2,779	53
2017	2,617			2617	17	124	2,758	53
2018	2,675			2675	23	126	2,824	54
2019	2,716			2716	22	112	2,851	53
2020	2,581			2581	26	120	2,727	54
2021	2,566			2566	25	111	2,702	54
2022	2,623			2623	24	119	2,766	53
2023	2,676	4	0	2672	22	60	2,754	51
2024	2,727	6	0	2,721	25	126	2,872	54
2025	2,790	14	0	2,776	25	132	2,933	54
2026	2,842	23	0	2,819	25	128	2,973	54
2027	2,884	32	0	2,852	25	130	3,008	54
2028	2,922	33	8	2,881	25	132	3,039	54
2029	2,955	33	16	2,906	25	140	3,072	54
2030	2,990	38	20	2,932	25	136	3,093	54
2031	3,024	43	24	2,957	25	138	3,120	55
2032	3,060	48	28	2,984	25	139	3,149	55
2033	3,094	57	28	3,009	25	148	3,182	55

[1] Reduction estimated at customer meter. 2023 DSM is actual incremental increase from 2022.
[2] History is total sales to City customers. Forecast is sales served by City electric system.
[3] Values include DSM Impacts.
[4] Reflects net of Talquin sales (for Talquin customers served by the City) and Talquin purchases (for City customers served by Talquin).
[5] Reflects NEL served by City electric system.

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 [1]	(4) Comm./Ind Conservation [1]	(5) Retail Sales [2], [3]	(6) Wholesale [4]	(7) Utility Use & Losses	(8) Net Energy for Load [3], [5]	(9) Load Factor % [3]
2014	2,638			2638	-7	121	2,752	55
2015	2,655			2655	1	120	2,776	53
2016	2,640			2640	4	135	2,779	53
2017	2,617			2617	17	124	2,758	53
2018	2,675			2675	23	126	2,824	54
2019	2,716			2716	22	112	2,851	53
2020	2,581			2581	26	120	2,727	54
2021	2,566			2566	25	111	2,702	54
2022	2,623			2623	24	119	2,766	53
2023	2,676	4	0	2672	22	60	2,754	51
2024	2,668	6	0	2,662	25	123	2,809	54
2025	2,653	14	0	2,639	25	124	2,788	54
2026	2,650	23	0	2,627	25	118	2,770	54
2027	2,642	32	0	2,610	25	118	2,753	54
2028	2,633	33	8	2,592	25	118	2,734	54
2029	2,622	33	16	2,573	25	123	2,720	54
2030	2,612	38	20	2,554	25	117	2,696	54
2031	2,604	43	24	2,537	25	117	2,678	55
2032	2,597	48	28	2,521	25	116	2,662	55
2033	2,590	57	28	2,505	25	121	2,651	56

[1] Reduction estimated at customer meter. 2023 DSM is actual incremental increase from 2022.
[2] History is total sales to City customers. Forecast is sales served by City electric system.
[3] Values include DSM Impacts.
[4] Reflects net of Talquin sales (for Talquin customers served by the City) and Talquin purchases (for City customers served by Talquin).
[5] Reflects NEL served by City electric system.

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)
	2023 Actual		**2024 Forecast [1][2][3]**		**2025 Forecast [1]**	
Month	Peak Demand (MW)	NEL (GWh)	Peak Demand (MW)	NEL (GWh)	Peak Demand (MW)	NEL (GWh)
January	462	212	561	228	564	229
February	399	187	488	204	493	199
March	437	205	440	200	443	201
April	432	196	444	206	447	207
May	491	224	522	240	525	241
June	580	255	569	262	572	263
July	581	291	589	284	593	285
August	616	311	599	285	602	287
September	547	256	560	259	564	261
October	454	215	480	223	483	224
November	459	191	450	200	454	202
December	442	210	474	215	478	217
TOTAL		2,753		2,807		2,816

[1] Peak Demand and NEL include DSM Impacts.
[2] Represents forecast values for 2024.
[3] Rounding may show +/- 1 GWh Total

City of Tallahassee, Florida

2024 Electric System Load Forecast

Key Explanatory Variables

	Forecast Model								
Explanatory Variable	RS Customers	RS Consumption	GSND Customers	GSND Consumption	GSD Customers	GSD Consumption	GSLD Consumption	System Losses	Monthly Load Factor [3]
Leon County Population	X			X	X	X			
Leon County Personal Income			X				X		
Leon County Gross Product									
Leon County Non-Store Sales				X			X		
Tallahassee MSA Taxable Sales				X					
Tallahassee MSA Per Capita Taxable Sales		X							
Residential Customers		X							
Florida Mortgage Originations	X								
Florida Home Vacancies	X								
US Personal Spending			X				X		
Energy Efficiency Standards		X							
Price of Electricity		X							
Leon County Residential Location Prevalence		X							
Leon County Commercial Location Prevalence				X		X	X		X
Cooling Degree Days [1]		X		X		X	X	X	X
Heating Degree Days [1]		X		X				X	X
Prior Month Cooling Degree Days [1]								X	
Prior Month Heating Degree Days [1]								X	
Winter Peak and Prior Day HDD [1]									X
Summer Peak and Prior Day HDD [1]									X
Adjusted R-Squared [2]	0.999	0.928	0.981	0.915	0.946	0.937	0.840	0.859	0.695

[1] The base from which monthly heating and cooling degree days (HDD/CDD, respectively) are computed is 65 degrees Fahrenheit (dF). Peak day HDD and CDD reflect differing bases. For winter peak HDD the base is 55 degrees Fahrenheit (^{o}F); for summer peak CDD the base is 70^{o}F.

