

Attorneys and Counselors at Law 123 South Calhoun Street P.O. Box 391 32302 Tallahassee, FL 32301

P: (850) 224-9115 F: (850) 222-7560

ausley.com

May 1, 2025

## VIA: ELECTRONIC FILING

Mr. Adam J. Teitzman Commission Clerk Florida Public Service Commission 2540 Shumard Oak Boulevard Tallahassee, FL 32399-0850

## Re: Review of Tampa Electric Company's 2025 Ten-Year Site Plan Undocketed 20250000-OT

Dear Mr. Teitzman:

Attached for filing is Tampa Electric Company's Revised 2025 Ten-Year Site Plan.

Thank you for your assistance in connection with this matter.

Sincerely,

Moluden n. Means

Malcolm N. Means

MNM/bml

Attachments cc: Greg Davis (<u>GDavis@psc.state.fl.us</u>) Phillip Ellis (<u>PEllis@psc.state.fl.us</u>)

TECO Regulatory Department

Tampa Electric Company

# **Ten-Year Site Plan**

For Electrical Generating Facilities and Associated Transmission Lines January 2025 to December 2034

April 1, 2025

## THIS PAGE INTENTIONALLY LEFT BLANK

## TABLE OF CONTENTS

Exe	cutive Summary	1
СНА	PTER I: Description of Existing Facilities	3
СНА	PTER II: Tampa Electric Company Forecasting Methodology	8
RET	AIL LOAD	8
1.	Economic Analysis	9
2.	Customer Multiregression Model	9
З.	Energy Multiregression Model	.10
4.	Peak Demand Multiregression Model	.13
5.	Phosphate Demand and Energy Analysis	.13
6.	Customer-Owned Solar (PV)	.14
7.	Electric Vehicle (EV) Charging	.14
8.	Conservation, Load Management and Cogeneration Programs	.14
BAS	E CASE FORECAST ASSUMPTIONS	.19
RET	AIL LOAD	.19
1.	Population and Households	.19
2.	Commercial, Industrial and Governmental Employment	.19
З.	Commercial, Industrial and Governmental Output	.19
4.	Real Household Income	.19
5.	Price of Electricity	.19
6.	Appliance Efficiency Standards	.20
7.	Weather	.20
HIG	H AND LOW SCENARIO FORECAST ASSUMPTIONS	.20
HIST	FORY AND FORECAST OF ENERGY USE	.20
1.	Retail Energy	.20
2.	Wholesale Energy	.20
HIST	FORY AND FORECAST OF PEAK LOADS	.21
СНА	APTER III: Integrated Resource Planning Processes	.22
FINA	ANCIAL ASSUMPTIONS	.23
FUE	L FORECAST	.24
TEC	RENEWABLE RESOURCES AND STORAGE TECHNOLOGY INITIATIVES	.25
1.	Renewable Energy Initiatives and Customer Programs	.25
2.	Storage Technology Initiatives	.26
3.	Electric Vehicle Initiatives	.26

Tampa Electric Company Ten-Year Site Plan 2025

GEN	ERATING UNIT PERFORMANCE ASSUMPTIONS	27
GEN	ERATION RELIABILITY CRITERIA	27
1.	Reserve Margin	27
2.	Winter Reliability Assessment	28
SUP	PLY-SIDE RESOURCES PROCUREMENT PROCESS	28
TRAI	NSMISSION PLANNING - CONSTRAINTS AND IMPACTS	28
TRAI	NSMISSION PLANNING RELIABILITY CRITERIA	28
1.	Transmission	28
2.	Available Transmission Transfer Capability (ATC) Criteria	<u>29</u>
TRAI	NSMISSION SYSTEM PLANNING ASSESSMENT PRACTICES	<u>29</u>
1.	Base Case Operating Conditions	29
2.	Single Contingency Planning Criteria	<u>29</u>
3.	Multiple Contingency Planning Criteria	30
4.	Transmission Construction and Upgrade Plans	30
ENE	RGY EFFICIENCY, CONSERVATION, AND ENERGY SAVINGS DURABILITY	30
СНА	PTER IV: Forecast of Electric Power, Demand and Energy Consumption	31
СНА	PTER V: Forecast of Facilities Requirements	56
COG	ENERATION	56
FIRM	1 INTERCHANGE SALES AND PURCHASES	57
FUEI	REQUIREMENTS	57
ENV	IRONMENTAL CONSIDERATIONS	57
Chap	oter VI: Environmental and Land Use Information	<del>)</del> 7

## **LIST OF SCHEDULES & TABLES**

Schedule 1:	Existing Generating Facilities4
Table III-1:	Comparison of Achieved MW and GWh Reductions with Florida Public Service Commission Goals
Schedule 2.1:	History and Forecast of Energy Consumption and Number of Customers by Customer Class (Base, High & Low)
Schedule 2.2:	History and Forecast of Energy Consumption and Number of Customers by Customer Class (Base, High & Low)
Schedule 2.3:	History and Forecast of Energy Consumption and Number of Customers by Customer Class (Base, High & Low)
Schedule 3.1:	History and Forecast of Summer Peak Demand (Base, High & Low)
Schedule 3.2:	History and Forecast of Winter Peak Demand (Base, High & Low)
Schedule 3.3:	History and Forecast of Annual Net Energy for Load (Base, High & Low)
Schedule 4:	Previous Year and 2-Year Forecast of Peak Demand and Net Energy for Load by Month (Base, High & Low)
Schedule 5:	History and Forecast of Fuel Requirements
Schedule 6.1:	History and Forecast of Net Energy for Load by Fuel Source in GWh
Schedule 6.2:	History and Forecast of Net Energy for Load by Fuel Source as a percent
Table IV-I:	2025 Cogeneration Capacity Forecast
Schedule 7.1:	Forecast of Capacity, Demand, and Scheduled Maintenance at Time of Summer Peak60
Schedule 7.2:	Forecast of Capacity, Demand, and Scheduled Maintenance at Time of Winter Peak61
Schedule 7.2.1	: Forecast of Capacity, Demand, and Scheduled Maintenance at Time of Winter Peak (Weather Sensitivity)62
	Tampa Electric Company Ten-Year Site Plan 2025 v

		TAMPA ELECTRIC COMPANY UNDOCKETED: REVIEW OF TYSP'S STAFF'S FIRST DATA REQUEST REQUEST NO. 1 BATES PAGE(S): 1-112 FILED: APRIL 1, 2025
Schedule 8.1:	Planned and Prospective Generating Facility Additions	63 to 65
Schedule 9:	Status Report and Specifications of Proposed Generating Facilities	66 to 94
Schedule 10:	Status Report and Specifications of Proposed Directly Associated Transmission Lines	

## **LIST OF FIGURES**

Figure I-I:	Tampa Electric Service Area Map	6
Figure VI-I:	Site Location of H.L. Culbreath Bayside Power Station	. 98
Figure VI-II:	Site Location of Polk Power Station	. 99
Figure VI-III:	Site Location of Big Bend Power Station	100
Figure VI-IV:	Site Location of Solar Power Stations	101

## THIS PAGE INTENTIONALLY LEFT BLANK

## **GLOSSARY OF TERMS**

## CODE IDENTIFICATION SHEET

<u>Unit Type:</u>	BA CC CT D FS GT HRSG IC IGCC PV ST RE		Battery Storage Combined Cycle Combustion Turbine Diesel Fossil Steam Gas Turbine (includes jet engine design) Heat Recovery Steam Generator Internal Combustion Integrated Gasification Combined Cycle Photovoltaic Steam Turbine Reciprocating Engine
<u>Unit Status:</u>	LTRS OP OT P T U V RT	= = = = =	Long-Term Reserve Stand-By Operating (In commercial operation) Other Planned Regulatory Approval Received Under Construction, less than or equal to 50 percent complete Under Construction, more than 50 percent complete Planned Retirement
<u>Fuel Type:</u>	BIT RFO DFO NG PC WH BIO SOLAR	= = = = =	Bituminous Coal Residual Fuel Oil (Heavy - #6 Oil) Distillate Fuel Oil (Light - #2 Oil) Natural Gas Petroleum Coke Waste Heat Biomass Solar Energy
<u>Environmental:</u>	FQ LS SCR		Fuel Quality Low Sulfur Selective Catalytic Reduction
Transportation:	PL RR TK WA	= = =	Pipeline Railroad Truck Water
<u>Other:</u>	EV NA	= =	Electric Vehicle(s) Not Applicable

Tampa Electric Company Ten-Year Site Plan 2025

## THIS PAGE INTENTIONALLY LEFT BLANK

Tampa Electric Company Ten-Year Site Plan 2025

х

## **Executive Summary**

Tampa Electric Company's (TEC) 2025 Ten-Year Site Plan (TYSP) features plans to enhance electric generating capability as part of our efforts to meet projected incremental resource needs for 2025 through 2034. The 2025 TYSP provides the Florida Public Service Commission (FPSC) with assurance that TEC will be able to supply cost-effective options to ensure the delivery of adequate, safe, environmentally responsible, and reliable power to TEC's customers.

The company plans to meet the power needs of its customers through additional resources and seeks to do so in the most cost-effective way possible with emphasis on greater efficiency and reliability. The resource additions are based on TEC's Integrated Resource Planning (IRP) process, which incorporates an on-going evaluation of demand-side and supply-side resources on a comparable and consistent basis to satisfy future demand and energy requirements in a cost-effective, reliable, and environmentally responsible manner.

Investments in renewable generation enable fuel savings for customers, provide energy diversification, and continue TEC's commitment toward a lower carbon future. The future solar in this expansion plan provides energy diversity by reducing reliance on natural gas and its associated price volatility risk for customers. The company has announced its plans to deploy more solar projects over the next several years, bringing the total committed solar capacity to nearly 2,700 MW or approximately 33% of the total summer installed capacity by the end of the study horizon.

In addition to enhancements of the solar, TEC plans to add approximately 195 MW of battery storage capacity and approximately 75 MW of capacity using reciprocating engines over the study horizon. These distributed resources provide peaking capacity and fuel savings. Furthermore, these distributed energy resources have the potential to provide system operational benefits, avoid transmission and distribution investment, and reduce line losses.

Finally, TEC has two 10-year-term power purchase agreements with Pasco County and Hillsborough County starting this year. The Pasco County (Pasco) agreement is for 18 MW, while the Hillsborough agreement is for 16 MW. Both agreements are from waste-to-energy (WTE) facilities.

TEC is also committed to pursuing cost-effective improvements on the existing generating fleet. In 2025, Polk Unit 1 will have its combustion turbine upgraded. After this upgrade, Polk Unit 1 will operate in simple-cycle mode providing operational flexibility to the system and avoiding expensive ongoing maintenance of the heat recovery steam generator and steam turbine. In 2026 and 2027, TEC will upgrade the combustion turbines on the Polk 2 unit adding low cost capacity, improved efficiency, and operational flexibility.

Tampa Electric Company's current and expected resources meet operating reserve requirements under normal peak demand scenarios. The reserve margin provides operating flexibility in the case of unplanned outages and deviations to load from colder than normal (or hotter than normal) weather. However, temperatures that vary significantly from those used to prepare this plan would result in the need to employ operating mitigation under extreme conditions. These mitigations could include changes to unit dispatch to enhance reliability, switching to alternate fuels, extensive use of demand response, pursuing purchase power agreements, and in a worst-case scenario, interrupting customers to maintain grid stability. The company has also reviewed and updated its freeze protection plans for each of its generation stations and has implemented measures to mitigate equipment failure during these extreme temperatures.

The portfolio of resource additions presented in this TYSP work in concert to provide cost savings, environmental, and reliability benefits for customers while also enhancing the system's operational flexibility, energy diversity, and resiliency.

## **Chapter** I



## **DESCRIPTION OF EXISTING FACILITIES**

TEC has three (3) central generating stations that include steam units, combined cycle units and combustion turbine peaking units. Additionally, TEC has numerous solar facilities and growing battery storage sites.

### **Big Bend Power Station**

Big Bend Station is composed of one (1) combined cycle unit, Unit 1, which utilizes two (2) natural gas fueled combustion turbines that supply waste heat for reuse by the Unit 1 steam turbine via two (2) heat recovery steam generators (HRSGs). Big Bend also has one (1) steam unit, Big Bend Unit 4. The steam unit is equipped with desulfurization scrubbers, electrostatic precipitators, and Selective Catalytic Reduction air pollution control systems. Big Bend Unit 4 can be fired with coal and natural gas. Big Bend CT 4 is a natural gas aero-derivative combustion turbine.



### H.L. Culbreath "Bayside" Power Station

The Bayside station consists of two (2) natural gas-fired combined cycle units and four (4) aero derivative combustion turbines. Bayside Unit 1 utilizes three (3) combustion turbines, three (3) HRSGs and one (1) steam turbine. Bayside Unit 2 utilizes four (4) combustion turbines, four (4) HRSGs and one (1) steam turbine. Bayside 3, 4, 5, and 6 are four (4) natural gas fired aero-derivative combustion turbines.



### **Polk Power Station**

Polk Unit 1 is a dual fuel natural gas / IGCC unit consisting of one (1) combustion turbine, one (1) HSRG, and one (1) steam turbine. The IGCC portion of this combined cycle was retired on December 31, 2024. Polk 2 Combined Cycle utilizes four (4) natural gas-fired combustion turbines, four (4) HRSGs and one (1) steam turbine. Two (2) of the combustion turbines can also be fired with distillate oil.



### Solar and Battery

As of December 31, 2024, TEC owns 1,350  $MW_{AC}$  of solar throughout our territory. It consists of primarily single axis tracking PV solar array sites throughout Hillsborough, Pasco, and Polk counties, and several large-scale, fixed-tilt systems on rooftops, carports, and ground mount. Tampa Electric also has a 1.0  $MW_{AC}$  floating solar project located at Big Bend Power Station, and an integrated renewable energy system, consisting of solar PV carports that charge commercial-sized batteries, which re-charge the company's growing EV fleet. TEC also has 27.6 MW of batteries with 12.6 MW at its Big Bend Solar site and 15 MW at its Dover Solar site.



					Existi As	Sch ing Gen of Dece	Schedule 1 Existing Generating Facilities As of December 31, 2024	cilities 024					
(1)	(2)	(3)	(4)	(5)	(9)	(7)	(8)	(9) Alt	(10) Commercial	(11) Expected	(12) Gen. Max.	(13) (1 Net Capability	(14) ability
Plant	Unit		Unit	Fue		Fuel Transport	nsport			Retirement	Nameplate	Summer	Winter
Name	No.	Location	Type	Pri	Alt	Pri	Alt	Days	Mo/Yr	Mo/Yr	kW	ΜM	MM
Big Bend		Hillsborough Co.	0		:		:	:		:			
	- 4		ST	D D	ВП ВП	김 교	NA WA/RR	A A	12/22 02/85	01/40	1,120,000 442.000	1,055 437	1,120 442
	CT 4		GT	Ű	AA		¥	A	08/09	*	61,000	56	61
Big Bend Total										I	1,623,000	1,548	1,623
Bayside		Hillsborough Co.											
	-	,	20	ВQ	AA	٦L	AA	AA	04/03	04/38	847,000	749	847
	2		с С	ВQ	AA	Ы	AN	AA	01/04	01/39	1,121,000	1,001	1,121
	ę		GT	ВQ	AA	٦L	AA	AA	60/20	*	61,000	56	61
	4		GT	ЮN	AA	٦L	AA	AA	60/20	*	61,000	56	61
	5		GT	ВQ	AA	٦L	NA	AA	04/09	:	61,000	56	61
	9		GT	ВQ	AA	٦L	AA	AA	04/09	*	61,000	56	61
Bayside Total										I	2,212,000	1,974	2,212
Polk		Polk Co.											
	÷		IGCC	ŋŊ	PC/BIT	Ч	WA/TK	*	96/60	09/36	220,000	220	220
Dolk Total	7		00		DFO		¥	*	01/17	:	1,200,000	1,061	1,200
											00010111	10211	07 <del>1</del> (1

Notes: \* Lin \*\* Un

Limited by environmental permit. Undetermined

Both assets (Battery and Solar) are co-located and restricted to a total output of 19.8 MW due to interconnection limits. For this reason, the battery capacity is not considered.

Rating for Solar units are nameplate. Utility owned solar/battery less than 1 MW not included.

N 09 ~

Tampa Electric Company Ten-Year Site Plan 2025

																											i				ATES PAGE(S): 1-112 ILED: APRIL 1, 2025
	t) (14) Net Capability	Winter	MΜ	1.6	1.4	19.8	70.3	74.4	61.1	37.5	55.4	49.5	74.5	60.0 60.0	74.5	45.8	1.0	54.6	74.5	1.0	61.2	55.2 	70.0	74 E	25.0	23.0	74.5	1,350	15.0 12.6	28	6,620
	(13) Net Ca	Summer	MΜ	1.6	1.4	19.8	70.3	74.4	61.1	37.5	55.4	49.5	74.5	60.0 60.0	74.5	45.8	1.0	54.6	74.5	1.0	61.2	55.2	70.0	00.0 7 A E	25.0	23.0	74.5	1,350	15.0 12.6	28	6,168
	(12) Gen. Max.	Nameplate	kW	1,600	1,400	19,800	70,300	74,400	61.100	37,500	55,400	49,500	74,500	/4,800 60.000	74,500	45,800	1,000	54,600	74,500	1,000	61,200	55,200	70,000	74 500	25,000	23,000	74,500	1,349,600	15,000 12,600	27,600	TOTAL <sup>1</sup> sidered.
	(11) Expected	Retirement	Mo/Yr	**	**	**	**	* **	**	**	**	**	* *	**	**	**	**	**	**	**	**	k 7	: 1	**	**	**	**		* **		acity is not cont
	(10) Commercial	In-Service	Mo/Yr	12/15	12/16	02/17	09/18	09/18	01/19	01/19	03/19	04/19	02/20	04/20 01/21	12/21	01/22	03/22	04/22	04/22	06/22	12/22	12/22	12/23	CZ/Z1	12/23	12/24	12/24		12/24 12/19		the battery cap
acilities 2024	(9) Alt	Fue	Days	NA	NA	NA	AN :	NA NA	AN N	NA	NA	A	A N	AN NA	E N	NA	NA	NA	AA	NA	AN :	A	AN A		AN AN	A	NA		A A		r this reason
Existing Generating Facilities As of December 31, 2024	(8)	Fuel Transport	Alt	٩N	AN	AA	¥ :	AN AN	A A	A	AA	A	A Z	AN AN	Ž	A	AN	A	A	AA	¥ :	¥ :	¥ Z		Z AZ	A	٩N		₹₹		on limits. Fo
sting Ge s of Dec	(2)	Fuel Tr	μ	AA	AA	ΝA	A S	AN N	A A	AA	A	Ą	¥ Z		ž ¥	AA	AA	AA	A	AA	A S	¥ :	A Z		¢ Z	A	AA		¥ ¥		rconnectí
E Xis A	(9)		Alt	A	¥	¥	¥	A A	¥ Z	¥	¥	¥	¥ ž	A A	≦₹	¥	¥	¥	¥	¥	¥	¥ :	¥ 2		¥ ₹	¥	A		₹₹		e to inte
	(5)	Fue	Pri	SOLAR	SOLAR	SOLAR	SOLAR	SULAR	SOLAR	SOLAR	SOLAR	SOLAR	SOLAR	SOLAR	SOLAR	SOLAR	SOLAR	SOLAR	SOLAR	SOLAR	SOLAR	SULAR	SULAR		SOLAR	SOLAR	SOLAR		a a		19.8 MV du
	(4)	Unit	Type	Ы	Ч	Ы	2		2 2	Z Z	Ы	2	22	2 2	:≧	P	P	P	Ы	Ы	2	2	2		2 2	2	Ч		BA BA		tput of
	(3)		Location	Hillsborough Co.	Polk Co.	Hillsborough Co.	Polk Co.	Hillsborough Co.	Hillsborough Co.	Polk Co.	Polk Co.	Polk Co.	Hillsborough Co.	Polk Co	Polk Co.	Hillsborough Co.	Hillsborough Co.	Pasco Co.	Polk Co.	Hillsborough Co.	Hillsborough Co.	Hillsborough Co.	Pasco Co.		Hillshorough Co.	Hillsborough Co.	Hillsborough Co.		Hillsborough Co. Hillsborough Co.		ated and restricted to a total o not included.
	(2)	Unit	No.	F	-	-				- <del>-</del>	-	-				-	-	-	-	-						· -	-				Hocated MW not ii
	(1)	Plant	Name	TIA		Big Bend Solar <sup>1</sup>	Payne Creek Solar	Balm Solar Lithis Solar	Citute Solar Grange Hall Solar	Bonnie Mine Solar	Peace Creek Solar	Lake Hancock Solar	Little Manatee River Solar	Wimauma Solar Durrance Solar	Magnolia Solar	Big Bend II Solar	Big Bend Floating Solar	Mountain View Solar	Jamison Solar	Big Bend Agrivoltaic	Laurel Oaks Solar	Riverside Solar	Juniper Solar	Aldrid Solar Lako Mabol Solar	Dover Solar	English Creek Solar	Bullfrog Creek Solar	Solar Total <sup>2,3</sup>	Dover Battery Storage Big Bend Battery Storage <sup>1</sup>	Battery Total <sup>3</sup>	Notes:       • Limited by environmental permit.         • Undetermined.       • Undetermined.         • Undetermined.       • Eathery and Solar) are co-located and restricted to a total output of 19.8 MV due to interconnection limits. For this reason, the battery capacity is not considered         • Rating for Solar units are nameplate.       • Unity owned solar/battery less than 1 MV not included.

Schedule 1 Cont'd

Tampa Electric Company Ten-Year Site Plan 2025

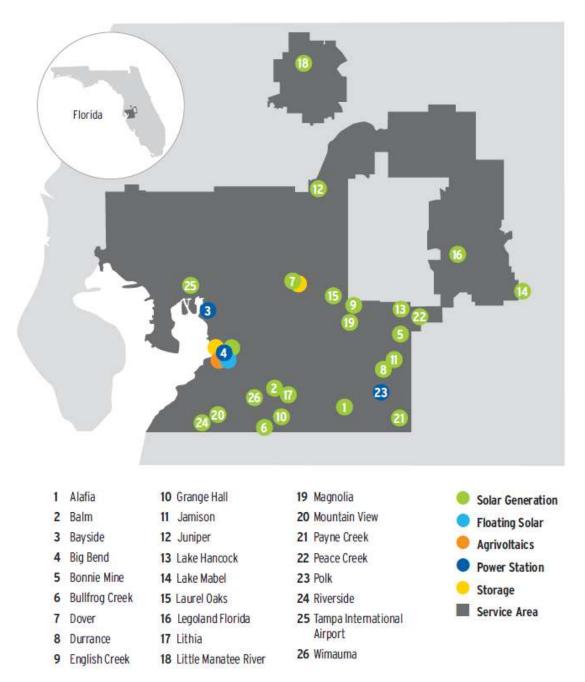
5

TAMPA ELECTRIC COMPANY

**REQUEST NO. 1** 

UNDOCKETED: REVIEW OF TYSP'S STAFF'S FIRST DATA REQUEST

## Figure I-I: Tampa Electric Service Area Map



## THIS PAGE INTENTIONALLY LEFT BLANK

## Chapter II



TAMPA ELECTRIC COMPANY FORECASTING METHODOLOGY

The customer, demand and energy forecasts are the foundation from which the IRP is developed. Recognizing their importance, TEC employs proven methodologies for carrying out this function. The primary objective of this procedure is to blend proven statistical techniques with practical forecasting experience to provide a projection that represents the highest probability of occurrence.