[2] R-Squared, sometimes called the coefficient of determination, is a commonly used measure of goodness of fit of a linear model. If all 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. Adjusted R-Squared reflects a downward adjustment to penalize R-squared for the addition of regressors that do not contribute to the explanatory power of the model.

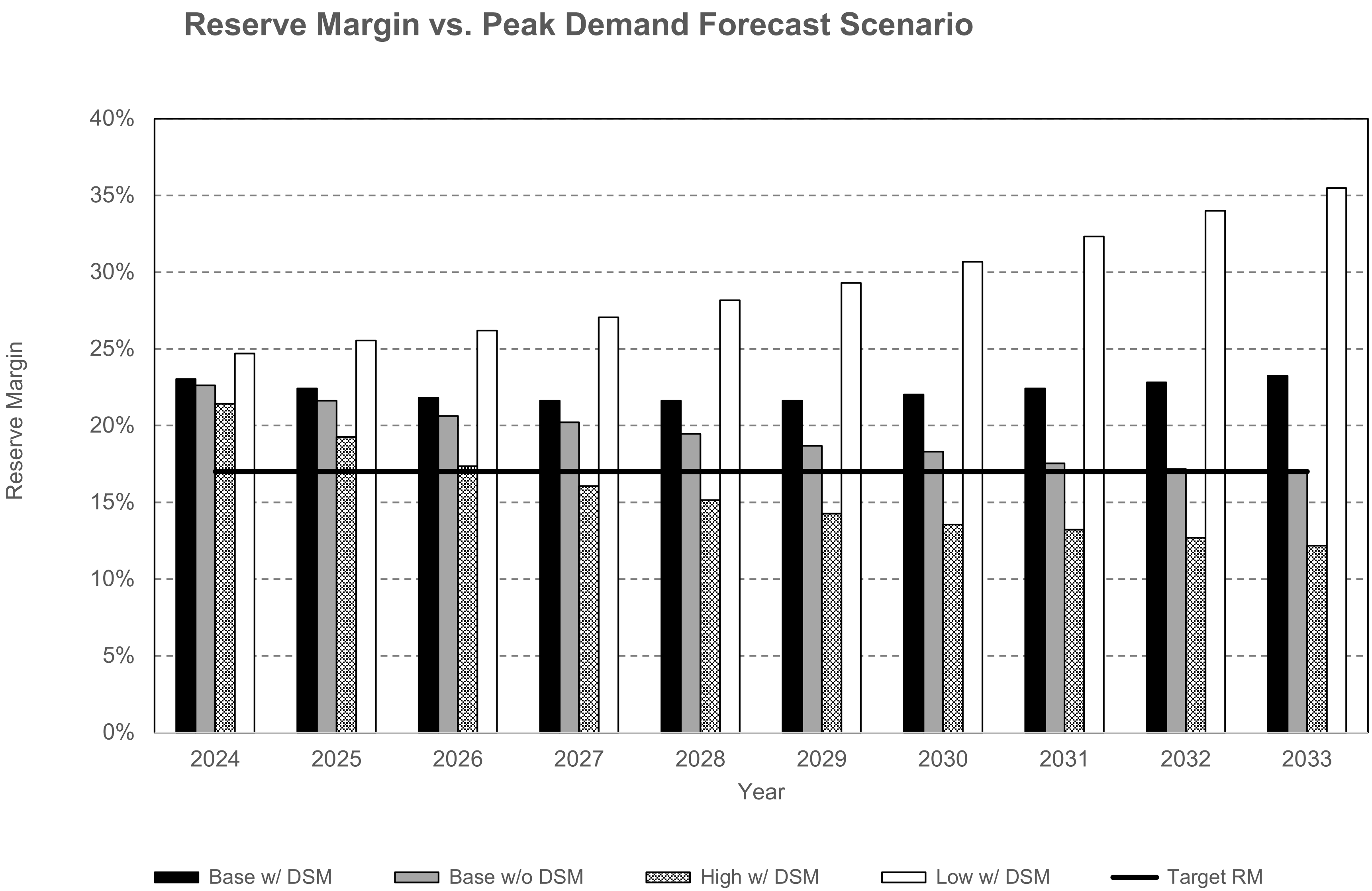
[3] As monthly load factor is essentially a stationary series, indicators of goodness of fit should be viewed differently. In combination with estimates of NEL, forecasted peak demands from this equation will have far better fit than the adjusted R-Squared here indicates. The equation also includes daytype variables.