This chapter is devoted to describing TEC's forecasting methodologies and the major assumptions utilized in developing the 2025-2034 forecasts. The data tables in Chapter IV outline the expected customer, demand, and energy values for the years 2025-2034.

## **RETAIL LOAD**

MetrixND, an advanced statistics program for analysis and forecasting, was used to develop the 2025-2034 customer, demand, and energy forecasts. This software allows a platform for the development of more dynamic and fully integrated models.

In addition, TEC uses MetrixLT, which integrates with MetrixND, to develop multiple-year forecasts of energy usage at the hourly level. This tool allows the annual or monthly forecasts in MetrixND to be combined with hourly load shape data to develop a long-term "bottom-up" forecast.

TEC's retail customer, demand and energy forecasts are the result of eight separate forecasting analyses:

- 1. Economic Analysis
- 2. Customer Multiregression Model
- 3. Energy Multiregression Model
- 4. Peak Demand Multiregression Model
- 5. Phosphate Demand and Energy Analysis
- 6. Customer-Owned Photovoltaic (PV)
- 7. Electric Vehicle Charging (EV)
- 8. Conservation, Load Management and Cogeneration Programs



Tampa Electric Company Ten-Year Site Plan 2025

The MetrixND models are the company's most sophisticated and primary load forecasting models. The phosphate demand and energy are forecasted separately and then combined in the final forecast, as well as the lighting forecast energy and effects of customer-owned photovoltaic (PV) and electric vehicle (EV) related energy and demand. Likewise, the effects of TEC's conservation, load management, and cogeneration programs are incorporated into the process by subtracting the expected reduction in demand and energy from the forecast.

### 1. Economic Analysis

The economic assumptions used in the forecast models are derived from forecasts from Moody's Analytics and the University of Florida's Bureau of Economic and Business Research (BEBR).

See the "Base Case Forecast Assumptions" section of this chapter for an explanation of the most significant economic inputs to the MetrixND models.

### 2. Customer Multiregression Model

The customer multiregression forecasting model is a twelve-equation model. The primary economic drivers in the customer forecast models are population estimates, new construction, and employment growth. Below is a description of the models used for the five-customer classes.

- **Residential Customer Model (Equation #1):** Customer projections are a function of regional population due to the strong correlation that exists between regional population and historical changes in service area customers.
- **Commercial Customer Model:** Total commercial customers include commercial customers plus construction service customers; therefore, two models are used to forecast total commercial customers:
  - The <u>Commercial Customer Model</u> (*Equation #2*) is a function of commercial employment. An increase in employment signals growth in additional services, restaurants, and retail establishments.
  - Projections of permits in the construction sector are a good indicator of expected increases and decreases in local construction activity. Therefore, the <u>Construction Service Model</u> (Equation #3) projects the number of customers as a function of new construction permits.
- Industrial Customer Model (Non-Phosphate): Non-phosphate industrial customers include four rate classes modeled individually: General Service, General Service Demand, General Service Large Demand and Standby Large Demand.
  - The <u>General Service Customer Model</u> (*Equation #4*) is a function of Hillsborough County commercial employment.
  - The <u>General Service Demand Customer Model</u> (*Equation #5*) is a function of Hillsborough County manufacturing employment.
  - The <u>General Service Large Demand Customer Model</u> (*Equation #6*) is a function of recent trends.

- The <u>Standby Large Demand Customer Model</u> (*Equation #7*) is a function of recent trends.
- Industrial Phosphate Customers: Customer counts seldom change within this industry; however, actual counts are tracked for any changes and phosphate accounts are individually surveyed annually to reflect any known future changes.
- **Public Authority Customer Model:** Customer projections are based on the recent growth trends in the governmental sector and are modeled individually for five rate classes: Residential Service, General Service, General Service Demand, General Service Large Demand and Standby Large Demand. (Equations #8 through #12)
- **Street & Highway Lighting Customers:** Customer projections are based on recent growth trends in the sector and provided exogenously by the Lighting Growth department, subject matter experts who are familiar with industry dynamics and changing lighting technologies which can drive new customer growth.

#### 3. Energy Multiregression Model

The energy multiregression forecasting model is also a twelve-equation model. All these equations represent average usage per customer (kWh/customer), except for the construction services which represent total energy (kWh) sales. The average usage models interact with the customer models to arrive at total sales for each class.

The energy models are based on a Statistically Adjusted End-Use (SAE) framework. SAE entails specifying enduse variables, such as heating, cooling, and base use appliance/equipment, and incorporating these variables into regression models. This approach allows the models to capture long-term structural changes that end-use models are known for, while also performing well in the short-term, as do econometric regression models.

• **Residential Energy Model (Equation #1)**: The residential forecast model is made up of three major components: (1) end-use equipment index variables, which capture the long-term net effect of equipment saturation and equipment efficiency improvements; (2) changes in the economy such as household income, household size, and the price of electricity; and (3) weather variables, which serve to allocate the seasonal impacts of weather throughout the year. The SAE model framework begins by defining energy use for an average customer in year (y) and month (m) as the sum of energy used by heating equipment (XHeat y,m), cooling equipment (XCool y,m), and other equipment (XOther y,m). The XHeat, XCool, and XOther variables are defined as a product of an annual equipment index and a monthly usage multiplier.

Average Usage 
$$y_{,m} = (XHeat_{y,m} + XCool_{y,m} + XOther_{y,m})$$

Where:

XHeat <sub>y,m</sub>	=	HeatEquipIndex <sub>y</sub>	х	HeatUse <sub>y,m</sub>
XCool <sub>y,m</sub>	=	CoolEquipIndex <sub>y</sub>	х	CoolUse <sub>y,m</sub>
XOtherUse <sub>y,m</sub>	=	OtherEquipIndex y	х	OtherUse <sub>y,m</sub>

The annual equipment variables (HeatEquipIndex, CoolEquipIndex, OtherEquipIndex) are defined as a weighted average across equipment types multiplied by equipment saturation levels normalized by operating efficiency

Tampa Electric Company Ten-Year Site Plan 2025

levels. Given a set of fixed weights, the index will change over time with changes in equipment saturations and operating efficiencies. The weights are defined by the estimated energy use per household for each equipment type in the base year.

Where:

$$HeatEquipIndex = \sum_{Tech.} Weight x \left( \frac{Saturation y / Efficiency}{Saturation base y / Efficiency} \right)$$
$$CoolEquipIndex = \sum_{Tech.} Weight x \left( \frac{Saturation y / Efficiency}{Saturation base y / Efficiency} \right)$$
$$OtherEquipIndex = \sum_{Tech.} Weight x \left( \frac{Saturation y / Efficiency}{Saturation y / Efficiency} \right)$$

Next, the monthly usage multiplier or utilization variables (HeatUse, CoolUse, OtherUse) are defined using economic and weather variables. A customer's monthly usage level is impacted by several factors, including weather, household size, income levels, electricity prices and the number of days in the billing cycle. The degreeday variables allocate the seasonal impacts of weather throughout the year, while the remaining variables capture changes in the economy.

HeatUse <sub>y,m</sub> =  

$$\left(\frac{\text{Price }_{y,m}}{\text{Price }_{base }_{y,m}}\right)^{-10} x \left(\frac{\text{HH Income }_{y,m}}{\text{HH Income }_{base }_{y,m}}\right)^{17} x \left(\frac{\text{HH Size }_{y,m}}{\text{HH Size }_{base }_{y,m}}\right)^{15} x \left(\frac{\text{HDD }_{y,m}}{\text{Normal HDD}}\right)$$
CoolUse <sub>y,m</sub> =  

$$\left(\frac{\text{Price }_{y,m}}{\text{Price }_{base }_{y,m}}\right)^{-10} x \left(\frac{\text{HH Income }_{y,m}}{\text{HH Income }_{base }_{y,m}}\right)^{17} x \left(\frac{\text{HH Size }_{y,m}}{\text{HH Size }_{base }_{y,m}}\right)^{15} x \left(\frac{\text{CDD }_{y,m}}{\text{Normal CDD}}\right)$$
OtherUse <sub>y,m</sub> =  

$$\left(\frac{\text{Price }_{y,m}}{\text{Price }_{base }_{y,m}}\right)^{-10} x \left(\frac{\text{HH Income }_{y,m}}{\text{HH Income }_{base }_{y,m}}\right)^{17} x \left(\frac{\text{HH Size }_{y,m}}{\text{HH Size }_{base }_{y,m}}\right)^{15} x \left(\frac{\text{Billing Days }_{y,m}}{\text{Billing Days }_{base }_{y,m}}\right)$$

The SAE approach to modeling provides a powerful framework for developing short-term and long-term energy forecasts. This approach reflects changes in equipment saturation and efficiency levels and gives estimates of weather sensitivities that vary over time and trend adjustments.

- **Commercial Energy Model:** total commercial energy sales include commercial sales plus construction service sales; therefore, two equations are used to forecast total commercial energy sales.
  - <u>Commercial Energy Model</u> (Equation #2): The model framework for the commercial sector is the same as the residential model. It also has three major components and utilizes the SAE model framework. The differences lie in the type of end-use equipment and in the economic variables

Tampa Electric Company Ten-Year Site Plan 2025



used. The end-use equipment variables are based on commercial appliance/equipment saturation and efficiency assumptions. The economic drivers in the commercial model are commercial productivity measured in terms of dollar output and the price of electricity for the commercial sector. The third component, weather variables, is the same as in the residential model.

- <u>Construction Service Energy Model</u> (Equation #3): This model is a subset of the total commercial sector and is a small percentage of the total commercial sector. Although small, it is still a component that must be included. A simple regression model is used with the drivers being construction service customer growth, projections of construction permits, along with the number of days billed, and cooling and heating degree-days.
- Industrial Energy Model (Non-Phosphate): Non-phosphate industrial energy includes four rate classes modeled individually: General Service, General Service Demand, General Service Large Demand and Standby Large Demand.
  - The <u>General Service Energy Model</u> (*Equation #4*) utilizes the same SAE model framework as the commercial energy model. The weather component is consistent with the residential and commercial models.
  - The <u>General Service Demand Energy Model</u> (*Equation #5*) is based on manufacturing output, the price of electricity in the industrial sector, cooling degree-days and number of days billed. Unlike the previous models discussed; heating load does not impact this sector.
  - The <u>General Service Large Demand Energy Model</u> (*Equation #6*) is based on cooling degreedays and seasonal trends.
  - The <u>Standby Large Demand Energy Model</u> (*Equation #7*) is based on cooling degree-days and seasonal trends.
- **Public Authority Sector Energy Model:** The governmental sector is modeled individually for five rate classes: Residential Service, General Service, General Service Demand, General Service Large Demand, and Standby Large Demand.
  - <u>The Residential Service Energy Model</u> (*Equation #8*) is based on the residential equipment saturation and efficiency assumptions used in the residential model.
  - The <u>General Service Energy Model</u> (*Equation #9*) is based on the same commercial equipment saturation and efficiency assumptions used in the commercial model. The economic component is based on government sector productivity and the price of electricity in this sector. Weather variables are consistent with the residential and commercial models.
  - The <u>General Service Demand Energy Model</u> (*Equation #10*) is a function of cooling and heating degree-days.
  - The <u>General Service Large Demand Energy Model</u> (Equation #11) is based on cooling degreedays.
  - o The <u>Standby Large Demand Energy Model</u> (Equation #12) is based on seasonal trends.

• Street & Highway Lighting Sector Energy: Street and highway lighting is not weather sensitive; therefore, it is a simple calculation. Street and highway lighting energy consumption is a function of energy (kWh) ratings by fixture type times the number of projected lighting fixtures. This information is provided exogenously by the Lighting Growth department, subject matter experts who are familiar with industry dynamics and changing lighting technologies which can drive changes in energy projections. The street and highway lighting forecast reflects the impacts of the company's LED lighting program.

The twelve energy models described above, plus the incremental effects of customer-owned rooftop solar [PV], electric vehicle [EV] charging and conservation related energy, along with an exogenous lighting, and phosphate forecast, are added together to arrive at the total retail energy sales forecast. See sections 5 - 8 below for details. A line loss factor is applied to the energy sales forecast to produce the retail net energy for load forecast (RNEL).

In summary, the SAE approach to modeling provides a powerful framework for developing short-term and longterm energy forecasts. This approach reflects changes in equipment saturation and efficiency levels, gives estimates of weather sensitivity that varies over time, and estimates trend adjustments.

### 4. Peak Demand Multiregression Model

After the retail net energy for load forecast is complete, it is integrated into the peak demand model as an independent variable along with weather variables. The energy variable represents the long-term economic and appliance trend impacts. To stabilize the peak demand data series and improve model accuracy, the volatility of the industrial phosphate load is removed. To further stabilize the data, the peak demand models project on a per customer basis.

The weather variables provide the monthly seasonality to the peaks. The weather variables used are heating and cooling degree-days based on the following: temperature at the time of the peak, 24-hour average on the day of the peak and the day prior to the peak. By incorporating the day prior to the peak, the model is accounting for the fact that cold/heat buildup contributes to determining the peak day.

The non-phosphate per customer kW forecast is multiplied by the final customer forecast. This result is then aggregated with a phosphate-coincident peak forecast and adjusted for the incremental effects of customerowned PV, EV charging, and conservation related demand to arrive at the final projected peak demand.

### 5. Phosphate Demand and Energy Analysis

TEC phosphate customers are few, which has allowed the company's Commercial and Industrial Business Development Department to obtain detailed knowledge of industry developments including:

- Knowledge of expansion and close-out plans
- Familiarity with historical and projected trends
- Personal contact with industry personnel
- Governmental legislation
- Familiarity with worldwide demand for phosphate products

This department's familiarity with industry dynamics and their close working relationship with phosphate and

other company representatives were used to form the basis for a survey of the phosphate customers to determine their future energy and demand requirements. This survey is the foundation upon which the phosphate forecasts are based. Further input is provided by individual customer trend analysis and discussions with industry experts.

## 6. Customer-Owned Solar (PV)

Customer-owned solar forecasts are based on the historical number of PV installations and the average size of the PV systems installed in the service area. From this historical data, future penetration levels of PVs are based on assumptions used by the Energy Information Administration's (EIA) for the South Atlantic region; however, EIA did not prepare a forecast during 2024 due to a major revamping of their models, so we used their prior year's forecast. It is assumed Tampa Electric will no longer have to serve this portion of PV customers' load; therefore, the energy sales forecast is adjusted downward to incorporate the loss of this load.

### 7. Electric Vehicle (EV) Charging

The electric vehicle charging forecast process begins with an estimate of the number of EVs operating in Tampa Electric's service area. Future penetration levels of EVs are based on assumptions used by the Energy Information Administration's (EIA) for the South Atlantic region; however, EIA did not prepare a forecast during 2024 due to a revamping of their models, so we used a blend of the prior year's forecasts. The demand and energy consumption associated with EV charging is based on the National Renewable Energy Laboratory's [NREL] tool EVI-Pro Lite, using estimates for the Tampa-St.Pete-Clearwater MSA, reflecting diversity of charging at the system level.

### 8. Conservation, Load Management and Cogeneration Programs

Conservation and Load Management demand and energy savings are forecasted for each individual program. The savings are based on a forecast of the annual number of new participants, estimated annual average energy savings per participant and estimated summer and winter average demand savings per participant. The individual forecasts are aggregated and represent the cumulative amount of Demand Side Management (DSM) savings throughout the forecast horizon.

Tampa Electric's retail demand and energy forecasts are adjusted downward to reflect the incremental demand and energy savings of these DSM programs.

Tampa Electric has developed conservation, load management and cogeneration programs to achieve five major objectives:

- 1. Defer expansion, particularly production plant construction
- 2. Reduce marginal fuel cost by managing energy usage during higher fuel cost periods
- 3. Provide customers with some ability to control energy usage and decrease energy costs
- 4. Pursue the cost-effective accomplishment of the Florida Public Service Commission (FPSC) ten-year demand and energy goals for the residential and commercial/industrial sectors
- 5. Achieve the comprehensive energy policy objectives as required by the Florida Energy Efficiency Conservation Act (FEECA)

In 2024, Tampa Electric continued operating within the FPSC approved 2020-2029 DSM Plan which consists of one renewable program, one research and development program, 15 residential and 20 commercial DSM Programs which support the approved FPSC goals which are reasonable, beneficial, and cost-effective to all

customers as required by the FEECA. Also in 2024, the company filed its 2025-2034 DSM Plan. The following is a list that briefly describes the company's DSM programs:

- 1. <u>Energy Audits</u> a "how to" information and analysis guide for customers. Six types of audits are available to Tampa Electric customers; four types are for residential customers and two types are for commercial/industrial customers.
- 2. <u>Residential Ceiling Insulation</u> a rebate program that encourages existing residential customers to install additional ceiling insulation in existing homes.
- 3. <u>Residential Duct Repair</u> a rebate program that encourages residential customers to repair leaky duct work of central air conditioning systems in existing homes.
- 4. <u>Energy Education, Awareness and Agency Outreach</u> a program that provides opportunities for engaging and educating groups of customers, students on energy-efficiency and conservation in an organized setting and electric vehicles at participating high schools. Participants are provided with an energy savings kit which includes energy saving devices and supporting information appropriate for the audience.
- 5. <u>Energy Star for New Multi-Family Residences</u> a rebate program that encourages the construction of new multi-family residences to meet the requirements to achieve the ENERGY STAR certified apartments and condominium label.
- 6. <u>Energy Star for New Homes</u> a rebate program that encourages residential customers to construct residential dwellings that qualify for the Energy Star Award by achieving efficiency levels greater than current Florida building code baseline practices.
- 7. <u>Energy Star Pool Pumps</u> a rebate program that encourages residential customers to install Energy Star rated pool pumps in existing homes.
- 8. <u>Energy Star Thermostats</u> a rebate program that encourages residential customers to install Energy Star rated thermostats in existing homes.
- 9. <u>Residential Heating and Cooling</u> a rebate program that encourages residential customers to install highefficiency residential heating and cooling equipment in existing homes.
- 10. <u>Neighborhood Weatherization</u> a program that provides energy efficient measures for qualified low– income customers.
- 11. <u>Prime Time Plus</u> a program that reduces weather-sensitive loads through direct load control of residential customers HVAC, water heating and pool pumps. This program uses the company's advanced metering infrastructure ("AMI") system.
- 12. <u>Residential Price Responsive Load Management (Energy Planner)</u> a program that reduces weathersensitive loads through an innovative price responsive rate used to encourage residential customers to make behavioral or equipment usages changes by pre-programming HVAC, water heating and pool pumps.
- 13. <u>Residential Window Replacement</u> a rebate program that encourages existing residential customers to

install window upgrades in existing homes.

- 14. <u>Commercial Chiller</u> a rebate program that encourages commercial and industrial customers to install high efficiency chiller equipment.
- 15. <u>Cogeneration</u> an incentive program whereby large industrial customers with waste heat or fuel resources may install electric generating equipment, meet their own electrical requirements, and/or sell their surplus to the company.
- 16. <u>Conservation Value</u>: a rebate program that encourages commercial and industrial customers to invest in energy efficiency and conservation measures not sanctioned by other commercial programs.
- 17. <u>Commercial Cooling</u> a rebate program that encourages commercial and industrial customers to install high efficiency direct expansion commercial air conditioning cooling equipment.
- 18. <u>Demand Response</u> a turn-key incentive program for commercial and industrial customers to reduce their demand for electricity in response to market signals.
- 19. <u>Commercial Facility Energy Management System</u> a rebate program that encourages commercial and industrial customers to install high efficiency energy management systems.
- 20. <u>Industrial Load Management</u> an incentive program whereby large industrial customers allow for the interruption of their facility or portions of their facility electrical load.
- 21. <u>Street and Outdoor Lighting Conversion</u> A program that converts Tampa Electric's metal halide and high-pressure sodium street and outdoor lighting to energy efficient light emitting diode (LED) technology to reduce energy consumption and Tampa Electric's peak demand. Tampa Electric will recover the remaining unamortized costs in rate base with the eligible Non-LED luminaires. The company completed this conversion program in 2023.
- 22. <u>Lighting Conditioned Space</u> a rebate program that encourages commercial and industrial customers to invest in more efficient lighting technologies in existing conditioned areas of commercial and industrial facilities.
- 23. <u>Lighting Non-Conditioned Space</u> a rebate program that encourages commercial and industrial customers to invest in more efficient lighting technologies in existing non-conditioned areas of commercial and industrial facilities.
- 24. <u>Lighting Occupancy Sensors</u> a rebate program that encourages commercial and industrial customers to install occupancy sensors to control commercial lighting systems.
- 25. <u>Commercial Load Management</u> an incentive program that encourages commercial and industrial customers to allow for the control of weather-sensitive heating, cooling, and water heating systems to reduce the associated weather sensitive peak.
- 26. <u>Commercial Smart Thermostat</u> a rebate program that encourages commercial and industrial customers to smart thermostats.
- 27. Standby Generator an incentive program designed to utilize the emergency generation capacity of

16

Tampa Electric Company Ten-Year Site Plan 2025

commercial/industrial facilities to reduce weather sensitive peak demand.

- 28. <u>Variable Frequency Drive Control for Compressors</u> a rebate program that encourages commercial and industrial customers to install variable frequency drives on refrigerant or compressed air systems.
- 29. <u>Commercial Water Heating</u> a rebate program that encourages commercial and industrial customers to install high efficiency water heating systems.
- 30. <u>Integrated Renewable Energy System</u> a five-year pilot program to study and understand the potential opportunities and interactions of a fully integrated renewable energy system that contains a photovoltaic system, batteries, car charging and industrial truck charging.
- 31. <u>Conservation Research and Development (R&D)</u> a program that allows for the exploration of DSM measures that have insufficient data on the cost-effectiveness of the measure and the potential impact to Tampa Electric and its ratepayers.

The programs listed above were developed to meet FPSC demand and energy goals established in Docket No. 20190021-EG, Order No. PSC-2019-0509-FOF-EU, Issued November 26, 2019. The 2024 demand and energy savings achieved by conservation and load management programs are listed in Table III-1.

Tampa Electric developed a Monitoring and Evaluation (M&E) plan in response to FPSC requirements filed in Docket No. 19941173-EG. The M&E plan was designed to effectively accomplish the required objective with prudent application of resources.

The M&E plan has its focus on two distinct areas: process evaluation and impact evaluation. Process evaluation examines how well a program has been implemented including the efficiency of delivery and customer satisfaction regarding the usefulness and quality of the services delivered. Impact evaluation is an evaluation of the change in demand and energy consumption achieved through program participation. The results of these evaluations give Tampa Electric insight into the direction that should be taken to refine delivery processes, program standards, and overall program cost-effectiveness.