City of Tallahassee

2024 Electric System Load Forecast

Sources of Forecast Model Input Information

Energy Model Input Data	Source
Leon County Population	Bureau of Economic and Business Research Woods and Poole Economics
Leon County Personal Income	Woods and Poole Economics
Leon County Gross Product	Woods and Poole Economics
Leon County Non-Store Sales	Woods and Poole Economics
Cooling Degree Days	NOAA
Heating Degree Days	NOAA
AC Saturation Rate	Appliance Saturation Study; EIA
Heating Saturation Rate	Appliance Saturation Study; EIA
Real Tallahassee Taxable Sales	Florida Department of Revenue, CPI Woods and Poole Economics
Real Tallahassee Taxable Sales Per Capita	Florida Department of Revenue, CPI Woods and Poole Economics
Florida Population	Bureau of Economic and Business Research Woods and Poole Economics
Florida Home Vacancy Rate	U.S. Bureau of the Census
Florida Mortgage Originations	IHS Global Insight (now IHS Markit)
U.S. Personal Spending Rate	U.S. Bureau of Economic Analysis
State Capitol Incremental	Department of Management Services
FSU Incremental Additions	FSU Planning Department
FAMU Incremental Additions	FAMU Planning Department
GSLD Incremental Additions	City Utility Services
Other Commercial Customers	City Utility Services
Tall. Memorial Curtailable	City Utility Services
System Peak Historical Data	City System Planning
Historical Customer Projections by Class	City Utility Services
Historical Customer Class Energy	City Utility Services
Interruptible, Traffic Light Sales, & Security Light Additions	City Utility Services
Residential/Commercial Real Price of Electricity	Calculated from Revenues, kWh sold, CPI 2022 Annual Energy Outlook
Leon County Residential Location Prevalence	Published by Google
Leon County Commercial Location Prevalence	Published by Google



Reserve Margin vs. Peak Demand Forecast Scenario
40%
35%
30%
25%
20%
15%
10%
5%
0%
Reserve Margin
2024
2025
2026
2027
2028
2029
2030
2031
2032
2033
Year
Base w/ DSM
Base w/o DSM
High w/ DSM
Low w/ DSM
Target RM

City Of Tallahassee

2024 Electric System Load Forecast

Projected Demand Side Management Energy Reductions [1]

Calendar Year	Residential Impact (MWh)	Commercial Impact (MWh)	Total Impact (MWh)
2024	4,504	1,023	5,527
2025	9,055	5,023	14,078
2026	14,197	8,517	22,714
2027	19,479	12,135	31,614
2028	24,953	15,564	40,517
2029	30,524	18,906	49,430
2030	36,058	22,284	58,342
2031	41,644	25,602	67,246
2032	47,448	28,697	76,145
2033	53,581	31,455	85,036

[1] Reductions estimated at generator busbar.

City Of Tallahassee

2024 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)
2024	2024-2025	1	1	0	0	0	0	0	0	1	1
2025	2025-2026	2	2	0	0	0	0	0	0	2	2
2026	2026-2027	5	4	0	0	0	0	0	0	5	4
2027	2027-2028	7	7	0	0	0	0	0	0	7	7
2028	2028-2029	9	9	2	1	0	0	0	0	11	10
2029	2029-2030	10	9	3	1	0	0	0	0	13	10
2030	2030-2031	12	10	4	2	1	0	1	0	18	12
2031	2031-2032	14	12	5	2	2	0	3	0	24	14
2032	2032-2033	15	13	6	3	3	0	4	0	28	16
2033	2033-2034	17	14	7	4	4	0	5	0	33	18

[1] Reductions estimated at busbar.

[2] Reflects no expected utilization of demand response (DR) resources in winter.

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 2022	Actual 2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
(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	0	0	0	0	0	0	0	0	0	0	0	0
(4)		Steam	1000 BBL	0	0	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	3	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	0	0	0	0	0	0	0	0	0	0	0	0
(11)		CT	1000 BBL	3	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	22,529	22,934	23,099	22,863	22,805	23,439	23,164	22,921	23,485	23,155	23,029	23,609
(14)		Steam	1000 MCF	0	0	0	0	0	0	0	0	0	0	0	0
(15)		CC	1000 MCF	20,666	20,915	21,251	21,034	20,981	21,564	21,311	21,087	21,606	21,303	21,187	21,720
(16)		CT	1000 MCF	1,863	2,019	1,848	1,829	1,824	1,875	1,853	1,834	1,879	1,852	1,842	1,889
(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 2022	Actual 2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
(1)	Annual Firm Interchange		GWh	0	0	0	0	0	0	0	0	0	0	0	0
(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	0	0	0	0	0	0	0	0	0	0	0	0
(5)		Steam	GWh	0	0	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	1	2	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	1	2	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	2,919	3,053	2,712	2,726	2,745	2,756	2,766	2,761	2,762	2,766	2,776	2,780
(15)		Steam	GWh	0	0	0	0	0	0	0	0	0	0	0	0
(16)		CC	GWh	2,705	2,839	2,522	2,535	2,553	2,563	2,572	2,568	2,569	2,572	2,582	2,585
(17)		CT	GWh	214	214	190	191	192	193	194	193	193	194	194	195
(18)		Diesel	GWh	0	0	0	0	0	0	0	0	0	0	0	0
(19)	Hydro		GWh	0	0	0	0	0	0	0	0	0	0	0	0
(20)	Economy Interchange[1]		GWh	(269)	(409)	(21)	(26)	(29)	(33)	(32)	(31)	(29)	(30)	(30)	(35)
(21)	Renewables		GWh	114	107	116	116	115	115	114	114	113	112	112	111
(22)	Net Energy for Load		GWh	2,765	2,753	2,807	2,816	2,831	2,838	2,848	2,844	2,846	2,848	2,858	2,856

[1] Negative values reflect power sales to address generator minimum load thresholds.

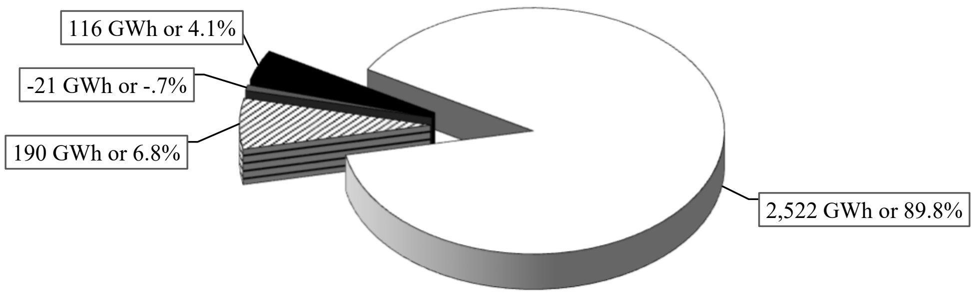
City Of Tallahassee

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 2022	Actual 2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
(1)	Annual Firm Interchange		%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(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	%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(5)		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
(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	%	0.0	0.1	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	%	0.0	0.1	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	%	105.6	110.9	96.6	96.8	97.0	97.1	97.1	97.1	97.0	97.1	97.1	97.3
(15)		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
(16)		CC	%	97.8	103.1	89.8	90.0	90.2	90.3	90.3	90.3	90.3	90.3	90.3	90.5
(17)		CT	%	7.7	7.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8
(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		%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
(20)	Economy Interchange		%	(9.7)	(14.9)	(0.7)	(0.9)	(1.0)	(1.2)	(1.1)	(1.1)	(1.0)	(1.1)	(1.0)	(1.2)
(21)	Renewables		%	4.1	3.9	4.1	4.1	4.1	4.1	4.0	4.0	4.0	3.9	3.9	3.9
(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

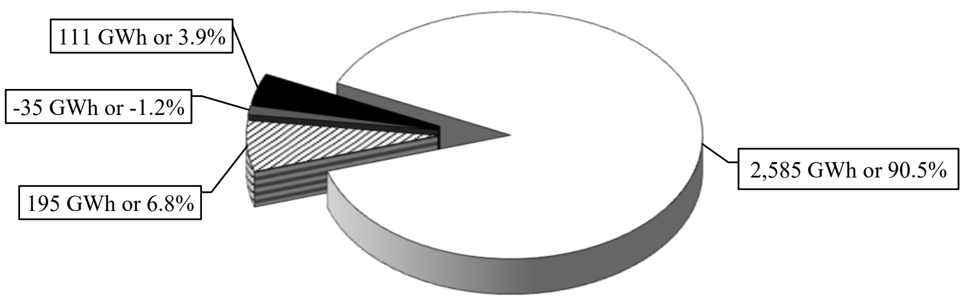
Generation By Resource/Fuel Type

Calendar Year 2024



2024 Total NEL = 2,807 GWh

Calendar Year 2033



2033 Total NEL = 2,856 GWh

CC-Gas | CT/Diesel-Gas | Net Interchange | Renewables

Chapter III

Projected Facility Requirements

3.1 PLANNING PROCESS

The City periodically reviews future DSM and power supply options that are consistent with the City's policy objectives, including the City's Clean Energy Plan (CEP) published in 2023. Included in these reviews are analyses of how the DSM and power supply alternatives perform under base and alternative assumptions. Revisions to the City's resource plan will be discussed in this chapter.

3.2 PROJECTED RESOURCE REQUIREMENTS

3.2.1 TRANSMISSION LIMITATIONS

The City's projected transmission import and export capability continues to be a major determinant of the type and timing of future power supply resource additions. The City's internal transmission studies have reflected a gradual deterioration of the system's transmission import and export capability into the future, due to the expected configuration and use, both scheduled and unscheduled, of the City's transmission system and the surrounding regional transmission system. The City has worked with its neighboring utilities, Duke 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, and sufficient export capability to allow for the sale of incidental and/or economic excess local generation.