	Compa	arison of Achie	eved MW and (		ns With Floridane Generator	a Public Servi	ce Commission	Goals	
				Desid	ential				
	Withot	er Peak MW Red	hation		ner Peak MW Re	dutation	CIU	h Energy Reduc	tion
	WIII	Commission		Summ	Commission	equenon	GW.	Commission	11011
	Total	Approved	%	Total	Approved	%	Total	Approved	%
Year	Achieved	Goal	Variance	Achieved	Goa1	Variance	Achieved	Goal	Varian
2015	12.3	2.6	473.1%	10.8	1.1	981.8%	21.2	1.8	1.177.8
2016	7.7	4.1	187.8%	5.1	1.6	318.8%	13.2	3.5	377.19
2017	6.9	5.2	132.7%	4.7	2.2	213.6%	14.9	4.8	310.4
2018	8.0	6.5	123.0%	5.6	2.7	205.7%	17.1	6.1	280.39
2019	8.3	7.6	108.8%	5.7	3.1	184.5%	16.8	6.9	243.29
2020	3.5	7.6	45.5%	2.6	3.3	78.2%	8.9	7.4	120.39
2021	4.5	8.0	55.8%	6.4	3.3	194.2%	16.4	7.7	213.19
2022	9.5	7.4	127.8%	11.1	3.0	369.8%	30.4	6.9	441.0
2023	10.3	6.8	151.2%	12.5	2.9	429.5%	29.6	6.3	469.9
2024	8.5	6.1	139.7%	9.8	2.5	393.4%	22.2	5.5	404.19
2025	0.0	14.0	1051770	510	7.9	0501770	22.2	24.8	
				Commoraia	l/ Industrial				
	Winte	er Peak MW Red	luction		ner Peak MW Re	eduction	GW	h Energy Reduc	tion
		Commission	-		Commission		-	Commission	
	Tota1	Approved	%	Tota1	Approved	%	Tota1	Approved	%
Year	Achieved	Goal	Variance	Achieved	Goal	Variance	Achieved	Goal	Varian
2015	8.1	1.2	675.0%	11.7	1.7	688.2%	12.5	3.9	320.5
2016	2.9	1.3	223.1%	4.4	2.5	176.0%	17.8	6.0	296.79
2017	9.2	1.6	575.0%	10.4	2.7	385.2%	30.2	8.0	377.59
2018	13.0	1.7	767.1%	15.0	3.3	453.6%	33.7	9.2	365.9
2019	22.4	1.6	1401.9%	29.2	3.3	885.9%	74.6	9.9	753.49
2020	10.4	1.7	612.5%	11.8	3.5	336.0%	26.1	10.3	253.3
2021	4.7	1.9	246.2%	5.6	3.6	156.8%	20.4	10.4	196.19
2022	7.1	1.9	376.0%	12.3	3.3	372.2%	26.6	10.2	261.2
2023	7.2	1.8	398.1%	8.1	3.5	232.1%	30.3	9.9	305.6
2024	9.2	1.7	542.5%	12.3	3.2	384.5%	86.5	9.6	900.9
2025	1000	5.4			6.4			22.2	
				Combin	ed Total				
	Wint	er Peak MW Red	luction		her Peak MW Re	eduction	GW	h Energy Redu	tion
		Commission		1	Commission		- <del>21</del>	Commission	1949-04
	Total	Approved	%	Total	Approved	%	Total	Approved	%
Year	Achieved	Goal	Variance	Achieved	Goal	Variance	Achieved	Goal	Varian
2015	20.4	3.8	536.8%	22.5	2.8	803.6%	33.7	5.7	591.2
2016	10.6	5.4	196.3%	9.5	4.1	231.7%	31.0	9.5	326.3
2017	16.1	6.8	236.8%	15.1	4.9	308.2%	45.1	12.8	352.3
2018	21.0	8.2	256.5%	20.5	6.0	342.1%	50.8	15.3	331.8
2019	30.7	9.2	333.7%	35.0	6.4	546.2%	91.4	16.8	543.9
2020	13.9	9.3	149.1%	14.3	6.8	210.9%	35.0	17.7	197.7
2021	9.1	9.9	92.3%	12.1	6.9	174.7%	36.8	18.1	203.39
2022	16.6	9.3	178.5%	23.4	6.3	371.0%	57.1	17.1	333.89
2023	17.4	8.6	202.9%	20.6	6.4	321.6%	59.9	16.2	369.5
2024	17.7	7.8	227.5%	22.1	5.7	388.4%	108.7	15.1	720.09
2025		19.4			14.3			47.0	

## **BASE CASE FORECAST ASSUMPTIONS**

## **RETAIL LOAD**

Numerous assumptions are inputs to the MetrixND models, of which the more significant ones are listed below.

- 1. Population and Households
- 2. Commercial, Industrial and Governmental Employment
- 3. Commercial, Industrial and Governmental Output
- 4. Real Household Income
- 5. Price of Electricity
- 6. Appliance Efficiency Standards
- 7. Weather

### 1. Population and Households

Florida and Hillsborough County population forecasts are the starting point for developing the customer and energy projections. Both the University of Florida's Bureau of Economic and Business Research (BEBR) and Moody's Analytics supply population projections for Hillsborough County and Florida comparisons. BEBR's population growth for Hillsborough County was used to project future growth patterns in residential customers from 2025-2034. The average annual population growth rate is expected to be 1.4%.

### 2. Commercial, Industrial and Governmental Employment

Commercial, industrial, and governmental employment assumptions are utilized in computing the number of customers in their respective sectors. Over the next ten years (2025-2034), employment is assumed to rise at a 1.0% average annual rate within Hillsborough County. Moody's Analytics supplies employment projections for the non-residential models.

### 3. Commercial, Industrial and Governmental Output

In addition to employment, output in terms of real gross domestic product by employment sector is utilized in computing energy in their respective sectors. Output for the entire employment sector within Hillsborough County is assumed to rise at a 2.8% average annual rate from 2025-2034. Moody's Analytics supplies output projections.

### 4. Real Household Income

Moody's Analytics supplies the assumptions for Hillsborough County's real household income growth. During 2025-2034, real household income for Hillsborough County is expected to increase at a 1.2% average annual rate.

## 5. Price of Electricity

Forecasts for the price of electricity by customer class are supplied by TEC's Regulatory Affairs Department.

#### 6. Appliance Efficiency Standards

Another factor influencing energy consumption is the movement toward more efficient appliances such as heat pumps, refrigerators, lighting, and other household appliances. The forces behind this development include market pressures for greater energy-saving devices, legislation, rules, and the appliance efficiency standards enacted by the state and federal governments. Also influencing energy consumption is the customer saturation levels of appliances. The saturation trend for heating appliances is increasing through time; however, overall electricity consumption declines over time as less efficient heating technologies (room heating and furnaces) are replaced with more efficient technologies (heat pumps). Similarly, cooling equipment saturation will continue to increase, but be offset by heat pump and central air conditioning efficiency gains.

Improvements in the efficiency of other non-weather-related appliances also help to lower electricity consumption. Although there is an increasing saturation trend of electronic equipment and appliances in households throughout the forecast period, it does not offset the efficiency gains from lighting and appliances.

#### 7. Weather

The weather assumptions are the most difficult to project. Therefore, historical data is the major determinant in developing temperature profiles. For example, monthly profiles used in calculating energy consumption are based on twenty years of historical data. The temperature profiles used in projecting the winter and summer system peak are based on an examination of the minimum and maximum temperatures for the past twenty years plus the temperatures on peak days for the past twenty years. Monte Carlo simulations are performed to estimate weather probabilities.

### **HIGH AND LOW SCENARIO FORECAST ASSUMPTIONS**

The base case scenario is tested for sensitivity to varying economic conditions and customer growth rates. The high and low peak demand and energy scenarios represent alternatives to the company's base case outlook. Compared to the base case, the expected economic growth rates are 0.5 percent higher in the high scenario and 0.5 percent lower in the low scenario.

### **HISTORY AND FORECAST OF ENERGY USE**

A history and forecast of energy consumption by customer classification are shown in Schedules 2.1 - 2.3 in Chapter IV.

#### 1. Retail Energy

For 2025-2034, retail energy sales are projected to rise at a 0.9% annual rate. The primary contributor to growth is the residential class increasing at an annual rate of 1.2%.

#### 2. Wholesale Energy

TEC has no scheduled firm wholesale power sales currently.

## **HISTORY AND FORECAST OF PEAK LOADS**

Historical, base, high, and low scenario forecasts of peak loads for the summer and winter seasons are presented in Schedules 3.1 and 3.2, respectively. For the period of 2025-2034, TEC's base retail firm peak demand is expected to increase at an average annual rate of 1.0% in the summer and 1.1% in the winter.

Tampa Electric Company Ten-Year Site Plan 2025

## Chapter III



## **INTEGRATED RESOURCE PLANNING PROCESSES**

TEC's IRP process is designed to evaluate demand-side and supply-side resources on a comparable and consistent basis to satisfy future demand and energy requirements in a cost-effective and reliable manner, while considering the interests of utility customers and shareholders.

The process incorporates a reliability analysis to determine timing of future needs and an economic analysis to determine what resource alternatives best meet future system demand and energy requirements. Initially, a demand and energy forecast is developed which excludes incremental energy efficiency and conservation programs. This forecast is used to identify the basis for the next potential avoided unit(s), and becomes the baseline used to perform a comprehensive cost effectiveness analysis of these programs based on the following Commission approved tests: the Rate Impact Measure test (RIM), the Total Resource Cost test (TRC), and the Participants Cost test (PCT). Using the FPSC's standard cost-effectiveness methodology, each measure is evaluated based on different marketing and incentive assumptions. Utility plant avoidance assumptions for generation, transmission, and distribution are also used in this analysis. All measures that pass the RIM and PCT tests in the energy efficiency and demand response analysis are considered for utility program adoption.

Each adopted measure is quantified into its coincident summer and winter peak kW reduction contribution and its annual kWh savings and is reflected in the demand and energy forecast. TEC evaluates and reports energy efficiency and demand response measures that comports with Rule 25-17.008, F.A.C., the FPSC's prescribed cost-effectiveness methodology.

Once this comprehensive analysis is complete and the cost-effective energy efficiency and conservation programs are determined, the system demand and energy requirements are revised to include the effects of these programs on reducing system peak and energy requirements. The process is repeated to incorporate the energy efficiency and conservation programs and supply-side resources.

Generating supply side resources to be considered are determined through an alternative technology screening analysis, which is designed to determine the economic viability of a wide range of generating technologies for the TEC service area. The technologies that pass the screening are included in a supply-side analysis that examines various supply-side alternatives for meeting future system requirements.

TEC uses a long-term planning computer model developed by Energy Exemplar, PLEXOS, to evaluate supply-side resources. PLEXOS utilizes a mixed integer linear program (MILP) to develop an estimate of the timing and type of supply-side resources for generation additions that would economically meet the system demand and energy requirements. The objective function of the MILP is to compare all feasible combinations of generating unit additions, satisfy the specified reliability criteria, and determine the schedule and addition with the lowest total system cost.

Detailed cost analyses for each of the top ranked resource plans are performed using the Energy Exemplar's PLEXOS production cost model. The capital expenditures, including interconnection costs and incremental fuel transportation associated with each capacity addition are obtained based on the type of generating unit, fuel type, capital spending curve, and in-service year. The fixed charges resulting from the capital expenditures are expressed in present worth dollars for comparison. The fuel and the operating and maintenance costs

Tampa Electric Company Ten-Year Site Plan 2025

associated with each scenario are projected based on economic dispatch of all the energy resources in our system. The projected operating expense, expressed in present worth dollars, is combined with the fixed charges to obtain the total cumulative present value of revenue requirements for each alternative plan.

The result of the IRP process provides Tampa Electric's customers with a plan that is cost-effective while maintaining flexibility and adaptability to a dynamic regulatory and competitive environment, while focusing on improved efficiency and lower emissions. To meet the expected system demand and energy requirements and cost-effectively maintain system reliability, the company's expansion plan includes the following:

- Enhancements of existing assets at Polk and Bayside
- Completion of solar PV, reciprocating engines and batteries as presented in the 2024 rate case.
- Additional future utility-scale solar, batteries and combustion turbines over the study horizon.

The expansion plan presented in this Ten-Year Site Plan will meet growing customer needs with the addition of energy resources distributed throughout our territory. In addition to enhancements to the existing assets and the utility-scale solar, battery storage, reciprocating engines and combustion turbines will be added to meet customer demand growth and provide operational flexibility and system resiliency to better serve our customers. The detailed expansion plan is shown in Schedule 8.1.

TEC will continue to assess and incorporate competitive purchase power agreements and DSM programs that may replace or delay the scheduled units. Such optimizations must achieve the overall objective of providing reliable power in a cost-effective manner.

## **FINANCIAL ASSUMPTIONS**

TEC makes numerous financial assumptions as part of the preparation for its TYSP process. These assumptions are based on the current financial status of the company, the market for securities, and the best available forecast of future conditions. The primary financial assumptions include the FPSC-approved Allowance for Funds Used During Construction (AFUDC) rate, capitalization ratios, financing cost rates, tax rates, and FPSC-approved depreciation rates.

- Per the Florida Administrative Code 25-6, an amount for AFUDC is recorded by the company during the construction phase of each capital project that meets the requirements. This rate is approved by the FPSC and represents the cost of money invested in the applicable project while it is under construction. This cost is capitalized, becomes part of the project investment, and is recovered over the life of the asset. The AFUDC rate assumed in the Ten-Year Site Plan represents the company's currently approved AFUDC rate.
- The capitalization ratios represent the percentages of incremental long-term capital expected to be issued to finance the capital projects identified in the TYSP.
- The financing cost rates reflect the incremental cost of capital associated with each of the sources of long-term financing.
- Tax rates include federal income tax, state income tax, and miscellaneous taxes including property tax.
- Depreciation represents the annual cost to amortize the total original investment in a plant over its useful life less net salvage value. This provides for the recovery of plant investment. The assumed book life for each capital project within the TYSP represents the average expected life for that type of asset.

### **FUEL FORECAST**

TEC forecasts base case fuel commodity prices for natural gas, coal, and oil by analyzing current market prices and price forecasts obtained from various consultants and agencies. These sources include the New York Mercantile Exchange, S&P Global, U.S. Energy Information Administration, and Coaldesk, LLC Publications. For natural gas, coal and oil prices, the company produces both high and low fuel price projections, which represent alternative forecasts to the company's base case outlook.



Tampa Electric Company Ten-Year Site Plan 2025

## TEC RENEWABLE RESOURCES AND STORAGE TECHNOLOGY INITIATIVES

#### 1. Renewable Energy Initiatives and Customer Programs

Since 2017, TEC has successfully completed the construction and commissioning of 1,350 MW<sub>AC</sub> of solar PV generating capacity at 27 utility solar sites, which can produce enough electricity to power more than 223,000 homes. Over the next two years, the Company plans to expand with six new cost-effective, utility solar sites, adding 376 MW of additional solar capacity. By the end of 2026, Tampa Electric will have about 1,725 MW<sub>AC</sub> of solar generating capacity – with the ability to produce enough energy to power more than 284,000 homes – or almost 18 percent of TEC's energy produced by the sun by the following year.

The company's proposed solar expansion helps lower electricity costs. These cost-effective projects also help serve increased customer load while reducing the impact of fuel price fluctuations on the customers' bill due to the zero-fuel cost generation. The additional utility-scale solar will help moderate fuel price volatility, increase fuel diversity, reduce reliance on natural gas, and has little to no water requirements for operations. In addition, with the passage of the Inflation Reduction Act, the federal government is providing additional tax incentives which will also benefit customers.

Beyond 2025 there is an additional 1,191  $MW_{AC}$  of solar PV generating capacity shown in this TYSP that is in the planning and analysis phase and requires further development. In sum, TEC would have over 2,700  $MW_{AC}$  of solar capacity by the end of the study horizon, which means approximately 25 percent of our energy will come from the sun.

Since 2006, TEC implemented the Renewable Energy Program which offers residential, commercial, and industrial customers the opportunity to purchase 200 kWh renewable energy "blocks" for their home or business. In 2009, TEC added a new feature to the program which allows residential, commercial, and industrial customers the opportunity to purchase renewable energy in one-time blocks to power a specific event. This enables a family, business, or venue to make a statement about their commitment to the environment and to renewable energy. Through December 2024, TEC's Renewable Energy Program has 1,009 customers purchasing over 1,754 blocks of renewable energy each month and there have been over 5,600 one-time blocks purchased since program inception.

The company's renewable generation portfolio is a mix of various technologies and renewable generation sources, including both large utility scale solar PV sites and smaller, company-owned community sited PV arrays that provide ample solar energy for the Renewable Energy Block Program. The smaller, community-sited PV arrays are currently installed at Middleton High School, the Manatee Viewing Center, Zoo Tampa at Lowry Park, LEGOLAND Florida's Imagination Zone, the Museum of Science and Industry (MOSI). The Renewable Energy Program installations are strategically located throughout the community and are designed to educate students and the public on the benefits of renewable energy. Educational signage touts the advantages of solar energy and interactive displays provide hands-on experience to engage visitors' interest in clean, renewable technologies.

The Florida Conservation and Technology Center (FCTC) located south of Big Bend Station is a collaborative partnership with the Florida Aquarium and Florida Fish & Wildlife to develop and educate students and the public on water and energy conservation technologies, marine science development and clean energy demonstrations. The FCTC site includes the TEC Manatee Viewing Center, the Center for Conservation, and the TEC Clean Energy Center (CEC). The CEC has a flexible rooftop adhesive PV array, a dual axis tracking PV Smart Flower array, and a fixed tilt solar canopy array. The FCTC also includes a vertical axis Be-Wind wind turbine, a

vanadium flow battery and a supercapacitor based energy storage system. A 1 MW<sub>AC</sub> floating solar pilot project at FCTC began operations in 2022. It integrates solar panels onto floats and will analyze the benefits of bi-facial solar panels capabilities to increase the output created from reflected light onto the reverse side of the solar panels. The data collected and lessons learned will inform future applications over open water reservoirs and show that floating solar can decrease water evaporation. A 1 MW<sub>AC</sub> agrivoltaics pilot project at FCTC was also completed in 2022. The project was designed to combine renewable energy with agriculture by positioning elevated solar panels in wider rows with plants or crops planted between the rows of solar panels. This will provide farmable acreage to balance the community attrition of acreage due to development. Agrivoltaics applications can lower the operating costs of large utility scale solar sites by sharing viable land with agricultural interests.

By Order No. PSC-2019-0215-TRF-EI, the Commission approved Tampa Electric Company's (TECO or utility) Shared Solar Tariff (SSR-1 tariff). The SSR-1 tariff provides residential and commercial customers with the option to purchase energy produced from a TECO-owned solar generation facility to replace all or a portion of their monthly energy consumption. Participants are charged a Shared Solar Charge of \$0.063 per kilowatt-hour while the fuel kWh is removed for the subscribed portion. The SSR-1 tariff became effective on June 25, 2019, after TECO completed programming its billing system to administer the SSR-1 tariff. Tampa Electric Company launched the Sun Select program on June 26, 2019, making 17.5 MW<sub>AC</sub> of solar generation available to its customers via the SSR-1 tariff.

# 2. Storage Technology Initiatives

Battery storage projects will help maintain the required winter capacity reserve margin as peak load grows with increased customers. Additionally, battery storage provides fuel savings for customers through energy arbitrage, where energy is stored during off-peak hours when electricity prices are cheapest and used during on-peak hours when electricity prices are highest. Other added benefits include the potential deferral or avoidance of future transmission and distribution investments by eliminating an otherwise necessary upgrade by locating an energy source close to a high load area.

In 2018, Tampa Electric began interconnecting customer-owned battery storage. As of December 31, 2024, there are 1466 customers interconnected with 13.995 MW DC storage capacity.

# 3. Electric Vehicle Initiatives

The upward trajectory of customer adoption of Electric Vehicles (EV) continues, and this trend is expected to persist into the near future. Florida continually ranks second in the nation for the number of EVs sold, and TEC is forecasting a nearly 30% average annual growth rate in the number of EVs within our service area through 2030. Given the ongoing enhancements in battery technology and cost efficiencies, increased access to public charging infrastructure, and greater consumer choice in the types of EVs offered by major automakers, forecasts show EV adoption will continue to grow.

Most recently, in 2021, the FPSC approved TEC's Drive Smart<sup>™</sup> EV charging pilot, which allows for the installation of up to 200 Level 2 (240V) and up to four Direct Current Fast Charging (DCFC) stations across the service territory. The 4-year pilot will help to increase driver confidence by expanding access to EV charging, while also providing valuable data to support proper grid planning. The pilot has seen significant interest from customers with nearly 750 ports being applied for. In 2020, TEC received FPSC approval for a variance to CIAC Rule No. 25-6.064, F.A.C. when primary line extensions are required to serve high-power DCFC locations. Through this variance, TEC can extend the revenue period used in determining customer CIAC, from 5 years to 10 years. By doing so, the economics for charging station developers should significantly improve, particularly as charging

Tampa Electric Company Ten-Year Site Plan 2025

needs expand to more rural areas and underserved communities. To educate future Electric Vehicle (EV) drivers, TEC introduced a high school driver education program as an enhancement of the company's ongoing Energy Education and Awareness conservation program. TEC not only provided funding for the EVs, but also installed the necessary EV chargers and helped to develop curriculum used in the classrooms.

Through these activities, as well as increased customer engagement, TEC is learning valuable information to support the needs of specific market segments, particularly multi-family residential properties and commercial fleets. The high concentration of EVs at these locations requires extensive planning for both the customer and utility infrastructure needed to provide adequate charging while minimizing grid impacts. As EV adoption continues to increase, smart grid enhancements, smart charging infrastructure and innovative customer programs will be necessary to help manage the potential effects of EV charging on our grid, in a way that benefits all TEC customers.

# **GENERATING UNIT PERFORMANCE ASSUMPTIONS**

TEC's generating unit performance assumptions are used to evaluate long-range system operating costs associated with integrated resource plans. Generating units are characterized by several different performance parameters. These parameters include capacity, heat rate, unit derations, planned maintenance days, and unplanned outage rates.

The unit performance projections are based on historical data trends, engineering judgment, time since last planned outage, and recent equipment performance. The first five years of planned outages are based on a forecasted outage schedule, and the planned outages for the balance of the years are based on a repetitive pattern.

The forecasted outage schedule is based on unit-specific maintenance needs, material lead-time, labor availability, and the need to supply our customers with power in the most economical manner. Unplanned outage rates are projected based on an average of three years of historical data, future expectations, and any necessary adjustments to account for current unit conditions.

# **GENERATION RELIABILITY CRITERIA**

# 1. Reserve Margin

TEC calculates reserve margin in two ways to measure reliability of the generating system. The company utilizes a minimum 20 percent firm reserve margin with a minimum contribution of 7 percent supply-side resources. TEC's approach to calculating percent reserves is consistent with the agreement outlined in the Commission approved Docket No. 981890-EU, Order No. PSC-99-2507-S-EU, issued December 22, 1999. The calculation of the minimum 20 percent firm reserve margin employs an industry accepted method of using total available generating capacity and firm purchased power capacity (capacity less planned maintenance and solar capacity unavailable at the time of peak demand) and subtracting the annual firm peak load, then dividing by the firm peak load, and multiplying by 100. Capacity dedicated to any firm unit or station power sales at the time of system peak is subtracted from TEC's available capacity.

TEC's supply-side reserve margin is calculated by dividing the difference of projected supply-side resources and projected total peak demand by the forecasted firm peak demand. The total peak demand includes the firm peak demand and interruptible and load management loads.

### 2. Winter Reliability Assessment

Tampa Electric Company's current and expected resources meet operating reserve requirements under normal peak demand scenarios. The reserve margin provides operating flexibility in the case of unplanned outages and deviations to load from colder than normal (or hotter than normal) weather. However, temperatures that vary significantly from those used to prepare this plan would result in the need to employ operating mitigation under these extreme conditions. These mitigations could include changes to unit dispatch to enhance reliability, switching to alternate fuels, making full use of demand response, pursuing purchase power agreements, and potentially interrupting customers to maintain grid stability. The company has reviewed and updated its freeze protection plans for each of its generation stations and implemented measures to mitigate equipment failure during these extreme temperatures. Refer to schedule 7.2.1 to see how a 2-degree change in temperatures can impact winter reserve margins.