The prospects for significant expansion of the regional transmission system around Tallahassee hinge on the City's ongoing discussions with Duke and Southern, the Florida Reliability Coordinating Council's (FRCC) regional transmission planning process, and the evolving set of mandatory reliability standards issued by the North American Electric Reliability Corporation (NERC). However, no substantive improvements to the City's transmission import/export capability are expected absent the City's prospective purchase of firm transmission service. In consideration of the City's limited transmission import capability internal analysis of options tend to favor local power supply alternatives as the means to satisfy future power supply requirements.

3.2.2 Reserve Requirements

For the purposes of this year's TYSP report the City uses a load reserve margin of 17% as its resource adequacy criterion. 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 probabilistic resource adequacy assessments to determine if conditions warrant a change to its resource adequacy criteria. The results of more recent analyses suggest that reserve margin may no longer be suitable as the City's sole resource adequacy criterion. This issue is discussed further in Section 3.2.4.

3.2.3 Recent and Near Term Resource Changes

Expected future resource additions are discussed in Section 3.2.6, "Future Power Supply Resources".

In 2018, the City placed two 9.2 MW (net) Wartsila natural gas-fired RICE generators into commercial operations at its Substation 12. This substation has a single transmission feed. The addition of this generation at the substation allows for back-up of critical community loads served from Substation 12 as well as provide additional generation resources to the system. Also in 2018, the City completed construction of four 18.5 MW (net) Wartsila natural gas-fired RICE generators located at its Hopkins Generating Station. Three of these units were placed into commercial operations in February 2019 and the fourth in March 2019. A fifth 18.5 MW RICE unit was placed into commercial operations in April 2020.

The RICE generators provide additional benefits including but not necessarily limited to:

- Multiple RICE generators provide greater dispatch flexibility.
- Additional RICE generators can be installed at either the City's Hopkins plant or Purdom plant.
- The RICE generators are more efficient than the units that were retired providing significant potential fuel savings.

- The RICE generators can be started and reach full load within 5-10 minutes. In addition, their output level can be changed very rapidly. This, coupled with the number and size of each unit, makes them excellent for responding to the changes in output from intermittent resources such as solar energy systems.
- The CO_2 emissions from the RICE generators are much lower than the units that have been retired.

3.2.4 POWER SUPPLY DIVERSITY

Resource diversity, and particularly fuel diversity, has long been a priority concern for the City because of the system's heavy reliance on natural gas as its primary fuel source. This issue has received even greater emphasis due to historical and current volatility in natural gas prices. The City has addressed this concern in part by implementing an Energy Risk Management (ERM) program to limit the City's exposure to energy price fluctuations. The ERM program established an organizational structure of interdepartmental committees and working groups and included the adoption of an Energy Risk Management Policy. This policy 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.

Other important considerations in the City's planning process are the diversity of power supply resources in terms of their number, sizes and expected duty cycles as well as expected transmission import capabilities. To satisfy expected electric system requirements the City currently assesses the adequacy of its power supply resources versus the 17% load reserve margin criterion. But the evaluation of reserve margin is made only for the annual electric system peak demand and assuming all power supply resources are available. Resource adequacy is also evaluated during other times of the year to determine if the City is maintaining the appropriate amount and mix of power supply resources. Further, consideration is given to the adequacy of resources' ability to provide ancillary services (voltage control, frequency response, regulating/operating/contingency reserves, etc.). Because of the high variability of load requirements at the National High Magnetic Field Laboratory (NHMFL) and the increasing penetration of intermittent, utility-scale solar PV projects, ensuring ancillary service adequacy is becoming increasingly important.

Variability of load and fuel diversity concerns both suggest battery energy storage systems (BESS) to be a viable planning resource. The City anticipates the addition of BESS within the 10-yr planning horizon, which among other things will contribute to net summer peak capability and therefore reserve margin.

The City's power supply primarily 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). The City has evaluated supplemental probabilistic metrics to its current load reserve margin criterion that may better balance resource and ancillary service adequacy with utility and customer costs. The results of this evaluation indicate that there are risks of potential load and resource misalignment during periods other than at the time of the system peak demand. Occasionally, overnight and mid-morning loads are too low for both combined cycle generators to remain on, while the daily peak exceeds what a single unit can provide. Therefore, the City takes this additional issue into consideration.

Purchase contracts could provide some of the diversity desired in the City's power supply resource portfolio. The City has evaluated both short and long-term purchased power options based on conventional sources as well as power offers based on renewable resources. The potential reliability and economic benefits of prospectively increasing the City's transmission import (and export) capabilities has also been evaluated. These evaluations indicate the potential for some electric reliability improvement resulting from the addition of facilities to achieve more transmission import capability. However, the Florida market reflects, as with the City's generation fleet, natural gas-fired generation on the margin most of the time. Therefore, the cost of increasing the City's transmission import capability would not likely be offset by the potential economic benefit from increased power purchase/sale opportunities.