# SUPPLY-SIDE RESOURCES PROCUREMENT PROCESS

TEC uses wholesale power market opportunities to enhance and optimize its system. Prospective suppliers of supply-side resources are identified in accordance with established policies and procedures. Competitive bid evaluations are used in developing award recommendations to management. Fuel, fuel transportation, transmission availability, transmission cost, environmental requirements, ancillary services, and balancing requirements are considered as part of evaluating future supply-side resources.

This process allows for future supply-side resources to be supplied from self-build, purchased power, or asset purchases. Consistent with company practice, bidders are encouraged to propose incentive arrangements that promote development and implementation of cost savings and process-improvement recommendations.

# **TRANSMISSION PLANNING - CONSTRAINTS AND IMPACTS**

The TEC transmission system supports the reliable delivery of required capacity and energy to TEC's retail and wholesale customers. Transmission Planning studies are performed annually to evaluate the performance of the TEC transmission system with the results of the studies varying due to refinements in load projections, planning criteria, generation plans and operating flexibility. This involves the use of steady-state load flow, short circuit, and transient stability programs to model various contingency situations, 3-Phase Fault and Single Line-Ground Fault analysis that may occur to determine if the TEC transmission system meets the reliability criteria. Simulations of normal system conditions, single and select multiple contingency events, are performed during system peak and off-peak load levels, and summer and/or winter conditions.

Based on existing studies (ex: internal expansion, joint utility, operating, Florida Reliability Coordinating Council (FRCC) Long Range Study, FRCC Planning and Extreme Events Stability Analysis, FRCC Summer Assessment, FRCC Winter Assessment and other miscellaneous studies) and TEC's current transmission construction program, TEC anticipates no transmission constraints that violate the criteria as described in the Transmission Planning Reliability Criteria section of this document.

# TRANSMISSION PLANNING RELIABILITY CRITERIA

### 1. Transmission

TEC developed the transmission planning reliability criteria, as described in the FERC Form 715 filing, to assess

and test the strength and limits of the transmission system, while meeting the load responsibility and being able to move bulk power between and among other electric systems. TEC has adopted the transmission planning criteria outlined in the FRCC's *FRCC Regional Transmission Planning Process*. The FRCC's transmission planning criteria are consistent with the North American Electric Reliability Corporation (NERC) Reliability Standards.

In general, the NERC Reliability Standards state the transmission system will remain stable, within the applicable thermal and voltage rating limits, without cascading outages, under normal, single, and select multiple contingency conditions. In addition to the FRCC criteria, TEC utilizes company-specific planning criteria for normal system operation and contingency operation, along with a Facility Rating Methodology and Facility Interconnection Requirements document available at <a href="https://www.oasis.oati.com/TEC/index.html">https://www.oasis.oati.com/TEC/index.html</a>.

The transmission planning reliability criteria are used as guidelines for proposing transmission system expansion and/or improvement projects, but they are not absolute system expansion rules. These criteria are used to alert planners of potential transmission system capacity limitations. Engineering analysis is used in all stages of the planning process to weigh the impact of system deficiencies, the likelihood of the triggering contingency, and the viability of any operating options. Only by carefully researching each potential planning criteria violation can a final evaluation of available transmission capacity be made.

# 2. Available Transmission Transfer Capability (ATC) Criteria

TEC adheres to the ATC calculation methodology described in the Attachment C of the Tampa Electric Company *Open Access Transmission Tariff FERC Electric Tariff*, Fourth Revised Volume No. 4 document, accessible at <a href="https://www.oasis.oati.com/woa/docs/TEC/TECdocs/Tariff">https://www.oasis.oati.com/woa/docs/TEC/TECdocs/Tariff</a> Fourth Revised Volume No. 4 effective 5-<a href="https://www.oasis.oati.com/woa/docs/TEC/TECdocs/Tariff">https://www.oasis.oati.com/woa/docs/TEC/TECdocs/Tariff</a> Fourth Revised Volume No. 4 effective 5-<a href="https://www.oasis.oati.com/woa/docs/TEC/TECdocs/Tariff">https://www.oasis.oati.com/woa/docs/TEC/TECdocs/Tariff</a> Fourth Revised Volume No. 4 effective 5-</a> <a href="https://www.oasis.oati.com/woa/docs/TEC/TECdocs/Tariff">https://www.oasis.oati.com/woa/docs/TEC/TECdocs/Tariff</a> Fourth Revised Volume No. 4 effective 5-</a> <a href="https://www.oasis.oati.com/woa/docs/TEC/TECdocs/Tariff">https://www.oasis.oati.com/woa/docs/TEC/TECdocs/Tariff</a> Fourth Revised Volume No. 4 effective 5-</a> <a href="https://www.oasis.oati.com/woa/docs/TEC/TECdocs/Tariff">https://www.oasis.oati.com/woa/docs/TEC/TECdocs/Tariff</a> Fourth Revised Volume No. 4 effective 5-</a> <a href="https://www.oasis.oati.com/woa/docs/TEC/TECdocs/Tariff">https://www.oasis.oati.com/woa/docs/TEC/TECdocs/Tariff</a> Fourth Revised Volume No. 4 effective 5-</a> <a href="https://www.oasis.oati.com/woa/docs/Tec/Tecdocs/Tariff">https://www.oasis.oati.com/woa/docs/Tec/Tecdocs/Tariff</a> Fourth Revised Volume No. 4 effective 5-</a> <a href="https://www.oasis.oati.com/woa/docs/Tec/Tecdocs/Tariff">https://www.oasis.oati.com/woa/docs/Tec/Tecdocs/Tariff</a> Fourth Revised Volume No. 4 effective 5-</a> <a href="https://www.oasis.oati.com/woa/docs/Tec/Tecdocs/Tariff">https://www.oasis.oati.com/woa/docs/Tec/Tecdocs/Tariff</a> Fourth Revised Volume No. 4 effective 5-</a> <a href="https://www.oasis.oati.com/woa/docs/Tec/Tecdocs/Tariff">https://www.oasis.oati.com/woa/docs/Tec/Tecdocs/Tariff</a> Fourth Revised Volume No. 4

# TRANSMISSION SYSTEM PLANNING ASSESSMENT PRACTICES

TEC's transmission system planning assessment practices are developed according to the TEC and NERC Reliability Standards to ensure a reliable system is planned that demonstrates adequacy within TEC's footprint to meet present and future system needs. The Reliability Standards require that the TEC transmission system be planned such that it will remain stable within the applicable facility ratings and voltage rating limits and without cascading outages under normal system conditions, as well as single and select multiple contingency events.

TEC performs transmission studies independently, collaboratively with other utilities, and as part of the FRCC to determine if the system meets the criteria. The studies involve the use of steady-state power flows, transient stability analyses, short circuit assessments and various other assessments to ensure adequate system performance.

# 1. Base Case Operating Conditions

The TEC transmission system can support peak and off-peak system load levels while meeting the criteria as described in the Transmission Planning Reliability Criteria section of this document.

# 2. Single Contingency Planning Criteria

The TEC transmission system is designed to support any single event outage of a transmission circuit,

autotransformer, generator, or shunt device (including FRCC studies of Category P1 and P2-1 events) at a variety of load levels while meeting the criteria as described in the Transmission Planning Reliability Criteria section of this document.

# 3. Multiple Contingency Planning Criteria

Select double contingencies (including FRCC studies of Category P2-2 through P7 events) involving two or more Bulk Electric System (BES) transmission system elements out of service are analyzed at various load levels. The TEC transmission system is designed such that double contingencies meet the criteria as described in the Transmission Planning Reliability Standards Criteria section of this document.

# 4. Transmission Construction and Upgrade Plans

A specific list of the proposed directly associated transmission construction projects corresponding with the proposed generating facilities can be found in Chapter V, Schedule 10. This list represents the latest BES transmission construction related to the generation expansion on Schedule 8.1 and 9. However, due to the timing of this document in relationship to the company's internal planning schedule, this plan may change in the future. The current transmission construction and upgrade plan for the planning horizon does not require any electric utility system lines to be certified under the Transmission Line Siting Act (403.52-403.536, F.S.).

# **ENERGY EFFICIENCY, CONSERVATION, AND ENERGY SAVINGS DURABILITY**

TEC ensures that DSM programs the company offers are directly monitorable and yield measurable results. The achievements and durability of energy savings from the company's conservation and load management programs are validated by several methods. First, TEC has established a monitoring and evaluation process where historical analysis validates the energy savings. These include:

- Periodic system load reduction analysis for price responsive load management (Energy Planner), Commercial industrial load management and Commercial demand response to confirm and verify the accuracy of TEC's load reduction estimation formulas.
- Billing energy usage and demand analysis of participants in certain energy efficiency and conservation programs as compared to control groups.
- Analysis of DOE2 modeling of various program participants.
- End-use monitoring and evaluation of projects and programs.
- Specific metering of loads under control to determine the actual demand and energy savings in commercial programs such as Standby Generator and Commercial Load Management and Commercial Demand Response.

Second, the programs are designed to promote the use of high-efficiency equipment having permanent installation characteristics. Specifically, those programs that promote the installation of energy-efficient measures or equipment (heat pumps, hard-wired lighting fixtures, ceiling insulation, wall insulation, window replacements, air distribution system repairs, DX commercial cooling units, chiller replacements, and water heating replacements) have program standards that require the new equipment to be installed in a permanent manner thus ensuring their durability.

# **Chapter IV**



# FORECAST OF ELECTRIC POWER, DEMAND AND ENERGY CONSUMPTION

Tables in Schedules 2 through 4 reflect three distinct levels of load forecasting: base case, high case, and low case. The expansion plan is developed using the base case load forecast and is reflected on Schedules 5 through 9. This forecast band best represents the current economic conditions and the long-term impacts to TEC's service territory.

- Schedule 2.1: History and Forecast of Energy Consumption and Number of Customers by Customer Class (Base, High & Low)
- Schedule 2.2: History and Forecast of Energy Consumption and Number of Customers by Customer Class (Base, High & Low)
- Schedule 2.3: History and Forecast of Energy Consumption and Number of Customers by Customer Class (Base, High & Low)
- Schedule 3.1: History and Forecast of Summer Peak Demand (Base, High & Low)
- Schedule 3.2: History and Forecast of Winter Peak Demand (Base, High & Low)
- Schedule 3.3: History and Forecast of Annual Net Energy for Load (Base, High & Low)
- Schedule 4: Previous Year and 2-Year Forecast of Peak Demand and Net Energy for Load by Month (Base, High & Low)
- Schedule 5: History and Forecast of Fuel Requirements
- Schedule 6.1: History and Forecast of Net Energy for Load by Fuel Source in GWh
- Schedule 6.2: History and Forecast of Net Energy for Load by Fuel Source as a Percent



Tampa Electric Company Ten-Year Site Plan 2025

																			В	Α.	ГΕ	S	P	A	GE	): 1 20	-11 )25	2
	(6)		Average KWH Consumption <u>Per Customer</u>		85,658	84,911	84,830	83,664	82,057	78,890	78,653	79,131	80,154	79,591		77,173	76,950	76,637	76,434	76,337	76,303	76,319	76,358	76,353	76,347			
	(8)	Commercial	<u>Customers*</u>		73,556	74,313	74,998	74,895	76,038	76,790	78,115	79,610	80,622	81,426		82,749	83,582	84,414	85,248	86,088	86,931	87,778	88,628	89,483	90,342			
	(1)		GWH		6,301	6,310	6,362	6,266	6,239	6,058	6,144	6,300	6,462	6,481		6,386	6,432	6,469	6,516	6,572	6,633	6,699	6,767	6,832	6,897			
History and Forecast of Energy Consumption and Number of Customers by Customer Class Base Case	(9)		Average KWH Consumption <u>Per Customer</u>		14,235	14,217	13,693	14,046	13,989	14,491	13,940	13,861	13,880	13,560		13,467	13,325	13,187	13,110	13,087	13,087	13,102	13,121	13,140	13,167			
ry and Forecast of Energy Consumption Number of Customers by Customer Class Base Case	(5)	ntial	<u>Customers*</u>		635,403	646,221	659,387	670,517	685,122	698,493	713,135	729,334	742,575	757,280		768,577	781,318	793,972	806,457	818,551	830,131	841,231	851,857	861,998	871,661			
History ar Numl	(4)	Rural and Residential	GWH		9,045	9,187	9,029	9,418	9,584	10,122	9,941	10,109	10,307	10,269		10,351	10,411	10,470	10,572	10,712	10,864	11,022	11,177	11,327	11,477			lendar year. J
	(3)	Rı	Members Per <u>Household</u>		2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.5		2.5	2.5	2.5	2.4	2.4	2.4	2.4	2.4	2.4	2.4		S	Average or end-or-month customers for the calendar year. Values shown may be affected due to rounding.
	(2)		Hillsborough County <u>Population</u>		1,325,563	1,352,797	1,379,302	1,408,864	1,444,870	1,459,762	1,490,374	1,520,529	1,541,531	1,560,449		1,586,736	1,613,237	1,639,557	1,665,526	1,690,680	1,714,766	1,737,855	1,759,958	1,781,051	1,801,148		December 31, 2024 Status	Average of end-of-month custom Values shown may be affected d
	(1)		<u>Year</u>	HISTORY:	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	FORECAST:	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	Notes:	Decemi	Averag Values

TAMPA ELECTRIC COMPANY

UNDOCKETED: REVIEW OF TYSP'S STAFF'S FIRST DATA REQUEST

Schedule 2.1

32

Tampa Electric Company Ten-Year Site Plan 2025

# History and Forecast of Energy Consumption and Number of Customers by Customer Class High Case

																		BA	١T	E٩	5 F	ΡA	NO. GE(S RIL 1	5): 1		2
(6)		Average KWH Consumption <u>Per Customer</u>	85 658	84.911	84,830	83,664	82,057	78,890	78,653	79,131	80,154	79,591		77,183	76,965	76,656	76,460	76,369	76,340	76,361	76,406	76,408	76,406			
(8)	Commercial	Customers*	73 656	74.313	74,998	74,895	76,038	76,790	78,115	79,610	80,622	81,426		82,766	83,618	84,468	85,321	86, 180	87,044	87,911	88,782	89,658	90,541			
(2)		BWH	6 301	6.310	6,362	6,266	6,239	6,058	6,144	6,300	6,462	6,481		6,388	6,436	6,475	6,524	6,581	6,645	6,713	6,784	6,851	6,918			
(9)		Average KWH Consumption <u>Per Customer</u>	14 235	14.217	13,693	14,046	13,989	14,491	13,940	13,861	13,880	13,560		13,487	13,363	13,243	13, 185	13, 181	13,201	13,235	13,272	13,311	13,357			
(5)	ıtial	Customers*	635 403	646.221	659,387	670,517	685, 122	698,493	713,135	729,334	742,575	757,280		772,328	788,965	805,660	822,330	838,746	854,779	870,457	885,778	900,726	915,301			
(4)	Rural and Residential	GWH	9 045	9,187	9,029	9,418	9,584	10,122	9,941	10,109	10,307	10,269		10,416	10,543	10,669	10,842	11,056	11,284	11,520	11,756	11,989	12,226			endar year.
(3)	Ru	Members Per <u>Household</u>	26	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.5		2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5		S 	"Average of end-of-month customers for the calendar year
(2)		Hillsborough County <u>Population</u>	1 305 563	1,352,797	1,379,302	1,408,864	1,444,870	1,459,762	1,490,374	1,520,529	1,541,531	1,560,449		1,602,414	1,637,189	1,672,086	1,706,930	1,741,245	1,774,757	1,807,528	1,839,554	1,870,799	1,901,263		December 31, 2024 Status	
(1)		<u>Year</u>	HISTORY: 2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	FORECAST:	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	Notes:	Decem	Avera

Tampa Electric Company Ten-Year Site Plan 2025

\*Average of end-of-month customers for the calendar year. Values shown may be affected due to rounding.

TAMPA ELECTRIC COMPANY

**REQUEST NO. 1** 

**UNDOCKETED: REVIEW OF TYSP'S** STAFF'S FIRST DATA REQUEST

# History and Forecast of Energy Consumption and Number of Customers by Customer Class Low Case

																		B	٩T	E	s f	PA	NC GE RIL	(S)			
(6)		Average KWH Consumption <u>Per Customer</u>	85.658	84,911	84,830	83,664	82,057	78,890	78,653	79,131	80,154	79,591		77,164	76,935	76,617	76,409	76,306	76,265	76,276	76,310	76,300	76,288				
(8)	Commercial	Customers*	73.556	74,313	74,998	74,895	76,038	76,790	78,115	79,610	80,622	81,426		82,731	83,547	84,360	85,177	85,997	86,822	87,649	88,479	89,314	90,153				
(2)		GWH	6.301	6,310	6,362	6,266	6,239	6,058	6,144	6,300	6,462	6,481		6,384	6,428	6,463	6,508	6,562	6,621	6,686	6,752	6,815	6,878				
(9)		Average KWH Consumption <u>Per Customer</u>	14.235	14,217	13,693	14,046	13,989	14,491	13,940	13,861	13,880	13,560		13,448	13,287	13, 130	13,034	12,992	12,974	12,970	12,970	12,970	12,978				
(5)	ntial	Customers*	635.403	646,221	659,387	670,517	685,122	698,493	713,135	729,334	742,575	757,280		764,826	773,709	782,398	790,817	798,749	806,081	812,856	819,086	824,768	829,915				
(4)	Rural and Residential	GWH	9.045	9,187	9,029	9,418	9,584	10,122	9,941	10,109	10,307	10,269		10,285	10,281	10,273	10,308	10,378	10,458	10,543	10,623	10,697	10,770				lendar year.
(3)	Ru	Members Per <u>Household</u>	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.5		2.5	2.4	2.4	2.4	2.4	2.3	2.3	2.3	2.3	2.3			S	*Average of end-of-month customers for the calendar year. Values shown may be affected due to munding
(2)		Hillsborough County <u>Population</u>	1.325.563	1,352,797	1,379,302	1,408,864	1,444,870	1,459,762	1,490,374	1,520,529	1,541,531	1,560,449		1,571,135	1,589,519	1,607,505	1,624,929	1,641,345	1,656,521	1,670,544	1,683,437	1,695,196	1,705,849			December 31, 2024 Status	*Average of end-of-month customers f
(1)	. '	<u>Year</u>	HISTORY: 2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	FORECAST:	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034		Notes:	Decem	*Averaç

TAMPA ELECTRIC COMPANY

**REQUEST NO. 1** 

**UNDOCKETED: REVIEW OF TYSP'S** STAFF'S FIRST DATA REQUEST

\*Average of end-of-month customers for the calendar year. Values shown may be affected due to rounding.

Tampa Electric Company Ten-Year Site Plan 2025

# History and Forecast of Energy Consumption and Number of Customers by Customer Class Base Case

		•		1			
ļ		Industrial		1	Street &	Other Sales	Total Sales
<u>Year</u>	GWH	<u>Customers*</u>	Average KWH Consumption <u>Per Customer</u>	Railroads and Railways <u>GWH</u>	Highway Lighting <u>GWH **</u>	to Public Authorities <u>GWH</u>	to Ultimate Consumers <u>GWH</u>
STORY:							
2015	1,870	1,586	1,179,087	0	22	1,714	19,006
2016	1,928	1,616	1, 193, 504	0	78	1,730	19,234
2017	2,024	1,608	1,259,094	0	0	1,771	19, 186
2018	2,014	1,588	1,268,262	0	0	1,933	19,631
2019	2,021	1,516	1,332,913	0	0	1,939	19,783
2020	1,891	1,408	1,342,642	0	0	1,883	19,954
2021	2,122	1,382	1,535,835	0	0	1,886	20,093
2022	2,111	1,357	1,556,126	0	0	1,947	20,467
2023	2,082	1,330	1,565,053	0	0	1,939	20,791
2024	2,019	1,310	1,540,708	0	0	1,933	20,702
RECAST:							
2025	1,852	1,312	1,412,372	0	0	1,939	20,528
2026	1,846	1,309	1,409,579	0	0	1,948	20,636
2027	1,847	1,308	1,412,211	0	0	1,956	20,741
2028	1,848	1,306	1,415,060	0	0	1,965	20,901
2029	1,847	1,304	1,415,824	0	0	1,974	21,105
2030	1,844	1,303	1,415,374	0	0	1,983	21,325
2031	1,842	1,301	1,415,429	0	0	1,993	21,556
2032	1,840	1,300	1,415,806	0	0	2,002	21,786
2033	1,838	1,298	1,416,155	0	0	2,011	22,008
2034	1,836	1,296	1,416,588	0	0	2,021	22,231

TAMPA ELECTRIC COMPANY UNDOCKETED: REVIEW OF TYSP'S STAFF'S FIRST DATA REQUEST REQUEST NO. 1 BATES PAGE(S): 1-112 FILED: APRIL 1, 2025

Tampa Electric Company Ten-Year Site Plan 2025

Notes:

December 31, 2024 Status \*Average of end-of-month customers for the calendar year. \*\*Sales shown for Street and Highway Lighting from 2017 forward are now included with Other Sales to Public Authorities. Values shown may be affected due to rounding.

	-
	Forecast of Energy Consumn
2.2	
Schedule 2.2	Ene
sche	st of
0)	reca
	E O

# History and Forecast of Energy Consumption and Number of Customers by Customer Class High Case

(6) (7) (8)	Street & Other Sales Total Sales	to Public Authorities	<u>GWH **</u> <u>GWH</u> <u>GWH</u>			1,730	1,771	0 1,933 19,631	1,939	1,883	1,886	1,947				0 1,939 20,596	0 1,948 20,772	1,956	1,965	1,974		1,993	2,002	0 2,012 22,690	2,021	
(5)	Str	ds /ays	<u>GWH</u>		0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	
(4)		Average KWH Consumption	<u>Per Customer</u>		1,179,087	1, 193, 504	1,259,094	1,268,262	1,332,913	1,342,642	1,535,835	1,556,126	1,565,053	1,540,708		1,414,031	1,412,027	1,416,108	1,420,521	1,422,842	1,423,963	1,425,578	1,427,540	1,429,486	1,431,550	
(3)	Industrial		<u>Customers*</u>		1,586	1,616	1,608	1,588	1,516	1,408	1,382	1,357	1,330	1,310		1,310	1,307	1,304	1,301	1,298	1,295	1,292	1,289	1,286	1,283	
(2)			<u>GWH</u>		1,870	1,928	2,024	2,014	2,021	1,891	2,122	2,111	2,082	2,019		1,852	1,846	1,847	1,848	1,847	1,844	1,842	1,840	1,838	1,837	
(1)	I	I	<u>Year</u>	HISTORY:	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	FORECAST:	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	

December 31, 2024 Status

\*Average of end-of-month customers for the calendar year. \*\*Sales shown for Street and Highway Lighting from 2017 forward are now included with Other Sales to Public Authorities. Values shown may be affected due to rounding.

36

Tampa Electric Company Ten-Year Site Plan 2025

47

# TAMPA ELECTRIC COMPANY **UNDOCKETED: REVIEW OF TYSP'S** STAFF'S FIRST DATA REQUEST **REQUEST NO. 1** BATES PAGE(S): 1-112 FILED: APRIL 1, 2025

2
3
e
вq
Ĕ.
õ

# History and Forecast of Energy Consumption and Number of Customers by Customer Class Low Case

Tampa Electric Company Ten-Year Site Plan 2025

\*Average of end-of-month customers for the calendar year. \*\*Sales shown for Street and Highway Lighting from 2017 forward are now included with Other Sales to Public Authorities. Values shown may be affected due to rounding.