As an additional strategy to address the City's load and resource misalignment, planning staff investigated options for a significantly enhanced DSM portfolio to include an increase in load shifting or load shaping programs. However, as these programs rely on enrolling and sustaining significant customer participation, they may not suffice by themselves. Dispatchable battery energy storage is being evaluated to provide load shaping services for the overnight low load condition as well as peak day contribution in an N-1 event.

3.2.5 RENEWABLE RESOURCES

The City believes that offering clean, renewable energy 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. The City continues to seek suitable projects that utilize the renewable fuels available within the Florida Big Bend and panhandle regions.

As stated in Section 1.1, the City receives power from two solar farms under PPAs, the 20MW Solar Farm 1, and the 42MW Solar Farm 4, both located at the Tallahassee International Airport. One of the potential negatives of having both projects located adjacent to each other is lack of geographic diversity – with the potential that both systems will experience cloud cover at the same time. The intermittent nature of solar PV coupled with the high variability of FSU's National High Magnetic Field Laboratory load could at times present challenges to the provision of sufficient regulating reserves. The City will continue to monitor the proliferation of PV and other intermittent resources and work to integrate them so that service reliability is not jeopardized. Reciprocating engine generators were commissioned in 2019 and 2020 to help mitigate the intermittency while contributing to the ongoing modernization of the City's generation fleet and providing summer peak capacity.

The City commissioned a study to determine the impacts of additional utility-scale renewable resources being added to the City's system. The study was completed in 2019 and determined that the maximum expected intermittent resource penetration the system can handle without adversely impacting the reliability of the system from both a bulk power and distribution perspective to be 60 MW_{ac}. In addition, the study identified potential system modifications that may be available to increase the amount of intermittent resources that can be reliably added to the system. With the determined maximum amount of intermittent resources already installed on the system, the focus of the City will be on implementing battery energy storage to mitigate risks of current and near future expansions in the City's portfolio of solar PV. On August 23, 2023, the City Commission adopted a Clean Energy Plan (CEP) to transition the community to 100% net, clean, renewable energy in both buildings and transportation. The CEP reflects the City's continued commitment to sustainability and established a number of interim goals, including adding 120-200 MWs of renewable supply capacity by 2030, along with increased DSM and electrification efforts throughout the community. Other notable goals include:

- All City facilities to be 100% renewable no later than 2035.
- All City main line buses to be 100% electric no later than 2035.
- All City light duty vehicles to be 100% electric no later than 2035.
- All City medium and heavy duty vehicles converted to 100% electric as technology allows.

As of the end of calendar year 2023 the City has a portfolio of 223 kW_{ac} of solar PV and a cumulative total of 13MW_{ac} of solar PV has been installed by customers. The City's Solar PV Net Metering program promotes customer investment in renewable energy generation by allowing residential and commercial customers to return excess generated power to the City at the full retail value.

3.2.6 FUTURE POWER SUPPLY RESOURCES

The City's 2024 Ten Year Site Plan identifies that no additional power supply resources will be needed to meet forecasted capacity and reserve needs through the 2033 horizon year; however, the City will continue to consider the addition of renewable supply resources to offset fossil fuel use consistent with its 2023 Clean Energy Plan goals.

The suitability of this resource plan is dependent on the performance of the City's DSM portfolio (described in Section 2.1.3 of this report) and the City's projected transmission import capability. 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 identified no planned capacity changes for the sole sake of meeting forecasted capacity and reserve needs through 2033 on Table 3.3 (Schedule 8). All existing 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 for the period from 2024 through 2033.

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 [2]	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
2024	725	0	0	12	737	599	138	23	0	138	23
2025	725	0	0	12	737	602	135	22	0	135	22
2026	725	0	0	12	737	605	132	22	0	132	22
2027	725	0	0	12	737	606	131	22	0	131	22
2028	725	0	0	12	737	606	131	22	0	131	22
2029	725	0	0	12	737	606	131	22	0	131	22
2030	725	0	0	12	737	604	133	22	0	133	22
2031	725	0	0	12	737	602	135	22	0	135	22
2032	725	0	0	12	737	600	137	23	0	137	23
2033	725	0	0	12	737	598	139	23	0	139	23

[1] All installed and firm import capacity changes are identified in the proposed generation expansion plan (Table 3.4).
[2] Approximately 20% of Solar Farms 1 and 4 combined rated AC summer capacity.