December 31, 2024 Status

# TAMPA ELECTRIC COMPANY UNDOCKETED: REVIEW OF TYSP'S STAFF'S FIRST DATA REQUEST REQUEST NO. 1 BATES PAGE(S): 1-112 FILED: APRIL 1, 2025

																										PAGI APRI			
(9)	E	Total ****	CUSIOINELS		718,713	730,503	744,690	756,254	771,960	786,047	802,049	819,766	834,144	849,877		862.522	876,165	889,717	903,104	916,103	928,592	940,605	952,147	963,209	973,796				
(5)		Other ****	CUSIONIELS		8,168	8,353	8,698	9,254	9,283	9,356	9,418	9,466	9,616	9,861		9 884	9,955	10.024	10,092	10, 160	10,228	10,295	10,362	10,429	10,497				
(4)		Net Energy *** for Load			20,105	20,173	20,298	20,662	20,770	21,055	21,033	21,572	21,767	21,852		21 586	21,699	21,809	21,977	22, 190	22,421	22,664	22,906	23,140	23,374		da Power & Light (FPL).		***Net Energy for Load includes output to line including energy supplied by purchased cogeneration. ***Average of end-of-month customers for the calendar year. Values shown may be affected due to rounding.
(3)		Utility Use ** & Losses Contu	UMD		1,098	930	1,110	1,031	986	1,101	940	1,105	976	1,150		1 058	1.063	1,068	1,075	1,086	1,097	1,108	1,120	1,131	1,142		Cloud (STC), Reedy Creek (RCID) and Florida Power & Light (FPL). 016 to 2017.	crued sales.	***Net Energy for Load includes output to line including energy sul ****Average of end-of-month customers for the calendar year. Values shown may be affected due to rounding.
(2)	l.	Sales for * Resale			0	0	2	0	0	0	0	0	0	0		C	0	0	0	0	0	0	0	0	0	Notes: December 31, 2024 Status	Includes sales to St. Cloud (STC), RCID contract from 2016 to 2017.	**Utility Use and Losses include accrued sales.	***Net Energy for Load includes output to line ir ****Average of end-of-month customers for the c Values shown may be affected due to rounding.
E		200X	Itear	HISTORY:	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	FORECAST:	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	Notes: December	*Includes sales to St. RCID contract from 2	**Utility Us	***Net Ene ****Average Values sho

TAMPA ELECTRIC COMPANY

**REQUEST NO. 1** 

UNDOCKETED: REVIEW OF TYSP'S STAFF'S FIRST DATA REQUEST

Schedule 2.3

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

38

Tampa Electric Company Ten-Year Site Plan 2025

		Number of Cu	number of customers by customer class High Case		
(1)	(2)	(3)	(4)	(5)	(9)
<u>Year</u>	Sales for * Resale <u>GWH</u>	Utility Use ** & Losses <u>GWH</u>	Net Energy *** for Load <u>GWH</u>	Other **** Customers	Total **** Customers
HISTORY:					
2015	0	1,098	20,105	8,168	718,713
2016	6	930	20,173	8,353	730,503
2017	2	1,110	20,298	8,698	744,690
2018	0	1,031	20,662	9,254	756,254
2019	0	986	20,770	9,283	771,960
2020	0	1,101	21,055	9,356	786,047
2021	0	940	21,033	9,418	802,049
2022	0	1,105	21,572	9,466	819,766
2023	0	976	21,767	9,616	834,144
2024	0	1,150	21,852	9,861	849,877
FORECAST:					
2025	0	1,061	21,657	9,884	866,288
2026	0	1,070	21,842	9,955	883,845
2027	0	1,078	22,025	10,024	901,456
2028	0	1,090	22,269	10,092	919,044
2029	0	1,104	22,562	10,160	936,384
2030	0	1,119	22,875	10,228	953,346
2031	0	1,134	23,203	10,295	969,955
2032	0	1,150	23,532	10,362	986,211
2033	0	1,166	23,856	10,429	1,002,099
2034	0	1,182	24,183	10,497	1,017,622
Notes: Decembe *Includes RCID coi RCID coi **Utility L ***Net En ****Avera	Notes: December 31, 2024 Status Includes sales to St. Cloud (STC), Reedy Cree RCID contract from 2016 to 2017. ***Utility Use and Losses include accrued sales. ***Net Energy for Load includes output to line in ****Average of end-of-month customers for the c Values shown may be affected due to rounding.	Notes: December 31, 2024 Status Includes sales to St. Cloud (STC), Reedy Creek (RCID) and Florida Power & Light (FPL). RCID contract from 2016 to 2017. ***Utility Use and Losses include accrued sales. ***Net Energy for Load includes output to line including energy supplied by purchased co ****Average of end-of-month customers for the calendar year. Values shown may be affected due to rounding.	Notes: December 31, 2024 Status Tholudes sales to St. Cloud (STC), Reedy Creek (RCID) and Florida Power & Light (FPL). RCID contract from 2016 to 2017. ****Uet Energy for Load include accrued sales. ****Net Energy for Load includes output to line including energy supplied by purchased cogeneration. Values shown may be affected due to rounding.		

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

Tampa Electric Company Ten-Year Site Plan 2025

# **50**

# BATES PAGE(S): 1-112 FILED: APRIL 1, 2025

TAMPA ELECTRIC COMPANY UNDOCKETED: REVIEW OF TYSP'S STAFF'S FIRST DATA REQUEST

**REQUEST NO. 1** 

																								TES ED:						
(9)	Total ****	Customers		718,713	730,503	744,690	756,254	771,960	786,047	802,049	819,766	834,144	849,877		858,754	868,523	878,093	887,397	896,216	904,441	912,110	919,236	925,820	931,874						
(5)	Other ****	Customers		8,168	8,353	8,698	9,254	9,283	9,356	9,418	9,466	9,616	9,861		9,884	9,955	10,024	10,092	10,160	10,228	10,295	10,362	10,429	10,497						
(4)	Net Energy *** for Load	GWH		20,105	20,173	20,298	20,662	20,770	21,055	21,033	21,572	21,767	21,852		21,515	21,557	21,596	21,690	21,828	21,982	22,145	22,307	22,459	22,609			la Power & Light (FPL).		***Net Energy for Load includes output to line including energy supplied by purchased cogeneration.	
(3)	Utility Use ** & Losses	GWH		1,098	930	1,110	1,031	986	1,101	940	1,105	976	1,150		1,054	1,056	1,058	1,061	1,068	1,075	1,083	1,090	1,098	1,105			"Includes sales to St. Cloud (STC), Reedy Creek (RCID) and Florida Power & Light (FPL)	criied sales	tput to line including energy sup	****Average of end-of-month customers for the calendar year. Values shown may be affected due to rounding
(2)	Sales for * Resale	GWH		0	6	2	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0		31. 2024 Status	sales to St. Cloud (STC),	KCIU contract from 2016 to 2017. **I fility I lee and I osses include accrued sales	rgy for Load includes out	e of end-of-month customers for the c
(1)		<u>Year</u>	HISTORY:	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	FORECAST:	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	Notes:	December 31, 2024	*Includes s	KCIU contract from **I Itility LIse and Los	***Net Ene	****Average of end-of

TAMPA ELECTRIC COMPANY

**REQUEST NO. 1** 

UNDOCKETED: REVIEW OF TYSP'S STAFF'S FIRST DATA REQUEST

Schedule 2.3

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

Tampa Electric Company Ten-Year Site Plan 2025

																									REQUEST NO. 1 BATES PAGE(S): 1-11 FILED: APRIL 1, 2025
	(10)	Net Firm Demand		3,784	3,907	3,905	3,798	4,079	4,053	4,108	4,131	4,385	4,122		4 243	4.278	4 315	4 362	4.410	4,460	4.510	4.560	4,606	4,650	
	(6)	Comm./Ind. <u>Conservation</u>	;	88	92	98	106	125	135	139	148	153	160		165	172	178	185	191	197	204	210	217	223	
	(8)	Comm./Ind. Load <u>Management</u>		102	101	100	101	101	104	105	106	106	108		110	110		- <del>-</del>	111	111	112	112	112	113	2
	(2)	Residential Conservation***		142	149	154	159	165	169	174	183	194	204		227	248	268	289	311	332	353	374	395	416	
Base Case	(9)	Residential Load <u>Management</u>		21	0	0	0	0	0	0	0	0	ο		С	o c	• c	• c	0	0	0	0	0	0	
Ш	(5)	Interruptible		111	138	110	125	122	113	187	204	178	92		135	135	135	134	135	135	135	134	135	135	ent with
	(4)	Retail *		4,248	4,386	4,367	4,289	4,591	4,573	4,713	4,772	5,017	4,687		4 880	4,943	5,008	5 081	5.158	5,235	5.314	5.390	5,465	5,537	d is not coincid al consenation. Plus programs.
	(3)	Wholesale**		0 !	15	5	0	0	0	0	0	0	0		C				0	0	0	0	0	0	Notes: December 31, 2024 Status December 31, 2024 Status 2016, 2018, 2020, and 2022 Net Firm Demand is not coincid Notes prior to 2024 "Includes residential and commercial/industrial conservation. "*Includes sales to RCID, STC and FP&L. Contract with RCID from 2016 to 2017. ***Includes Energy Planner and Prime Time Plus programs. Values shown may be affected due to rounding.
	(2)	Total *		4,248	4,401	4,372	4,289	4,591	4,573	4,713	4,772	5,017	4,687		4 880	4.943	5,008	5 081	5.158	5,235	5.314	5,390	5,465	5,537	Notes: December 31, 2024 Status 2016, 2018, 2020, and 2022 Net Notes prior to 2024 "Includes residential and comme "Includes sales to RCID, STC a Contract with RCID from 2016 "**Includes Energy Planner and I Values shown may be affected d
	(1)	<u>Year</u>	HISTORY:	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	EODECAST.	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	Notes: Decembr 2016, 20 Notes pr **Include Contra ***Include Values s

History and Forecast of Summer Peak Demand (MW)

Tampa Electric Company Ten-Year Site Plan 2025

41

# 52

# TAMPA ELECTRIC COMPANY UNDOCKETED: REVIEW OF TYSP'S STAFF'S FIRST DATA REQUEST **REQUEST NO. 1** 2

Forecast of Summer Peak Demand (MW) High Case

Tampa Electric Company Ten-Year Site Plan 2025

42

53

TAMPA ELECTRIC COMPANY UNDOCKETED: REVIEW OF TYSP'S STAFF'S FIRST DATA REQUEST REQUEST NO. 1 BATES PAGE(S): 1-112 FILED: APRIL 1, 2025

Values shown may be affected due to rounding.

(1)	(2)	(3)	(4)	(5)	(9)	(7)	(8)	(6)	(10)	
Year	Total *	<u>Wholesale</u>	Retail *	Interruptible	Residential Load <u>Management</u>	Residential <u>Conservation**</u>	Comm./Ind. Load <u>Management</u>	Comm./Ind. <u>Conservation</u>	Net Firm <u>Demand</u>	
HISTORY:										
2015	4,248	0	4,248	111	21	142	102	88	3,784	
2016	4,401	15	4,386	138	0	149	101	92	3,907	
2017	4,372	5	4,367	110	0	154	100	98	3,905	
2018	4,289	0	4,289	125	0	159	101	106	3,798	
2019	4,591	0	4,591	122	0	165	101	125	4,079	
2020	4,573	0	4,573	113	0	169	104	135	4,053	
2021	4,713	0	4,713	187	0	174	105	139	4,108	
2022	4,772	0	4,772	204	0	183	106	148	4,131	
2023	5,017	0	5,017	178	0	194	106	153	4,385	
2024	4,687	0	4,687	92	0	204	108	160	4,122	
FURECAS I:	1 062	c	1 86.7	101	c	200	077	101	1 005	
6707	4,000	5 0	4,000	0.01	5 0	177	0		4,220	
2026	4,907	0	4,907	135	0	248	110	172	4,242	
2027	4,953	0	4,953	135	0	268	111	178	4,261	
2028	5,006	0	5,006	134	0	289	111	185	4,287	
2029	5,063	0	5,063	135	0	311	111	191	4,315	
2030	5,121	0	5,121	135	0	332	111	197	4,345	
2031	5,178	0	5,178	135	0	353	112	204	4,375	
2032	5,233	0	5,233	134	0	374	112	210	4,403	
2033	5,287	0	5,287	135	0	395	112	217		
2034	5,339	0	5,339	135	0	416	113	223		
									ED	
Notes:									: A	-
*Include	s residential and	*Includes residential and commercial/industrial conservation.	ial conservation.						PR	-

Forecast of Summer Peak Demand (MW) Low Case

Tampa Electric Company Ten-Year Site Plan 2025

43

\*\*Includes Energy Planner program. Values shown may be affected due to rounding.

# TAMPA ELECTRIC COMPANY UNDOCKETED: REVIEW OF TYSP'S STAFF'S FIRST DATA REQUEST REQUEST NO. 1 BATES PAGE(S): 1-112 FILED: APRIL 1, 2025

																								B	EQU ATE	ES S P	AC		). 1 E(S)	: 1		
	(10)	Net Firm <u>Demand</u>		3390	3171	2905	3883	3071	3336	3247	3473	3380	3,213		4,341	4,396	4,449	4,505	4,562	4,619	4,673	4,726	4,776	4,825								
	(6)	Comm./Ind. Conservation		65	67	20	22	88	66	103	108	113	114		120	126	132	137	142	148	153	159	164	170								
	(8)	Comm./Ind. Load Management		66	98	95	96	95	98	102	104	105	64		113	113	114	114	115	115	116	116	117	117								
c Demand (MW)	(1)	Residential Conservation***		521	533	541	548	556	564	568	572	582	588		604	621	638	657	675	693	712	730	748	767								
History and Forecast of Winter Peak Demand (MW) Base Case	(9)	Residential Load <u>Management</u>		47	21	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0			ж.					
istory and Forec	(5)	Interruptible		79	145	137	66	104	140	132	158	217	164		118	118	118	118	118	118	118	118	118	118			nt with system pe					
T	(4)	Retail *		4,202	4,034	3,748	4,670	3,913	4,238	4,151	4,414	4,396	4,142		5,296	5,374	5,451	5,531	5,612	5,693	5,772	5,849	5,923	5,996			is not coincide	:	al conservation.		olus programs.	D
	(3)	Wholesale **		0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	o		tus	2020/2021 and 2022/2023 Net Firm Demand is not coincident with system peak.	-	*Includes residential and commercial/industrial conservation. **Includes sales to RCID. STC and FP&L.	Contract with RCID from 2016 to 2017	***Includes Energy Planner and Prime Time Plus programs	Values shown may be affected due to rounding
	(2)	Total *		4,202	4,034	3,748	4,670	3,913	4,238	4,151	4,414	4,396	4,142		5,296	5,374	5,451	5,531	5,612	5,693	5,772	5,849	5,923	5,996		December 31, 2024 Status	21 and 2022/20		s residential and s sales to RCID	ct with RCID fro	es Energy Plan	hown may be a
	(1)	Year	HISTORY:	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	FORECAST:	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	Notes:	Decembe	2020/20	Notes pr	*Includes	Contra	***Include	Values s

TAMPA ELECTRIC COMPANY

UNDOCKETED: REVIEW OF TYSP'S STAFF'S FIRST DATA REQUEST

Schedule 3.2

Demand (MW) of Winter Peak 500 Fore History

Tampa Electric Company Ten-Year Site Plan 2025

44

all formulas except column 10           Year         Total *         Whole:           HISTORY:         4,202         0         0           2014/15         4,034         0         0           2015/16         4,034         0         0				(0)		(0)		
: 4, 202 3, 748 520				Residential	Docidontia	Comm./Ind.	Comm that	Not Ein
 4,202 3,748 670	esale	Retail *	Interruptible	Management	Conservation**	Loau <u>Management</u>	Conservation	Demand
4,202 4,034 3,748 677								
4,034 3,748 4,670	0	4,202	79	47	521	66	65	3,390
3, 748 4 670	0	4,034	145	21	533	98	67	3,171
A 670	0	3,748	137	0	541	95	20	2,905
1,010	0	4,670	99	0	548	96	77	3,883
3,913	0	3,913	104	0	556	95	88	3,071
4,238	0	4,238	140	0	564	98	66	3,336
4,151	0	4,151	132	0	568	102	103	3,247
4,414	0	4,414	158	0	572	104	108	3,473
4,396	0	4,396	217	0	582	105	113	3,380
4,142	0	4,142	164	0	588	64	114	3,213
FORECAST:								
5,315	0	5,315	118	0	604	113	120	4,361
<b>2025/26</b> 5,413 0	0	5,413	118	0	621	113	126	4,434
5,510	0	5,510	118	0	638	114	132	4,508
5,609	0	5,609	118	0	657	114	137	4,583
5,712	0	5,712	118	0	675	115	142	4,662
5,815	0	5,815	118	0	693	115	148	4,740
5,915	0	5,915	118	0	712	116	153	4,817
6,015	0	6,015	118	0	730	116	159	4,892
	0	6,114	118	0	748	117	164	4,967
6,211	0	6,211	118	Ο	767	117	170	5,039

Tampa Electric Company Ten-Year Site Plan 2025

Schedule 3.2

Forecast of Winter Peak Demand (MW) High Case

56

Notes: \*Includes residential and commercial/industrial conservation.

\*\*Includes Energy Planner program Values shown may be affected due to rounding.

TAMPA ELECTRIC COMPANY UNDOCKETED: REVIEW OF TYSP'S STAFF'S FIRST DATA REQUEST REQUEST NO. 1 BATES PAGE(S): 1-112 FILED: APRIL 1, 2025

																								В	EQUE ATES ILED:	PA	GE	E(S):	
	(10)	Net Firm	Demand		3,390	3,171	2,905	3,883	3,071	3,336	3,247	3,473	3,380	3,213		4.324	4.359	4,394	4,429	4,466	4,501	4,535	4,565	4,594	4,620				
	(6)	Comm /Ind	Conservation		65	67	20	77	88	66	103	108	113	114		120	126	132	137	142	148	153	159	164	170				
	(8)	Comm./Ind. Load	<u>Management</u>		66	98	95	96	95	<u>98</u>	102	104	105	64		113	113	114	114	115	115	116	116	117	117				
	(1)	Residential	Conservation**		521	533	541	548	556	564	568	572	582	588		604	621	638	657	675	693	712	730	748	767				
Low Case	(9)	Residential Load	<u>Management</u>		47	21	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0				
	(5)		<u>Interruptible</u>		79	145	137	66	104	140	132	158	217	164		118	118	118	118	118	118	118	118	118	118				
	(4)		Retail *		4,202	4,034	3,748	4,670	3,913	4,238	4,151	4,414	4,396	4,142		5.278	5,338	5,396	5,455	5,516	5,576	5,633	5,688	5,741	5,792		ial conservation.	-bu	
	(3)	umn 10	<u>Wholesale</u>		0	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0		*Includes residential and commercial/industrial conservation	Values shown may be affected due to roundi	
	(2)	all formulas except column 10	Total *		4,202	4,034	3,748	4,670	3,913	4,238	4,151	4,414	4,396	4,142		5.278	5,338	5,396	5,455	5,516	5,576	5,633	5,688	5,741	5,792		residential and	Values Energy Frammer program	
	(1)	all formu	<u>Year</u>	HISTORY:	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	EOPECAST.	2024/25	2025/26	2026/27	2027/28	2028/29	2029/30	2030/31	2031/32	2032/33	2033/34	Notes:	*Includes	Values si	

Forecast of Winter Peak Demand (MW)

46

Tampa Electric Company Ten-Year Site Plan 2025

57

# TAMPA ELECTRIC COMPANY UNDOCKETED: REVIEW OF TYSP'S STAFF'S FIRST DATA REQUEST REQUEST NO. 1 BATES PAGE(S): 1-112 FILED: APRIL 1, 2025

# History and Forecast of Annual Net Energy for Load (GWh) Base Case

(8)	Net Ener <u>for Loa</u>	20,105
(1)	Utility Use <u>&amp; Losses</u>	1,098
(9)	Wholesale ***	0
(2)	Retail	19,006
(4)	Comm./Ind. <u>Conservation</u>	316
(3)	Residential Conservation**	565

(1)	(2)	(3)	(4)	(5)	(9)	(1)	(8)	(6)
<u>Year</u>	Total*	Residential Conservation**	Comm./Ind. Conservation	Retail	Wholesale ***	Utility Use <u>&amp; Losses</u>	Net Energy <u>for Load</u>	Load **** Factor %
ACTUAL:								
2015	19,888	565	316	19,006	0	1,098	20,105	57.1
2016	20,149	584	330	19,234	ი	930	20,173	55.2
2017	20,137	598	353	19,186	2	1,110	20,298	56.2
2018	20,634	614	388	19,631	0	1,031	20,662	58.3
2019	20,863	631	449	19,783	0	986	20,770	55.1
2020	21,085	644	487	19,954	0	1,101	21,055	56.1
2021	21,256	656	508	20,093	0	940	21,033	54.6
2022	21,676	679	530	20,467	0	1,105	21,572	55.5
2023	22,059	209	560	20,791	0	976	21,767	53.2
2024	22,058	737	620	20,702	0	1,150	21,852	57.5
FORECAST:								
2025	21,932	778	626	20,528	0	1,058	21,586	53.9
2026	22,106	812	658	20,636	0	1,063	21,699	53.5
2027	22,274	844	688	20,741	0	1,068	21,809	53.2
2028	22,494	874	718	20,901	0	1,075	21,977	52.8
2029	22,757	905	748	21,105	0	1,086	22, 190	52.8
2030	23,037	935	778	21,325	0	1,097	22,421	52.8
2031	23,329	965	808	21,556	0	1,108	22,664	52.7
2032	23,619	995	837	21,786	0	1,120	22,906	52.6
2033	23,901	1,026	867	22,008	0	1,131	23, 140	52.7
2034	24,184	1,056	897	22,231	0	1,142	23,374	52.7
Notes:								
December 31 2024 Status	2024 Status							
*Includes resid	ential and com	*Includes residential and commercial/industrial conservation.	rservation.					

Tampa Electric Company Ten-Year Site Plan 2025

\*\*\*\*Load Factor is the ratio of total system average load to peak demand. Values shown may be affected due to rounding.

\*\*Includes Energy Planner program. \*\*\*Includes sales to RCID, STC and FP&L. Contract with RCID from 2016 to 2017

TAMPA ELECTRIC COMPANY UNDOCKETED: REVIEW OF TYSP'S STAFF'S FIRST DATA REQUEST **REQUEST NO. 1** BATES PAGE(S): 1-112 FILED: APRIL 1, 2025

# Forecast of Annual Net Energy for Load (GWh) High Case

				BATES PAGE(S): 1-112 FILED: APRIL 1, 2025 REVISED: MAY 1, 2025
(6)	Load *** <u>Factor %</u>	57.1 55.2 56.2 58.3 55.1	56.1 54.6 57.5 57.5 57.5 57.5 57.5 57.5 57.5 57	5 2 4 5 2 4 5 2 3
(8)	Net Energy <u>for Load</u>	20,105 20,173 20,298 20,662 20,662	21,055 21,055 21,572 21,567 21,852 21,852 21,852 22,025 22,269 22,269 22,269 22,269 22,269 22,269 22,269 22,269 22,269 22,269 22,269 22,269 22,269 22,269 22,269 22,269 22,203 22,203 22,203 22,203 22,203 22,203 22,203 22,203 22,203 22,203 22,203 22,203 22,203 22,203 22,572 22,5555 22,5555 22,5555 22,5555 22,5555 22,5555 22,5555 22,5555 22,5555	23,856 24,183
(2)	Utility Use <u>&amp; Losses</u>	1,098 930 1,110 986	1,101 940 1,105 1,1061 1,070 1,070 1,104 1,119 1,119	1,166
(9)	<u>Wholesale</u>	00000	00000 000000	000
(5)	<u>Retail</u>	19,006 19,234 19,186 19,631	19,954 20,093 20,791 20,702 20,596 20,596 20,772 20,596 21,179 21,176 21,756 21,756 21,756 21,756	22,5690 22,690 23,001
(4)	Comm./Ind. <u>Conservation</u>	316 330 353 388 49	487 508 550 626 628 638 638 638 718 718 778 808	837 897 897 nsenation. I load to peak dem.
(3)	Residential Conservation**	565 584 598 614 631	644 656 679 709 844 874 872 805 905 905 905	al/ to
(2)	Total*	19,888 20,149 20,634 20,634	21,085 21,256 21,676 22,059 22,058 22,058 22,242 22,480 22,480 23,469 23,469 23,469 23,469	2032 24,513 2033 24,583 2034 24,954 Notes: *Includes residential and commerci *Includes Energy Planner program ***Load Factor is the ratio of total s Values shown may be affected due
(1)	<u>Year</u>	HISTORY: 2015 2016 2017 2018 2019	2020 2021 2021 2023 2023 2023 2026 2026 2028 2028 2029 2031	2032 2033 2034 2034 **Includes reside ***Includes reside ***Load Factor Values shown r

TAMPA ELECTRIC COMPANY

**REQUEST NO. 1** 

**UNDOCKETED: REVIEW OF TYSP'S** STAFF'S FIRST DATA REQUEST

Tampa Electric Company Ten-Year Site Plan 2025

# Forecast of Annual Net Energy for Load (GWh) Low Case

																				E F	BA TIL	QUE TES ED: VISE	PAC APR	GE( RIL	(S): 1, 2	202	5	
(6)	Load *** <u>Factor %</u>	57.1	55.2	56.2	58.3	55.1	56.1	54.6	55.5	53.2	57.5		53.9	53.6	53.3	53.0	53.0	53.0	53.0	52.9	53.1	53.2						
(8)	Net Energy <u>for Load</u>	20 105	20,173	20,298	20,662	20,770	21,055	21,033	21,572	21,767	21,852		21,515	21,557	21,596	21,690	21,828	21,982	22,145	22,307	22,459	22,609						
(2)	Utility Use <u>&amp; Losses</u>	1 008	930	1,110	1,031	986	1,101	940	1,105	976	1,150		1,054	1,056	1,058	1,061	1,068	1,075	1,083	1,090	1,098	1,105						
(9)	<u>Wholesale</u>	c	0	2	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0						
(5)	Retail	19 006	19.234	19,186	19,631	19,783	19,954	20,093	20,467	20,791	20,702		20,461	20,501	20,539	20,629	20,760	20,906	21,062	21,216	21,361	21,504				and.		
(4)	Comm./Ind. <u>Conservation</u>	316	330	353	388	449	487	508	530	560	620		626	658	688	718	748	778	808	837	867	897		nservation.		load to peak dem		
(3)	Residential <u>Conservation**</u>	<u>г</u> б5	584	598	614	631	644	656	679	209	737		778	812	844	874	905	935	965	995	1,026	1,056		*Includes residential and commercial/industrial conservation.	ogram	***Load Factor is the ratio of total system average load to peak demand. Values shown mav be affected due to rounding.	)	
(2)	<u>Total*</u>	10 888	20,149	20,137	20,634	20,863	21,085	21,256	21,676	22,059	22,058		21,865	21,971	22,071	22,221	22,413	22,619	22,835	23,049	23,254	23,457		tential and com	**Includes Energy Planner program	r is the ratio of mav be affecte		
(1)	<u>Year</u>	HISTORY:	2016	2017	2018	2019	2020	2021	2022	2023	2024	FORECAST:	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	Notes:	*Includes resid	**Includes Ene	***Load Facto Values shown		

Tampa Electric Company Ten-Year Site Plan 2025

TAMPA ELECTRIC COMPANY UNDOCKETED: REVIEW OF TYSP'S STAFF'S FIRST DATA REQUEST

(1)	(2)	(3)	(4)	(5)	(9)	(2)
	ACTUAL	AL	FORECAST	AST	FORECAST	AST
	2024	4	2025		2026	
Month	Peak Demand * <u>MW</u>	NEL ** GWH	Peak Demand * <u>MW</u>	NEL ** GWH	Peak Demand * <u>MW</u>	NEL ** GWH
January	3,029	1,527	4,572	1,585	4,627	1,594
February	2,709	1,364	3,481	1,432	3,523	1,440
March	3,208	1,568	3,521	1,590	3,562	1,597
April	3,553	1,600	3,628	1,652	3,655	1,660
May	4,220	2,142	4,026	1,912	4,053	1,922
June	4,323	2,142	4,378	2,076	4,413	2,088
July	4,318	2,249	4,454	2,171	4,492	2,184
August	4,305	2,287	4,488	2,207	4,523	2,220
September	4,232	2,122	4,263	2,000	4,304	2,011
October	3,956	1,663	3,951	1,879	3,980	1,888
November	3,567	1,643	3,483	1,514	3,523	1,521
December	2,935	1,545	3,919	1,569	3,964	1,576
TOTAL		21,852		21,586		21,699
Notes: December 31, *Peak demar **Values sho	Notes: December 31, 2024 Status *Peak demand represents total retail and wholes: **Values shown may be affected due to rounding	ail and wholesale derr te to roundind	Notes: ecember 31, 2024 Status *Peak demand represents total retail and wholesale demand, excluding conservation impacts. **Values shown may be affected due to rounding	on impacts.		

Previous Year and 2-Year Forecast of Peak Demand and Net Energy for Load (NEL) by Month

Schedule 4 Base Case

Tampa Electric Company Ten-Year Site Plan 2025

	Previous Year	and 2-Year Foreca	Previous Year and 2-Year Forecast of Peak Demand and Net Energy for Load (NEL) by Month	Net Energy for Load	d (NEL) by Month	
(1)	(2)	(3)	(4)	(5)	(9)	(2)
	ACTUAL	JAL	FORECAST	AST	FORECAST	AST
	2024	24	2025	2	2026	9
Month	Peak Demand * <u>MW</u>	NEL ** GWH	Peak Demand * <u>MW</u>	NEL ** GWH	Peak Demand * <u>MW</u>	NEL ** GWH
January	3,029	1,527	4,591	1,590	4,665	1,604
February	2,709	1,364	3,495	1,437	3,550	1,449
March	3,208	1,568	3,535	1,594	3,590	1,606
April	3,553	1,600	3,642	1,657	3,683	1,670
Мау	4,220	2,142	4,042	1,918	4,086	1,934
June	4,323	2,142	4,396	2,083	4,448	2,102
July	4,318	2,249	4,472	2,179	4,529	2,199
August	4,305	2,287	4,506	2,215	4,560	2,235
September	4,232	2,122	4,281	2,007	4,339	2,025
October	3,956	1,663	3,967	1,885	4,012	1,901
November	3,567	1,643	3,497	1,519	3,551	1,531
December	2,935	1,545	3,935	1,574	3,995	1,586
TOTAL		21,852	1 1	21,657	1 1	21,842
Notes: December 31, 2024 Status *Peak demand represents **Values shown may be a	Notes: ecember 31, 2024 Status *Peak demand represents total retail and wholes: **Values shown may be affected due to rounding.	ail and wholesale den lue to rounding.	Notes: becember 31, 2024 Status *Peak demand represents total retail and wholesale demand, excluding conservation impacts. **Values shown may be affected due to rounding.	on impacts.		

Schedule 4 High Case

Tampa Electric Company Ten-Year Site Plan 2025

\*Peak demand represents total retail and wholesale demand, excluding conservation impacts. \*\*Values shown may be affected due to rounding.

December 31, 2024 Status

				5	•	
(1)	(2)	(3)	(4)	(5)	(9)	(2)
	ACTUAL	IAL	FORECAST	AST	FORECAST	AST
	2024	4	2025		2026	
Month	Peak Demand * <u>MW</u>	Nel ** GWH	Peak Demand * <u>MW</u>	NEL ** GWH	Peak Demand * <u>MW</u>	NEL ** GWH
January	3,029	1,527	4,554	1,580	4,590	1,584
February	2,709	1,364	3,468	1,428	3,495	1,431
March	3,208	1,568	3,507	1,585	3,535	1,587
April	3,553	1,600	3,614	1,647	3,626	1,650
May	4,220	2,142	4,010	1,906	4,021	1,909
June	4,323	2,142	4,361	2,069	4,377	2,074
July	4,318	2,249	4,436	2,163	4,456	2,168
August	4,305	2,287	4,470	2,200	4,487	2,204
September	4,232	2,122	4,246	1,993	4,269	1,997
October	3,956	1,663	3,935	1,872	3,947	1,875
November	3,567	1,643	3,469	1,510	3,496	1,512
December	2,935	1,545	3,904	1,564	3,933	1,567
TOTAL		21,852		21,515		21,557
Notes:						

Schedule 4 Low Case Previous Year and 2-Year Forecast of Peak Demand and Net Energy for Load (NEL) by Month

Tampa Electric Company Ten-Year Site Plan 2025

																						STAFF'S FIRST DATA REQUEST REQUEST NO. 1 BATES PAGE(S): 1-112 FILED: APRIL 1, 2025
	(15)	2034	0	171	0	0	0 0		0 0	0	0	0	0	0	0	115,222	743	111,829	2,486	164		0
	(14)	2033	0	243	0	0	0 0		0 0	0	0	0	0	0	0	114,902	1 685	110,295	2,701	220		0
	(13)	2032	0	226	0	0	0 0		0 0	0	0	0	0	0	0	113,614	042	110,707	1,854	111		0
	(12)	2031	0	252	0	0	0 0		0 0	0	0	0	0	0	0	111,810	881	108,314	2,442	172		0
	(11)	2030	0	193	0	0	0 0		0 0	0	0	0	0	0	0	112,655	768	110,158	1,456	273		0
	(10)	2029	0	272	0	0	0 0		0 0	0	0	0	0	0	0	112,366	1 012	110,412	791	152		o o
irements	(6)	2028	0	226	0	0	0 0		0 0	0	0	0	0	0	0	113,988	710	112,443	634	200		e subject to c
History and Forecast of Fuel Requirements Base Case Forecast Basis	(8)	2027	0	272	0	0	0 0		0 0	0	0	0	0	0	0	117,016	1 036	114,821	973	185		o o and ar
l Forecast o se Case Fo	(2)	2026	0	277	0	0	0 0		0	0	0	0	0	0	0	120,282	760	117,385	1,818	319		0 nel price proje
History and Ba	(9)	2025	0	220	0	0	0 0		0 0	0	0	0	0	0	0	127,834	4 583	121,336	1,597	318		0 most recent f
	(5)	Actual 2024	0	26	0	0	0 0		0	6	0	0	6	0	0	126,867	6.632	119,510	714	11		olio using the 0
	(4)	Actual 2023	0	367	0	0	0 0	ə c	00	9	0	0	9	0	0	126,239	5 295	120,717	227	0		0 units. 0
	(3)	C	Trillion BTU	1000 Ton	1000 BBL	1000 BBL	1000 BBL	1000 BBL 1000 BBL	1000 BBL	1000 BBL	1000 BBL	1000 BBL	1000 BBL	1000 BBL	1000 BBL	1000 MCF	1000 MCF	1000 MCF	1000 MCF	1000 MCF		1000 Ton to rounding. dispatch of TEC's ined on applicable
	(2)	Fuel Requirements	Nuclear	Coal	Residual	ST	88	- 9 0	RE	Distillate	ST	ະ ເ	GT	۵	RE	Natural Gas	ST	5 8	GT	RE	Other (Specify)	(22) PC 100 Ton 0 0 0 0 0 0 Notes: Nature shown may be affected due to rounding. Actual values shown may be affected due to rounding. Actual values are based on the economic dispatch of TEC's planned portfolio using the most recent fuel price projections and are subject to change. Usual fuel capabilities will be maintained on applicable units.
	(1)		(1)	(2)	(3)	(4)	(5)	(9) [2]	(8)	(6)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(20)	(21)	(22) Notes: Values sho Actual valut Values are Dual fuel co

Schedule 5

Tampa Electric Company Ten-Year Site Plan 2025

53

TAMPA ELECTRIC COMPANY

UNDOCKETED: REVIEW OF TYSP'S

			History and Forecast of Net Energy for Load by Fuel Source Base Case Forecast Basis	d Forec: B:	ast of Ne ase Case	cast of Net Energy for Loac Base Case Forecast Basis	for Load st Basis	by Fuel	Source					
(1)	(2)	(3)	(4)	(5)	(9)	(2)	(8)	(6)	(10)	(11)	(12)	(13)	(14)	(15)
	Energy Sources	Unit	Actual 2023	Actual 2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
(1)	Annual Firm Interchange	GWh	21	33	314	281	281	282	281	281	281	282	281	281
(2)	Nuclear	GWh	ο	ο	0	0	0	0	0	0	0	0	0	0
(3)	Coal	GWh	769	58	419	526	516	429	516	367	477	429	461	323
(2) (2) (2) (2) (2) (2) (2) (2) (2) (2)	Residual ST CC GT D RE	GWh GWh GWh GWh GWh	000000	000000	000000	000000	000000	000000	000000	000000	000000	000000	000000	000000
(12) (12) (12) (12) (12) (12) (12) (12)	Distillate ST CC GT D RE	GWh GWh GWh GWh GWh	000000	400400	000000	000000	000000	000000	000000	000000	000000	000000	000000	000000
(16) (17) (18) (19) (20)	Natural Gas ST CC GT RE	GWh GWh GWh GWh GWh	17,814 473 17,323 18 0	17,999 582 17,352 64	18,194 401 17,473 277 43	17,497 61 17,236 157 43	17,113 89 16,918 81 25	16,991 59 16,854 51 27	16,659 86 16,489 64 20	16,685 65 16,458 125 37	16,507 73 16,205 206 23	16,622 81 16,370 156 15	16,652 145 16,246 231 30	16,864 63 16,569 210 22
(21) (22)	Renewable Solar	GWh GWh	1,748 1,748	2,235 2,235	2,540 2,540	3,340 3,340	3,848 3,848	4,237 4,237	4,699 4,699	5,042 5,042	5,368 5,368	5,540 5,540	5,711 5,711	5,870 5,870
(23) (25) (25) (26)	Other (Specify) PC Net Interchange Purchased Energy from	GWh GWh	0 1,315	0 1,443	29 29	0 (32)	0 (34)	0 (39)	0 (40)	0 (27)	0 (40)	0 (40)	0 (36)	0 (36)
(27)	Non-Utility Generators Other	GWh GWh	97 0	0 80	96 (9)	96 (6)	96 (11)	97 (20)	96 (21)	96 (23)	96 (25)	97 (24)	96 (25)	96 (24)
(28)	(28) Net Energy for Load	GWh	21,767	21,852	21,586	21,699	21,809	21,977	22,190	22,421	22,664	22,906	23,140	23,374
Notes: Line (2) Values Values Dual fu Genera Batterie	<b>Notes:</b> Line (25) includes energy purchased from Non-Renewable and Renewable resources. Values shown may be affected due to rounding. Values are based on the economic dispatch of TEC's planned portfolio using the most recent fuel price projections and are subject to change. Dual fuel capabilities will be maintained on applicable units. Generation quantities do not reflect periodic testing of distillate fuel oil capability. Batteries are represented in row (27).	om Non-Re ounding. oatch of TE a on applical iodic testing	enewable and C's planned ble units. J of distillate	l Renewal portfolio u fuel oil car	ole resour sing the m cability.	ces. Tost recen	t fuel price	projection	is and are	subject to	change.			

Schedule 6.1

Tampa Electric Company Ten-Year Site Plan 2025

(6)         (7)           2025         2026           11.5         1.3           11.5         1.3           11.9         2.4           0.0         0.0           0.0         0.0           0.0         0.0           0.0         0.0           0.0         0.0           0.0         0.0           0.0         0.0           0.0         0.0           0.0         0.0           0.0         0.0           0.0         0.0           0.0         0.0           0.1         0.0           0.1         0.0           0.1         0.0           0.0         0.0           0.0         0.0           0.1         0.1           0.1         0.1           0.1         0.1           0.1         0.0           0.1         0.0           0.1         0.0           0.1         0.0           0.1         0.0	(7)         (8)           1.3         2026         2025         2027         (8)           1.3         1.3         1.3         1.3         (8)         (8)           1.3         1.3         0.0	2026         202           1.3         1.3           2.1         1.3           2.1         1.3           2.1         1.3           2.1         1.3           2.1         1.3           2.2         2.4           2.3         0.0           0.0         0.0           0.0         0.0           0.0         0.0           0.0         1.5           2.4         2.5           2.5         2.5           2.6         2.6           0.0         0.0           0.0         0.0           0.0         0.0           0.1         1.5           1.5         1.5           1.5         1.5           1.5         1.5           1.5         1.5           1.5         1.5           1.5         1.5           1.5         1.5           1.5         1.5           1.5         1.5           1.5         1.5           1.5         1.5           1.5         1.5           1.5         1.5           1.5	(7)         (8)         (7)         (8)         (9) <th>(7)(8)(9)(10)(11)(12)2026202720282029203020311.31.31.31.31.31.31.21.31.31.31.31.31.31.22.42.42.00.10.00.00.00.10.10.10.1&lt;</th> <th>(7)         (8)         (9)         (10)         (11)           <math>2022</math> <math>2027</math> <math>2028</math> <math>2029</math> <math>2029</math> <math>2020</math> <math>1.3</math> <math>0.0</math> <t< th=""></t<></th>	(7)(8)(9)(10)(11)(12)2026202720282029203020311.31.31.31.31.31.31.21.31.31.31.31.31.31.22.42.42.00.10.00.00.00.10.10.10.1<	(7)         (8)         (9)         (10)         (11) $2022$ $2027$ $2028$ $2029$ $2029$ $2020$ $1.3$ $1.3$ $1.3$ $1.3$ $1.3$ $1.3$ $1.3$ $1.3$ $1.3$ $1.3$ $1.3$ $1.3$ $1.3$ $1.3$ $0.0$ <t< th=""></t<>
	· · · · · · · · · · · · · · · · · · ·	(e) 500 (c)	(9)         (10)           2028         2028           2028         2029           1.3         1.3           1.3         1.3           2.0         0.0           0.0         0.0           0.0         0.0           0.0         0.0           0.0         0.0           0.0         0.0           0.0         0.0           0.0         0.0           0.0         0.0           0.0         0.0           0.0         0.0           0.0         0.0           0.1         0.1           0.2         0.1           0.1         0.1           0.1         0.1           0.1         0.1           0.1         0.1           0.1         0.1           0.1         0.1           0.1         0.1           0.1         0.1           0.1         0.1	(9)         (10)         (11)         (12)           2028         2029         2030         2031           201         1.3         1.3         1.3         1.2           1.3         1.3         1.3         1.3         1.2           2.0         2.0         0.0         0.0         0.0           0.0         0.0         0.0         0.0         0.0           0.0         0.0         0.0         0.0         0.0           0.0         0.0         0.0         0.0         0.0           0.0         0.0         0.0         0.0         0.0           0.0         0.0         0.0         0.0         0.0           0.0         0.0         0.0         0.0         0.0           0.0         0.0         0.0         0.0         0.0           0.0         0.0         0.0         0.0         0.0           0.1         0.1         0.1         0.1         0.1           0.1         0.1         0.1         0.1         0.1           0.1         0.1         0.1         0.1         0.1           0.1         0.1         0.1         0.1	(9)         (10)         (11)         (12)         (13) <b>2028 2029 2030 2031 2032 2031 2032</b> 1,3         1,3         1,3         1,3         1,3         1,2         1,2           0,0         0,0         0,0         0,0         0,0         0,0         0,0           0,0         0,0         0,0         0,0         0,0         0,0         0,0           0,0         0,0         0,0         0,0         0,0         0,0         0,0           0,0         0,0         0,0         0,0         0,0         0,0         0,0           0,0         0,0         0,0         0,0         0,0         0,0         0,0           0,0         0,0         0,0         0,0         0,0         0,0         0,0           0,0         0,0         0,0         0,0         0,0         0,0         0,0           0,0         0,0         0,0         0,0         0,0         0,0         0,0           0,0         0,0         0,0         0,0         0,0         0,0         0,0           0,1         0,1         0,1 </td

Schedule 6.2

Tampa Electric Company Ten-Year Site Plan 2025

# **Chapter V**



# FORECAST OF FACILITIES REQUIREMENTS

The proposed generating facility changes and additions shown in Schedule 8.1 integrate energy efficiency and conservation programs and generating resources to provide economical, reliable service to TEC's customers. Various energy resource plan alternatives, comprised of a mixture of generating technologies, purchased power, and cost-effective energy efficiency and conservation programs, are developed to determine this plan. These alternatives are combined with existing resources and analyzed to determine the resource options which best meet TEC's future system demand and energy requirements. A detailed discussion of TEC's integrated resource planning process is included in Chapter III.

The results of the IRP process provide TEC with a cost-effective plan that maintains system reliability and environmental requirements while considering technology, availability, dispatchability, resiliency, and lead times for construction. To cost-effectively meet the expected system demand and energy requirements over the next ten years, solar PV, base load, intermediate, and distributed energy resources are needed. TEC will add incremental utility-scale solar PV capacity and is researching the viability of additional renewable technologies. The completion of the Big Bend Power Station modernization through the repowering of Unit 1 to a 2x1 combined cycle unit, the retirement of Unit 2 and Unit 3, and the advanced hardware upgrades on the CTs at Polk 2 provide low-cost, reliable, and grid-friendly options for customers. Additionally, distributed energy resources such as batteries and reciprocating engines provide reliability and resiliency to our system. The operating and cost parameters are shown in Schedule 9 for proposed generating facilities.

TEC will continue to compare purchased power options as an alternative and/or enhancement to planned unit additions, conservation, and load management. At a minimum, the purchased power must have firm transmission service and firm fuel transportation to support firm reserve margin criteria for reliability. Assumptions and information that impact the plan are discussed in the following sections and in Chapter III.

# COGENERATION

Table IV-I 2025 Cogeneration Capacity Forecast	Capacity (MW)
Self-service <sup>1</sup>	145
Firm to Tampa Electric	0
As-available to Tampa Electric	6
Export to other systems	55
Total	206

In 2025, TEC plans for 206 MW of cogeneration capacity operating in its service area.

<sup>1</sup> Capacity and energy that cogenerators produce to serve their own internal load requirements.

# FIRM INTERCHANGE SALES AND PURCHASES

TEC has two (2) long-term firm purchase power agreements. The long-term agreements are with Pasco and Hillsborough Counties, and both are from waste-to-energy (WTE) facilities. The Pasco County (Pasco) agreement is for 18 MW and has a 10-year term, beginning January 2025 and continuing through December 2034. The Hillsborough County (Hillsborough) agreement is for 16 MW and has a 10-year term as well but is still pending Commission approval. If approved by the Commission, the purchase would begin as early as March 2025 and continue through February 2035. The company also has three (3) short-term agreements that provide firm capacity during the winter of 2025. The short-term purchases are (i) 100 MW from the Florida Municipal Power Agency (FMPA), December 2024 through February 2025; (ii) 150 MW from Orlando Utilities Commission, January through February 2025; and (iii) 200 MW from Seminole Electric Cooperative (SEC), December 2024 through February 2025. These winter purchases, along with Pasco, provide firm capacity for the winter 2025 period.