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	QF	Total Capacity Available	System Firm Winter 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
2024/25	795	0	0	0	795	564	231	41	0	231	41
2025/26	795	0	0	0	795	568	227	40	0	227	40
2026/27	795	0	0	0	795	570	225	39	0	225	39
2027/28	795	0	0	0	795	572	223	39	0	223	39
2028/29	795	0	0	0	795	572	223	39	0	223	39
2029/30	795	0	0	0	795	573	222	39	0	222	39
2030/31	795	0	0	0	795	574	221	39	0	221	39
2031/32	795	0	0	0	795	574	221	39	0	221	39
2032/33	795	0	0	0	795	575	220	38	0	220	38
2033/34	795	0	0	0	795	578	217	38	0	217	38

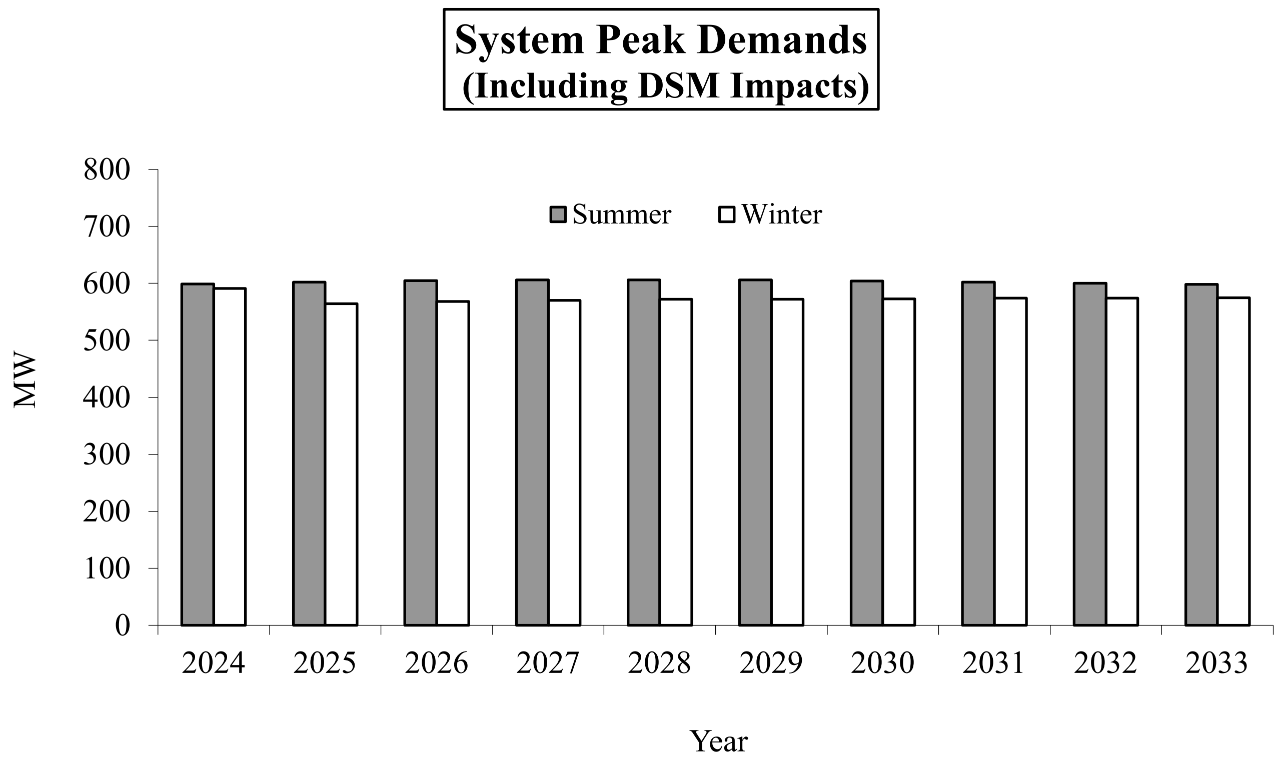
[1] All installed and firm import capacity changes are identified in the proposed generation expansion plan (Table 3.4).