# **FUEL REQUIREMENTS**

A forecast of fuel requirements and energy sources is shown in Schedule 5, Schedule 6.1, and Schedule 6.2. TEC currently uses a generation portfolio consisting mainly of natural gas and solar for its energy requirements. TEC has long-term firm transportation contracts with the Florida Gas Transmission Company and Gulfstream Natural Gas System LLC for delivery of natural gas to Big Bend, Bayside, and Polk. As shown in Schedule 6.2, TEC forecasts serving net energy for load in 2025 with 84.3% natural gas, 11.8% solar, 1.9% coal, and around two (2) percent of other resources, such as non-firm purchases from the market, non-utility generators and Firm Interchange. Some of the company's generating units have dual-fuel (i.e., natural gas or oil) capability, which enhances system reliability, increases resiliency, and provides fuel cost reduction opportunities.

# **ENVIRONMENTAL CONSIDERATIONS**

# Air Quality

TEC continually strives to reduce emissions from its generating facilities, and since 2000, has reduced sulfur dioxide, nitrogen oxide, particulate matter, and mercury emissions by 96% or more. Carbon emissions have also been reduced by more than 50%.

The installation of 1,350 megawatts of solar power by the end of 2024 enabled the company to continue to reduce its dependence on carbon-based fuels. 10% of TEC's energy was fueled by the sun.

TEC's emission reduction activities also include:

- 1. Completed the modernization of Big Bend Unit 1 combined cycle unit and retired Unit 2.
- 2. The retirement of Big Bend Unit 3 in April of 2023.
- 3. The Polk Power Station combined-cycle project improved system reliability and efficiency, and reduced emissions system-wide.



- 4. The upgrade of gas path components on Bayside and Polk Power Station's combustion turbines will increase output, efficiency and reliability while reducing fuel consumption.
- 5. Energy storage capacity that will capture low-cost generation and discharge when it's needed most.

### Water Conservation

TEC is sensitive to water constraints in its service territory and works to minimize impacts, especially to groundwater, on all its properties. Solar generation requires no water. Approximately 98 percent of the water use in TEC power stations is to cool steam. The Big Bend and Bayside stations circulate large amounts of seawater from Tampa Bay for this cooling water; however, this water is simply returned to the bay, rather than consumed by the power stations. At Polk Power Station, an on-site freshwater reservoir provides a closed-loop system for cooling water. TEC has extensive diversion and collection systems at each of its power stations to collect rainwater and process water to maximize water reuse. TEC's Big Bend and Polk Power Station also receive reclaimed water from local municipalities to further reduce the use of potable water and groundwater for plant processes.

### Water Quality

The final 316(b) rule became effective in October 2014 and seeks to reduce impingement and entrainment at cooling water intakes. This rule affects both Big Bend and Bayside Power Stations, since both withdraw cooling water from waters of the U.S. The full impact of the new regulations will be determined by the results of the study elements performed to comply with the rule as well as the actual requirements of the state regulatory agencies. Bayside Power Station replaced the circulator pumps on Units 1 and 2 in 2023 and 2024 respectively, which included fish friendly screens and a fish return system. Tampa Electric is negotiating an alternative schedule for Big Bend (as allowed by the rule) but completed a portion of the compliance requirements with the Big Bend modernization project with the installation of fish-friendly modified traveling screens and a fish return on modernized Unit 1. The remaining compliance requirements for Big Bend Station are to be determined and completed later.

FDEP's numeric nutrient regulations are effective and may potentially impact the discharge from the Polk Power Station cooling water reservoir in the future. The established nitrogen allocations by Tampa Bay Nitrogen Management Consortium for both Bayside and Big Bend Power Stations are expected to meet the numeric nutrient criteria in Tampa Bay.

The final Effluent Limitations Guidelines (ELG) were published on November 3, 2015. The ELGs establish limits for wastewater discharges from flue gas desulfurization (FGD) processes, fly ash and bottom ash transport water, leachate from ponds and landfills containing coal combustion residuals, gasification processes, and flue gas mercury controls. Big Bend completed construction of a deep injection well system in December 2023 for disposal of FGD wastewater, bottom ash transport water, stormwater, and other process wastewaters, which means ELG are no longer applicable.

### Solid Waste

The Coal Combustion Residuals Rule (CCR) became effective on October 19, 2015. The former Big Bend Unit #4 Economizer Ash & Pyrites Pond System (EAPPS), converted Units 1-3 West Slag Disposal Pond (WSDP) and North Gypsum Stackout Area (NGSA) were covered by this rule. Three ECRC projects were proposed and approved by the Commission for these operating units to comply with the CCR Rule requirements, as follows. The WSDP was remediated and lined in 2020 to allow for continued storm water storage and the EAPPS

Closure Project was completed in 2021 by removing and disposing of the CCRs offsite and restoring the site. Phase III of the NGSA Drainage Enhancements Project were initiated in 2023 and the final phase of the project will be completed in 2025. The South Gypsum Storage Area Closure Project was completed as a component of the Big Bend Modernization in January 2020. On May 8, 2024, EPA finalized revisions to the 2015 rule, commonly referred to as the Legacy Impoundments and CCR Management Units (CCRMUs) Rule. The new rule regulates Impoundments that were still in existence at facilities no longer producing power as of October 2015 (not applicable to Tampa Electric) and requires utilities to evaluate their facilities beginning in 2025 to identify any past placements of CCRs in the environment, which are defined by the rule as CCRMUs. Tampa Electric will perform the required evaluations in 2025 and 2026, after which groundwater monitoring and corrective actions could be required based on the results. There are no CCR units at the Polk or Bayside Power Stations regulated under the CCR Rule.

		L		apacity,	Demanu, an		nenance a		IIIIer reak		
(1)	(2)	(3)	(4)	(5)	(9)	(2)	(8)	(6)	(10)	(11)	(12)
	Total Installed Firm Capacity	Firm Capacity Import	Firm Capacity Export	QF	Total Capacity Available	System Firm Summer Peak Demand	Reserve Before Ma	Reserve Margin Before Maintenance	Scheduled Maintenance	Reserve After Mai	Reserve Margin After Maintenance
2025	<b>5</b> ,364	34 M	0	•	5,398	4,243	1,155	27%	0	1,155	27%
2026	5,427	34	0	0	5,461	4,278	1,183	28%	ο	1,183	28%
2027	5,552	34	0	0	5,586	4,315	1,271	29%	0	1,271	29%
2028	5,648	34	0	0	5,682	4,362	1,319	30%	0	1,319	30%
2029	5,649	34	0	0	5,683	4,410	1,273	29%	0	1,273	29%
2030	5,648	34	0	0	5,682	4,460	1,223	27%	0	1,223	27%
2031	5,869	34	0	0	5,903	4,510	1,393	31%	0	1,393	31%
2032	5,868	34	0	0	5,902	4,560	1,342	29%	0	1,342	29%

Forecast of Capacity, Demand, and Scheduled Maintenance at Time of Summer Peak

Schedule 7.1

27% 28%

1,295 1,249

0 0

28%

1,295 1,249

4,606 4,650

5,901

0 0

0 0

8 34

5,867 5,866

2034 2033

5,900

Values shown may be affected due to rounding.

27%

Tampa Electric Company Ten-Year Site Plan 2025

TAMPA ELECTRIC COMPANY UNDOCKETED: REVIEW OF TYSP'S STAFF'S FIRST DATA REQUEST **REQUEST NO. 1** BATES PAGE(S): 1-112 FILED: APRIL 1, 2025 REVISED: MAY 1, 2025

Schedule 7.2

Tampa Electric Company Ten-Year Site Plan 2025

72

Values shown may be affected due to rounding.

# Schedule 7.2.1\*

Forecast of Capacity, Demand, and Scheduled Maintenance at Time of Winter Peak

(1)	(2)	(3)	(4)	(5)	(9)	(2)	(8)	(6)	(10)	(11)	(12)
Year	Total Installed Firm Capacity MW	Firm Capacity Import MV	Firm Capacity Export MW	QF	Total Capacity Available MW	System Firm Winter Peak Demand MW	Resel Before I MW	Reserve Margin Before Maintenance MV % of Peak	Scheduled Maintenance MW	Reser After M MW	Reserve Margin After Maintenance NV % of Peak
2024-25	5,283	468	0	0	5,751	4,540	1,210	27%	337	873	19%
2025-26	5,379	34	0	0	5,413	4,599	814	18%	0	814	18%
2026-27	5,422	34	0	0	5,456	4,655	801	17%	0	801	17%
2027-28	5,560	34	0	0	5,594	4,714	880	19%	0	880	19%
2028-29	5,560	34	0	0	5,594	4,774	820	17%	0	820	17%
2029-30	5,560	34	0	0	5,594	4,834	760	16%	0	760	16%
2030-31	5,807	34	0	0	5,841	4,891	950	19%	0	950	19%
2031-32	5,807	34	0	0	5,841	4,946	895	18%	0	895	18%
2032-33	5,807	34	0	0	5,841	4,999	842	17%	0	842	17%
2033-34	5,807	34	0	0	5,841	5,050	791	16%	0	791	16%
	Values shown may be affected due to rounding. * For information purposes only ** 29° F at time of Peak.	e affected due to oses only ak.	o rounding.								

(1)	(2)	(3)	(4)	(5)	(9)	(2)	(8)	(6)	(10)	(11)	(12)	(13)	(14)	(15)
								Const.	Commercial	Expected		Firm Net Capability	Capability	
Plant	Unit		Unit	Fuel	e	Fuel	Fuel Trans.	Start	In-Service	Retirement	Nameplate	Summer	Winter	
Name	No	Location	Type	Primary	Alternate	Primary	Alternate	Mo/Yr	Mo/Yr	Mo/Yr	κN	MM	MM	Status
2025														
South Tampa Resilience Project Phase I	-	Hillsborough	Q	ŊŊ	AA	Ы	N/A	•	2/25	*	37,600	37.6	37.6	ОР
Lake Mabel Energy Storage Capacity	-	Polk	BA	N/A	AA	N/A	N/A		3/25	*	40,000	40.0	40.0	>
Wimauma Energy Storage Capacity	-	Hillsborough	BA	N/A	NA	N/A	N/A	•	3/25	•	40,000	40.0	40.0	>
Big Bend	4	Hillsborough	ST	NG	ΒП	ΡL	WA/RR		4/25	*	442,000	(57.0)	(62.0)	OT
Polk Unit 1 Simple Cycle Conversion	-	Polk	СТ	NG	N/A	ΡL	N/A	•	6/25	*	203,000	(30.0)	(17.0)	٩
South Tampa Resilience Project Phase II	-	Hillsborough	Q	Ŋ	AA	ΡL	N/A	•	12/25	*	37,600	37.6	37.6	>
Bayside Energy Storage Capacity	-	Hillsborough	BA	N/A	N/A	N/A	N/A	•	12/25	*	20,000	20.0	20.0	٩
Long Branch Solar <sup>1</sup>	-	Manatee	ΡV	SOLAR	AN	AA	AN	•	12/25	*	74,500	3.7		D
Cottonmouth Ranch Solar <sup>1</sup>	-	Hillsborough	Ы	SOLAR	AN	AN	AA	•	12/25	*	74,500	3.7		D
Solar Degradation <sup>2</sup>	N/A											(2.0)		
									2025	2025 Changes and Additions	d Additions:	93.7	96.2	
<u>2026</u>														
Polk 2 Enhancement Phase I	2	Polk	00	Ŋ	AA	Ы	NA	•	11/26	*	43,000	59.5	43.0	٩
Keene Branch Solar <sup>1</sup>	-	Hillsborough	Ы	SOLAR	AA	AN	AA	•	12/26	*	74,500	3.7		۵.
Curiosity Creek Solar <sup>1</sup>	-	Hillsborough	ΡV	SOLAR	NA	AN	NA	•	12/26	*	54,300	2.7		۵.
Brewster Solar <sup>1</sup>	-	Polk	ΡV	SOLAR	AA	AN	NA	•	12/26	*	42,700	0.6	•	٩
Mattaniah Solar <sup>1</sup>	-	Hillsborough	Ы	SOLAR	AN	AN	AN	•	12/26	*	55,000	0.8		٩
Solar Degradation <sup>2</sup>	N/A											(2.0)		
									2026	2026 Changes and Additions	d Additions:	65.4	43.0	
2027														
Polk 2 Enhancement Phase	7	Pok	30	ŊŊ	AN	ΡL	AN		6/27	*	43,000	59.5	43.0	٩
Future Battery Storage 1	-	Unknown	BA	N/A	N/A	N/A	N/A	•	10/27	*	20,000	20.0	20.0	٩.
Brewster Solar Phase	-	Pok	ΡV	SOLAR	AN	A	AN	•	12/27	*	15,600	0.2		٩.
Future Solar 1 <sup>1</sup>	-	Unknown	Ы	SOLAR	٩N	AN	NA	•	12/27	*	74,500	1.1	•	٩
Future Solar 2 <sup>1</sup>	-	Unknown	PV	SOLAR	AA	AA	AA	•	12/27	*	74,500	1.1		٩
Future Battery Storage 2	-	Unknown	ΒA	N/A	N/A	N/A	N/A	•	12/27	*	75,000	75.0	75.0	٩.
Solar Degradation <sup>2</sup>	N/A											(2.0)		
									1000	ē	2027 Changes and Additional	166.0	0001	

Notes:

Undetermined

\* = 0 0

Solar capacity degrades at approximately 0.4% every year. Tampa Electric Company continually analyzes renewable energy and distributed generation alternatives with the objective to integrate them into its resource portfolio. Multiple Sites, each not to exceed 74.5MW

Solar MW values reflect capacity at time of peak. The firm capacity shows expected capacity values for the projected incremental solar additions.

Tampa Electric Company Ten-Year Site Plan 2025

63

Tampa Electric Company continually analyzes renewable energy and distributed generation alternatives with the objective to integrate them into its resource portfolio. Multiple Sites, each not to exceed 74.5MVV

Solar MW values reflect capacity at time of peak. The firm capacity shows expected capacity values for the projected incremental solar additions.

Solar capacity degrades at approximately 0.4% every year.

Undetermined

\* - 0 0

					5			5	0						
(1)	(2)	(3)	(4)	(5)	(9)	(2)	(8)	(6)	(10)	(11)	(12)	(13)	(14)	(15)	
Plant	Unit		Unit	Ē	Fuel	Fue	Fuel Trans.	Const. Start	Commercial Expected In-Service Retirement	Expected Retirement	Commercial Expected Gen.Max. In-Service Retirement Nameplate	Firm Net Capability Summer Winter	apability Winter		
Name	<u>No.</u>	Location	Type	Primary	Alternate	Primary	Alternate	Mo/Yr	Mo/Yr	Mo/Yr	<u>k</u>	MM	MM	Status	
2028						:	:								
Future Solar 3	~	Unknown	P 2	SOLAR	A	AA	A	•	12/28	*	74,500	1.1	ı	ፈ	
Future Solar 4	-	Unknown	Ч	SOLAR	AA	NA	AN	•	12/28	*	55,000	0.8	ı	۵.	
Future Solar 5 <sup>1</sup>	~	Unknown	P	SOLAR	AA	AA	AN	ı	12/28	*	74,500	1.1	ı	٩	
Solar Degradation <sup>2</sup>	N/A										Ι	(2.0)			
									2028	2028 Changes and Additions:	d Additions:	1.1			
2029															
Future Solar 6 <sup>13</sup>	~	Unknown	P	SOLAR	AN	AA	٩N	ı	12/29	*	149,000	1.5		٩	
Solar Degradation <sup>2</sup>	N/A										1	(2.0)			
									2029	2029 Changes and Additions:	d Additions:	(0.5)	•		
2030															
- - - - -			i									1			
	-	Unknown	Р	SOLAR	A	A	A	,	12/30	*	149,000	1.5	•	ሲ	
Solar Degradation <sup>∠</sup>	N/A										I	(2.0)			
									2030	2030 Changes and Additions:	d Additions:	(0.5)			
1000															
zusi Future CT	~	Unknown	СТ	ŊŊ	AN	٦L	N/A	ı	1/31	*	247,000	222.0	247.0	۵	
Future Solar 8 <sup>1</sup>	-	Unknown	Р	SOLAR	AA	AA	AA	ı	12/31	*	74,500	0.7	ı	٩	
Solar Degradation <sup>2</sup>	N/A											(2.0)	ı		
									2031	2031 Changes and Additions:	d Additions:	220.8	247.0		
2032															
Future Solar 9 <sup>1</sup>	1	Unknown	PV	SOLAR	NA	AA	M	ı	12/32	*	74,500	0.7	•	٩	
Solar Degradation <sup>2</sup>	N/A											(2.0)			
									2032	2032 Changes and Additions:	d Additions:	(1.2)	•		
															LIL
Notes:															сν.

# Schedule 8.1 Cont'd Planned and Prospective Generating Facility Additions and Changes

64

	(15)		Status		٩				٩			
	(14)	Capability Winter	MM		ı		1		ı		I	
	(13)	Firm Net C Summer	MM		0.7	(2.0)	(1.2)		0.7	(2.0)	(1.2)	
	(12)	Commercial Expected Gen.Max. <u>Firm Ne</u> t In-Service Retirement Nameplate Summer	<u>k</u> W		74,500	1	Additions:		74,500		Additions:	
	(11)	Expected Retirement	Mo/Yr		*		2033 Changes and Additions:		*		2034 Changes and Additions:	
Changes	(10)	Const. Commercial Expected Gen. Max. <u>Firm Net Capability</u> Start. In-Service Retirement Nameolate Summer Winter	Mo/Yr		12/33		2033 (		12/34		2034 (	
ns and (	(6)	Const Start	Mo/Yr						ı			
i y Additio	(8)	rans.	Alternate		AA				AN			
1 Cont'o Ig Facilit	(2)	Fuel Trans.	Primary Alternate		A				AN			
Schedule 8.1 Cont'd e Generating Facility	(9)	Fue	Alternate		AN				AN			
SC pective G (5)	Ľ	Primary Alternate		SOLAR				SOLAR				
ind Pros	nd Prosp (4)	and Pros (4)	Unit	Type		P				P		
Schedule 8.1 Cont'd Planned and Prospective Generating Facility Additions and Changes	(3)		Location		Unknown				Unknown			
	(2)	Unit	<u>No.</u>		-	N/A			-	NIA		
	3	Plant	Name	2033	Future Solar 10 <sup>1</sup>	Solar Degradation <sup>2</sup>		2034		Solar Degradation <sup>2</sup>		

Notes:

Undetermined

\* 0 ю

-

Solar capacity degrades at approximately 0.4% every year. Tampa Electric Company continually analyzes renewable energy and distributed generation alternatives with the objective to integrate them into its resource portfolio. Multiple Sites, each not to exceed 74.5MV

Solar MW values reflect capacity at time of peak. The firm capacity shows expected capacity values for the projected incremental solar additions.

Tampa Electric Company Ten-Year Site Plan 2025

65

#### Schedule 9 (Page 1 of 29)

Status Report and Specifications of Proposed Generating Facilities

(1)	Plant Name and Unit Number	South Tampa Resilience Project Phase I
(2)	Net Capability A. Summer B. Winter	37.6 MW 37.6 MW
(3)	Technology Type	Engine
(4)	Anticipated Construction Timing A. Field Construction Start Date <sup>2</sup> B. Commercial In-Service Date	Dec-22 Feb-25
(5)	Fuel A. Primary Fuel B. Alternate Fuel	Natural Gas N/A
(6)	Air Pollution Control Strategy	Selective Catalytic Reduction (SCR)
(7)	Cooling Method	Close Loop cooling
(8)	Total Site Area	2 Acres
(9)	Construction Status	Under Construction
(10)	Certification Status	N/A
(11)	Status with Federal Agencies	N/A
(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 (In-Service Year ANOHR)	2% 2% 96% 8% 8,300 Btu/kWh
(13)	Projected Unit Financial Data Book Life (Years) Total Installed Cost (In-Service Year \$/kW) <sup>1</sup> Direct Construction Cost (\$/kW) AFUDC Amount (\$/kW) Escalation (\$/kW) Fixed O&M (In-Service Year \$/kW – Yr) Variable O&M (In-Service Year \$/MWh) K-Factor	30 2,224 2,056 168.30 - 19.63 2.36 1.32

<sup>1</sup> Total installed cost includes transmission interconnection

#### Schedule 9 (Page 2 of 29) Status Report and Specifications of Proposed Generating Facilities

(1)	Plant Name and Unit Number	Lake N	Nabel Energy Storage Capacity
(2)	Net Capability A. Summer B. Winter	40 40	MW-ac MW-ac
(3)	Technology Type	Batter	Γ <b>γ</b>
(4)	Anticipated Construction Timing A. Field Construction Start Date <sup>2</sup> B. Commercial In-Service Date	Jan-24 Mar-2	
(5)	Fuel A. Primary Fuel B. Alternate Fuel	N/A N/A	
(6)	Air Pollution Control Strategy	N/A	
(7)	Cooling Method	N/A	
(8)	Total Site Area	2 Acre	S
(9)	Construction Status	Under	Construction
(10)	Certification Status	N/A	
(11)	Status with Federal Agencies	N/A	
(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 (In-Service Year ANOHR)	N/A N/A N/A N/A N/A	
(13)	Projected Unit Financial Data Book Life (Years) Total Installed Cost (In-Service Year \$/kW) <sup>1</sup> Direct Construction Cost (\$/kW) AFUDC Amount (\$/kW) Escalation (\$/kW) Fixed O&M (In-Service Year \$/kW – Yr) Variable O&M (In-Service Year \$/MWh) K-Factor	20 1,281 1,215 65.57 - 4.11 - 1.05	

<sup>1</sup> Total installed cost includes transmission interconnection

Schedule 9 (Page 3 of 29)

Status Report and Specifications of Proposed Generating Facilities

(1)	Plant Name and Unit Number	Wima	uma Energy Storage Capacity
(2)	Net Capability A. Summer B. Winter	40 40	MW-ac MW-ac
(3)	Technology Type	Batte	ry
(4)	Anticipated Construction Timing A. Field Construction Start Date <sup>2</sup> B. Commercial In-Service Date	Feb-24 Mar-2	
(5)	Fuel A. Primary Fuel B. Alternate Fuel	N/A N/A	
(6)	Air Pollution Control Strategy	N/A	
(7)	Cooling Method	N/A	
(8)	Total Site Area	2 Acre	25
(9)	Construction Status	Under	Construction
(10)	Certification Status	N/A	
(11)	Status with Federal Agencies	N/A	
(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 (In-Service Year ANOHR)	N/A N/A N/A N/A	
(13)	Projected Unit Financial Data Book Life (Years) Total Installed Cost (In-Service Year \$/kW) <sup>1</sup> Direct Construction Cost (\$/kW) AFUDC Amount (\$/kW) Escalation (\$/kW) Fixed O&M (In-Service Year \$/kW – Yr) Variable O&M (In-Service Year \$/MWh) K-Factor	20 1,108 1,067 40.64 - 4.11 - 1.05	