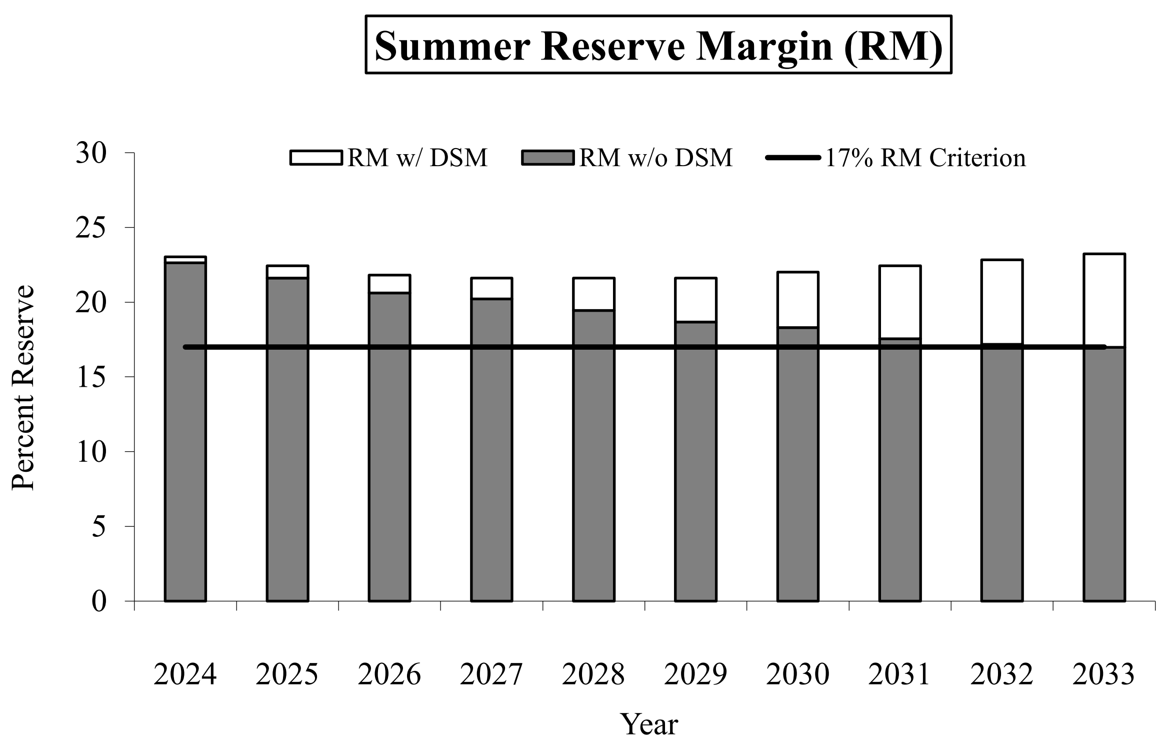
City Of Tallahassee

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 [1]		
	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

No Planned and Prospective Generating Facility Additions and Changes


System Peak Demands
(Including DSM Impacts)
Summer
Winter
MW
800
700
600
500
400
300
200
100
0
2024
2025
2026
2027
2028
2029
2030
2031
2032
2033
Year


Summer Reserve Margin (RM)
RM w/ DSM
RM w/o DSM
17% RM Criterion
Percent Reserve
30
25
20
15
10
5
0
2024
2025
2026
2027
2028
2029
2030
2031
2032
2033
Year

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 (MW)	Firm Exports (MW)	Resource Additions (Cumulative) (MW)	Total Capacity (MW)	Res %
2024	601	1	599	737	0	0	0	737	23
2025	606	2	602	737	0	0	0	737	22
2026	611	5	605	737	0	0	0	737	22
2027	613	7	606	737	0	0	0	737	22
2028	617	11	606	737	0	0	0	737	22
2029	621	13	606	737	0	0	0	737	22
2030	623	18	604	737	0	0	0	737	22
2031	627	24	602	737	0	0	0	737	22
2032	629	28	600	737	0	0	0	737	23
2033	630	33	598	737	0	0	0	737	23

[1] Demand Side Management includes energy efficiency and demand response/control measures.

Chapter IV

Proposed Plant Sites and Transmission Lines

4.1 PROPOSED PLANT SITE

As discussed in Chapter 3, the City has determined that no power supply resource additions are required to meet system needs in the 2024-2033 planning period. The timing, site, type and size of any additional power supply resource requirements may vary as the nature of future needs become better defined, including the renewable energy needs identified in the 2023 Clean Energy Plan.

4.2 TRANSMISSION LINE ADDITIONS/UPGRADES

As discussed in Section 3.2, the City has been working with its neighboring utilities, Duke 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 by the expected configuration and use, both scheduled and unscheduled, of facilities in the panhandle region as well as in the City's transmission system. The City is committed to continue to work with Duke 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 have indicated that additional infrastructure projects may be needed to address improvements in capability to deliver power from the Purdom Plant to the load center under certain contingencies.

The City's current transmission expansion plan includes a 115 kV line reconductoring to ensure continued reliable service through this Ten Year Site Plan reporting period consistent with current and anticipated FERC and NERC requirements. Table 4.2 summarizes this proposed improvement identified in the City's transmission planning study.

The City's budget planning cycle for FY 2025 is currently ongoing, and any revisions to project budgets in the electric utility will not be finalized until the summer of 2024. If any planned improvements do not remain on schedule the City will prepare operating solutions to mitigate adverse system conditions that might occur as a result of the delay in the in-service date of these improvements.

Schedule 9
Status Report and Specifications of Proposed Generating Facilities

(1)	Plant Name and Unit Number:	No Proposed Generating Facilities
(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 (FOF): 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:	

City Of Tallahassee

Planned Transmission Projects, 2024-2033

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)
Reconductor / Rebuild	Line 20A	Sub 7	7507	Sub 16	7516	12/2025	115	3.03
Reconductor / Rebuild	Line 20B	Sub 16	7516	Bradfordville W (DEF)	3105	12/2025	115	3.08
Reconductor / Rebuild	Line 5	Hopkins Plant (115 KV)	7550	Sub 3	7503	12/2026	115	6.7
Reconductor / Rebuild	Line 6A	Hopkins Plant (115 KV)	7550	Sub 23	7523	12/2026	115	3.49

Figure D-1 – Hopkins Plant Site

Figure D-2 – Purdom Plant Site