<sup>1</sup> Total installed cost includes transmission interconnection

#### Schedule 9 (Page 4 of 29) Status Report and Specifications of Proposed Generating Facilities

(1)	Plant Name and Unit Number	Polk Unit 1 Simple Cycle Conversion
(2)	Net Capability A. Summer B. Winter	190 MW 203 MW
(3)	Technology Type	Combustion Turbine
(4)	Anticipated Construction Timing A. Field Construction Start Date <sup>2</sup> B. Commercial In-Service Date	Mar-25 Jun-25
(5)	Fuel A. Primary Fuel B. Alternate Fuel	Natural Gas N/A
(6)	Air Pollution Control Strategy	Dry-Low NOx
(7)	Cooling Method	N/A
(8)	Total Site Area	Undetermined
(9)	Construction Status	Planned
(10)	Certification Status	Undetermined
(11)	Status with Federal Agencies	N/A
(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 (In-Service Year ANOHR)	5% 2% 93% 5% 10,643 Btu/kWh
(13)	Projected Unit Financial Data Book Life (Years) Total Installed Cost (In-Service Year \$/kW) <sup>1</sup> Direct Construction Cost (\$/kW) AFUDC Amount (\$/kW) Escalation (\$/kW) Fixed O&M (In-Service Year \$/kW – Yr) Variable O&M (In-Service Year \$/MWh) K-Factor	11 397 383 13.79 - 5.6 -

<sup>1</sup> Total installed cost includes transmission interconnection

#### Schedule 9 (Page 5 of 29)

#### Status Report and Specifications of Proposed Generating Facilities

(1)	Plant Name and Unit Number	South Tampa Resilience Project Phase II
(2)	Net Capability A. Summer B. Winter	37.6 MW 37.6 MW
(3)	Technology Type	Engine
(4)	Anticipated Construction Timing A. Field Construction Start Date <sup>2</sup> B. Commercial In-Service Date	Dec-22 Dec-25
(5)	Fuel A. Primary Fuel B. Alternate Fuel	Natural Gas N/A
(6)	Air Pollution Control Strategy	Selective Catalytic Reduction (SCR)
(7)	Cooling Method	Close Loop cooling
(8)	Total Site Area	2 Acres
(9)	Construction Status	Under Construction
(10)	Certification Status	N/A
(11)	Status with Federal Agencies	N/A
(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 (In-Service Year ANOHR)	2% 2% 96% 8% 8,300 Btu/kWh
(13)	Projected Unit Financial Data Book Life (Years) Total Installed Cost (In-Service Year \$/kW) <sup>1</sup> Direct Construction Cost (\$/kW) AFUDC Amount (\$/kW) Escalation (\$/kW) Fixed O&M (In-Service Year \$/kW – Yr) Variable O&M (In-Service Year \$/MWh) K-Factor	30 2,224 2,056 168.30 - 19.63 2.36 1.23

<sup>1</sup> Total installed cost includes transmission interconnection

#### Schedule 9 (Page 6 of 29) Status Report and Specifications of Proposed Generating Facilities

(1)	Plant Name and Unit Number	Baysid	le Energy Storage Capacity
(2)	Net Capability A. Summer B. Winter	20 20	MW-ac MW-ac
(3)	Technology Type	Batter	у
(4)	Anticipated Construction Timing A. Field Construction Start Date <sup>2</sup> B. Commercial In-Service Date	Dec-24 Dec-2	
(5)	Fuel A. Primary Fuel B. Alternate Fuel	N/A N/A	
(6)	Air Pollution Control Strategy	N/A	
(7)	Cooling Method	N/A	
(8)	Total Site Area	2 Acre	S
(9)	Construction Status	Planne	ed
(10)	Certification Status	N/A	
(11)	Status with Federal Agencies	N/A	
(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 (In-Service Year ANOHR)	N/A N/A N/A N/A N/A	
(13)	Projected Unit Financial Data Book Life (Years) Total Installed Cost (In-Service Year \$/kW) <sup>1</sup> Direct Construction Cost (\$/kW) AFUDC Amount (\$/kW) Escalation (\$/kW) Fixed O&M (In-Service Year \$/kW – Yr) Variable O&M (In-Service Year \$/MWh) K-Factor	20 1,799 1,735 - - 4.09 - 0.93	

<sup>1</sup> Total installed cost includes transmission interconnection

<sup>2</sup> Construction schedule includes engineering design and permitting

82

#### Schedule 9 (Page 7 of 29)

Status Report and Specifications of Proposed Generating Facilities

(1)	Plant Name and Unit Number	Long Branch Solar
(2)	Net Capability A. Summer B. Winter	74.5 MW-ac 74.5 MW-ac
(3)	Technology Type	Single Axis Tracking PV Solar
(4)	Anticipated Construction Timing A. Field Construction Start Date <sup>2</sup> B. Commercial In-Service Date	Jan-24 Dec-25
(5)	Fuel A. Primary Fuel Solar B. Alternate Fuel	Solar N/A
(6)	Air Pollution Control Strategy	N/A
(7)	Cooling Method	N/A
(8)	Total Site Area	+690 Acres
(9)	Construction Status	Under Construction
(10)	Certification Status	N/A
(11)	Status with Federal Agencies	N/A
(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 (In-Service Year ANOHR)	N/A N/A N/A 26% N/A
(13)	Projected Unit Financial Data Book Life (Years) Total Installed Cost (In-Service Year \$/kW) <sup>1,3</sup> Direct Construction Cost (\$/kW) AFUDC Amount (\$/kW) Escalation (\$/kW) Fixed O&M (In-Service Year \$/kW – Yr) Variable O&M (In-Service Year \$/MWh) K-Factor	35 1,601 1,534 67.54 - 18.55 - 0.65

<sup>1</sup> Total installed cost includes transmission interconnection

<sup>2</sup> Construction schedule includes engineering design and permitting

<sup>3</sup> Land price included

#### Schedule 9 (Page 8 of 29) Status Report and Specifications of Proposed Generating Facilities

(1)	Plant Name and Unit Number	Cottonmouth Ranch Solar 1
(2)	Net Capability A. Summer B. Winter	74.5 MW-ac 74.5 MW-ac
(3)	Technology Type	Single Axis Tracking PV Solar
(4)	<ul> <li>Anticipated Construction Timing</li> <li>A. Field Construction Start Date <sup>2</sup></li> <li>B. Commercial In-Service Date</li> </ul>	Jan-24 Dec-25
(5)	Fuel A. Primary Fuel Solar B. Alternate Fuel	Solar N/A
(6)	Air Pollution Control Strategy	N/A
(7)	Cooling Method	N/A
(8)	Total Site Area	+530 Acres
(9)	Construction Status	Planned
(10)	Certification Status	N/A
(11)	Status with Federal Agencies	N/A
(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 (In-Service Year ANOHR)	N/A N/A 26% N/A
(13)	Projected Unit Financial Data Book Life (Years) Total Installed Cost (In-Service Year \$/kW) <sup>1,3</sup> Direct Construction Cost (\$/kW) AFUDC Amount (\$/kW) Escalation (\$/kW) Fixed O&M (In-Service Year \$/kW – Yr) Variable O&M (In-Service Year \$/MWh) K-Factor	35 1,574 1,491 83.08 - 18.55 - 0.79

<sup>1</sup> Total installed cost includes transmission interconnection

<sup>2</sup> Construction schedule includes engineering design and permitting

<sup>3</sup> Land Lease costs not included

Schedule 9 (Page 9 of 29)

Status Report and Specifications of Proposed Generating Facilities

(1)	Plant Name and Unit Number	Polk 2 Enhancement Phase I
(2)	Net Capability A. Summer B. Winter	59.5 MW 43.0 MW
(3)	Technology Type	Combined Turbine
(4)	Anticipated Construction Timing A. Field Construction Start Date <sup>2</sup> B. Commercial In-Service Date	Sep-26 Nov-26
(5)	Fuel A. Primary Fuel Natural B. Alternate Fuel	Gas N/A
(6)	Air Pollution Control Strategy	Dry-Low NOx
(7)	Cooling Method	N/A
(8)	Total Site Area	Undetermined
(9)	Construction Status	Planned
(10)	Certification Status	Undetermined
(11)	Status with Federal Agencies	N/A
(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 (In-Service Year ANOHR)	N/A N/A N/A N/A
(13)	Projected Unit Financial Data Book Life (Years) Total Installed Cost (In-Service Year \$/kW) <sup>1</sup> Direct Construction Cost (\$/kW) AFUDC Amount (\$/kW) Escalation (\$/kW) Fixed O&M (In-Service Year \$/kW – Yr) Variable O&M (In-Service Year \$/MWh) K-Factor	30 905 820 - - - 1.34

<sup>1</sup> Total installed cost includes transmission interconnection

#### Schedule 9 (Page 10 of 29) Status Report and Specifications of Proposed Generating Facilities

(1)	Diant Name and Unit Number	Kaona Branch Calar
(1)	Plant Name and Unit Number	Keene Branch Solar
(2)	Net Capability	745 101/
	A. Summer B. Winter	74.5 MW-ac 74.5 MW-ac
	B. White	74.5 WW-ac
(3)	Technology Type	Single Axis Tracking PV Solar
(4)	Anticipated Construction Timing	
	A. Field Construction Start Date <sup>2</sup>	Jan-25
	B. Commercial In-Service Date	Dec-26
(5)	Fuel	
. ,	A. Primary Fuel	Solar
	B. Alternate Fuel	N/A
(6)	Air Pollution Control Stratogy	N/A
(6)	Air Pollution Control Strategy	N/A
(7)	Cooling MethodN/A	
(8)	Total Site Area	Undetermined
(9)	Construction Status	Planned
(10)	Certification Status	N/A
(11)	Status with Federal Agencies	N/A
(12)	Projected Unit Performance Data	
(12)	Planned Outage Factor (POF)	N/A
	Forced Outage Factor (FOF)	N/A
	Equivalent Availability Factor (EAF)	N/A
	Resulting Capacity Factor	26%
	Average Net Operating Heat Rate (In-Service Year ANOHR)	N/A
(13)	Projected Unit Financial Data	
(10)	Book Life (Years)	35
	Total Installed Cost (In-Service Year \$/kW) <sup>1,3</sup>	1,567
	Direct Construction Cost (\$/kW)	1,493
	AFUDC Amount (\$/kW)	73.44
	Escalation (\$/kW)	-
	Fixed O&M (In-Service Year \$/kW – Yr) Variable O&M (In-Service Year \$/MWh)	18.96
	K-Factor	- 0.86
		0.00

<sup>1</sup> Total installed cost includes transmission interconnection

<sup>2</sup> Construction schedule includes engineering design and permitting

<sup>3</sup> Land Lease costs not included

#### Schedule 9 (Page 11 of 29)

Status Report and Specifications of Proposed Generating Facilities

(1)	Plant Name and Unit Number	Curiosity Creek Solar
(2)	Net Capability A. Summer B. Winter	54.3 MW-ac 54.3 MW-ac
(3)	Technology Type	Single Axis Tracking PV Solar
(4)	Anticipated Construction Timing A. Field Construction Start Date <sup>2</sup> B. Commercial In-Service Date	Jan-25 Dec-26
(5)	Fuel A. Primary Fuel B. Alternate Fuel	Solar N/A
(6)	Air Pollution Control Strategy	N/A
(7)	Cooling Method	N/A
(8)	Total Site Area	Undetermined
(9)	Construction Status	Planned
(10)	Certification Status	N/A
(11)	Status with Federal Agencies	N/A
(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 (In-Service Year ANOHR)	N/A N/A 26% N/A
(13)	Projected Unit Financial Data Book Life (Years) Total Installed Cost (In-Service Year \$/kW) <sup>1,3</sup> Direct Construction Cost (\$/kW) AFUDC Amount (\$/kW) Escalation (\$/kW) Fixed O&M (In-Service Year \$/kW – Yr) Variable O&M (In-Service Year \$/MWh) K-Factor	35 1,858 1,763 94.82 - 18.96 - 0.73

<sup>1</sup> Total installed cost includes transmission interconnection

<sup>2</sup> Construction schedule includes engineering design and permitting

<sup>3</sup> Land price included

#### Schedule 9 (Page 12 of 29) Status Report and Specifications of Proposed Generating Facilities

(1)	Plant Name and Unit Number	Brewster Solar
(2)	Net Capability	
( )	A. Summer	42.7 MW-ac
	B. Winter	42.7 MW-ac
(3)	Technology Type	Single Axis Tracking PV Solar
(4)	Anticipated Construction Timing	
( )	A. Field Construction Start Date $^{2}$	Jan-25
	B. Commercial In-Service Date	Dec-26
		20020
(5)	Fuel	
(-)	A. Primary Fuel	Solar
	B. Alternate Fuel	N/A
(6)	Air Pollution Control Strategy	N/A
. ,		
(7)	Cooling Method	N/A
( )	5	
(8)	Total Site Area	Undetermined
(9)	Construction Status	Planned
(10)	Certification Status	N/A
(11)	Status with Federal Agencies	N/A
(12)	Projected Unit Performance Data	
	Planned Outage Factor (POF)	N/A
	Forced Outage Factor (FOF)	N/A
	Equivalent Availability Factor (EAF)	N/A
	Resulting Capacity Factor	26%
	Average Net Operating Heat Rate (In-Service Year ANOHR)	N/A
(13)	Projected Unit Financial Data	
	Book Life (Years)	35
	Total Installed Cost (In-Service Year \$/kW) <sup>1,3</sup>	1,541
	Direct Construction Cost (\$/kW)	1,482
	AFUDC Amount (\$/kW)	59.35
	Escalation (\$/kW)	-
	Fixed O&M (In-Service Year \$/kW – Yr)	18.96
	Variable O&M (In-Service Year \$/MWh)	-
	K-Factor	0.69

<sup>1</sup> Total installed cost includes transmission interconnection

<sup>2</sup> Construction schedule includes engineering design and permitting

<sup>3</sup> Land price included

#### Schedule 9 (Page 13 of 29)

Status Report and Specifications of Proposed Generating Facilities

(1)	Plant Name and Unit Number	Mattaniah Solar
(2)	Net Capability A. Summer B. Winter	55.0 MW-ac 55.0 MW-ac
(3)	Technology Type	Single Axis Tracking PV Solar
(4)	Anticipated Construction Timing A. Field Construction Start Date <sup>2</sup> B. Commercial In-Service Date	Jan-25 Dec-26
(5)	Fuel A. Primary Fuel Solar B. Alternate Fuel	Solar N/A
(6)	Air Pollution Control Strategy	N/A
(7)	Cooling Method	N/A
(8)	Total Site Area	Undetermined
(9)	Construction Status	Planned
(10)	Certification Status	N/A
(11)	Status with Federal Agencies	N/A
(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 (In-Service Year ANOHR)	N/A N/A 26% N/A
(13)	Projected Unit Financial Data Book Life (Years) Total Installed Cost (In-Service Year \$/kW) <sup>1,3</sup> Direct Construction Cost (\$/kW) AFUDC Amount (\$/kW) Escalation (\$/kW) Fixed O&M (In-Service Year \$/kW – Yr) Variable O&M (In-Service Year \$/MWh) K-Factor	35 1,609 1,517 91.17 - 18.96 - 0.69

<sup>1</sup> Total installed cost includes transmission interconnection

<sup>2</sup> Construction schedule includes engineering design and permitting

<sup>3</sup> Land price included

#### Schedule 9 (Page 14 of 29) Status Report and Specifications of Proposed Generating Facilities

(1)	Plant Name and Unit Number	Polk 2 Enhancement Phase II
(2)	Net Capability	
	A. Summer	59.5 MW
	B. Winter	43.0 MW
(3)	Technology Type	Combustion Turbine
(4)	Anticipated Construction Timing	
	A. Field Construction Start Date <sup>2</sup>	Apr-27
	B. Commercial In-Service Date	Jun-27
(5)	Fuel	
.,	A. Primary Fuel Natural Gas	Natural Gas
	B. Alternate Fuel	N/A
(6)	Air Dollution Control Stratogy	
(0)	Air Pollution Control Strategy	Dry-Low NOx
(7)	Cooling Method	N/A
(8)	Total Site Area	Undetermined
(0)		ondetermined
(9)	Construction Status	Planned
(10)	Certification Status	Undetermined
(11)	Status with Federal Agencies	N/A
(11)	Status with Ediciti Agencies	
(12)	Projected Unit Performance Data	
	Planned Outage Factor (POF)	N/A
	Forced Outage Factor (FOF)	N/A
	Equivalent Availability Factor (EAF)	N/A
	Resulting Capacity Factor	N/A
	Average Net Operating Heat Rate (In-Service Year ANOHR)	N/A
(13)	Projected Unit Financial Data	
( - )	Book Life (Years)	30
	Total Installed Cost (In-Service Year \$/kW) <sup>1</sup>	905
	Direct Construction Cost (\$/kW)	820
	AFUDC Amount (\$/kW)	-
	Escalation (\$/kW)	-
	Fixed O&M (In-Service Year \$/kW – Yr)	-
	Variable O&M (In-Service Year \$/MWh)	-
	K-Factor	1.34

<sup>1</sup> Total installed cost includes transmission interconnection

<sup>2</sup> Construction schedule includes engineering design and permitting

90

#### Schedule 9 (Page 15 of 29)

Status Report and Specifications of Proposed Generating Facilities

(1)	Plant Name and Unit Number	Future	e Battery Storage 1
(2)	Net Capability A. Summer B. Winter	20 20	MW-ac MW-ac
(3)	Technology Type	Batte	ry
(4)	Anticipated Construction Timing A. Field Construction Start Date <sup>2</sup> B. Commercial In-Service Date	Oct-20 Oct-2	
(5)	Fuel A. Primary Fuel B. Alternate Fuel	N/A N/A	
(6)	Air Pollution Control Strategy	N/A	
(7)	Cooling Method	N/A	
(8)	Total Site Area	N/A	
(9)	Construction Status	Planne	ed
(10)	Certification Status	N/A	
(11)	Status with Federal Agencies	N/A	
(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 (In-Service Year ANOHR)	N/A N/A N/A N/A	
(13)	Projected Unit Financial Data Book Life (Years) Total Installed Cost (In-Service Year \$/kW) <sup>1</sup> Direct Construction Cost (\$/kW) AFUDC Amount (\$/kW) Escalation (\$/kW) Fixed O&M (In-Service Year \$/kW – Yr) Variable O&M (In-Service Year \$/MWh) K-Factor	20 2,330 2,083 247.0 - 4.20 - 0.93	4

<sup>1</sup> Total installed cost includes transmission interconnection

#### Schedule 9 (Page 16 of 29) Status Report and Specifications of Proposed Generating Facilities

(1)	Plant Name and Unit Number	Brews	ter Solar Phase II
(2)	Net Capability A. Summer B. Winter	15.6 15.6	MW-ac MW-ac
(3)	Technology Type	Single	Axis Tracking PV Solar
(4)	<ul> <li>Anticipated Construction Timing</li> <li>A. Field Construction Start Date <sup>2</sup></li> <li>B. Commercial In-Service Date</li> </ul>	Jan-26 Dec-27	
(5)	Fuel A. Primary Fuel B. Alternate Fuel	Solar N/A	
(6)	Air Pollution Control Strategy	N/A	
(7)	Cooling Method	N/A	
(8)	Total Site Area	Undet	ermined
(9)	Construction Status	Planne	ed
(10)	Certification Status	N/A	
(11)	Status with Federal Agencies	N/A	
(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 (In-Service Year ANOHR)	N/A N/A N/A 26% N/A	
(13)	Projected Unit Financial Data Book Life (Years) Total Installed Cost (In-Service Year \$/kW) <sup>1,3</sup> Direct Construction Cost (\$/kW) AFUDC Amount (\$/kW) Escalation (\$/kW) Fixed O&M (In-Service Year \$/kW – Yr) Variable O&M (In-Service Year \$/MWh) K-Factor	35 1,748 1,607 140.85 - 19.38 - 0.73	5

<sup>1</sup> Total installed cost includes transmission interconnection

<sup>2</sup> Construction schedule includes engineering design and permitting

<sup>3</sup> Land price included

92

#### Schedule 9 (Page 17 of 29)

Status Report and Specifications of Proposed Generating Facilities

(1)	Plant Name and Unit Number	Future Solar 1
(2)	Net Capability A. Summer B. Winter	74.5 MW-ac 74.5 MW-ac
(3)	Technology Type	Single Axis Tracking PV Solar
(4)	Anticipated Construction Timing A. Field Construction Start Date <sup>2</sup> B. Commercial In-Service Date	Jan-26 Dec-27
(5)	Fuel A. Primary Fuel B. Alternate Fuel	Solar N/A
(6)	Air Pollution Control Strategy	N/A
(7)	Cooling Method	N/A
(8)	Total Site Area	Undetermined
(9)	Construction Status	Planned
(10)	Certification Status	N/A
(11)	Status with Federal Agencies	N/A
(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 (In-Service Year ANOHR)	N/A N/A TBD N/A
(13)	Projected Unit Financial Data Book Life (Years) Total Installed Cost (In-Service Year \$/kW) <sup>1</sup> Direct Construction Cost (\$/kW) AFUDC Amount (\$/kW) Escalation (\$/kW) Fixed O&M (In-Service Year \$/kW – Yr) Variable O&M (In-Service Year \$/MWh) K-Factor	35 TBD TBD TBD TBD - TBD

<sup>1</sup> Total installed cost includes transmission interconnection

#### Schedule 9 (Page 18 of 29) Status Report and Specifications of Proposed Generating Facilities

			-
(1)	Plant Name and Unit Number	Future	Solar 2
(2)	Net Capability A. Summer B. Winter	74.5 74.5	MW-ac MW-ac
(3)	Technology Type	Single	Axis Tracking PV Solar
(4)	<ul> <li>Anticipated Construction Timing</li> <li>A. Field Construction Start Date <sup>2</sup></li> <li>B. Commercial In-Service Date</li> </ul>	Jan-26 Dec-27	
(5)	Fuel A. Primary Fuel B. Alternate Fuel	Solar N/A	
(6)	Air Pollution Control Strategy	N/A	
(7)	Cooling Method	N/A	
(8)	Total Site Area	Undet	ermined
(9)	Construction Status	Planne	d
(10)	Certification Status	N/A	
(11)	Status with Federal Agencies	N/A	
(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 (In-Service Year ANOHR)	N/A N/A N/A TBD N/A	
(13)	Projected Unit Financial Data Book Life (Years) Total Installed Cost (In-Service Year \$/kW) <sup>1</sup> Direct Construction Cost (\$/kW) AFUDC Amount (\$/kW) Escalation (\$/kW) Fixed O&M (In-Service Year \$/kW – Yr) Variable O&M (In-Service Year \$/MWh) K-Factor	35 TBD TBD TBD TBD TBD - TBD	

<sup>1</sup> Total installed cost includes transmission interconnection

#### Schedule 9 (Page 19 of 29)

Status Report and Specifications of Proposed Generating Facilities

(1)	Plant Name and Unit Number	Future	e Battery Storage 2
(2)	Net Capability A. Summer B. Winter	75 75	MW-ac MW-ac
(3)	Technology Type	Batte	ry
(4)	Anticipated Construction Timing A. Field Construction Start Date <sup>2</sup> B. Commercial In-Service Date	Dec-2 Dec-2	
(5)	Fuel A. Primary Fuel B. Alternate Fuel	N/A N/A	
(6)	Air Pollution Control Strategy	N/A	
(7)	Cooling Method	N/A	
(8)	Total Site Area	N/A	
(9)	Construction Status	Planne	ed
(10)	Certification Status	N/A	
(11)	Status with Federal Agencies	N/A	
(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 (In-Service Year ANOHR)	N/A N/A N/A N/A	
(13)	Projected Unit Financial Data Book Life (Years) Total Installed Cost (In-Service Year \$/kW) <sup>1</sup> Direct Construction Cost (\$/kW) AFUDC Amount (\$/kW) Escalation (\$/kW) Fixed O&M (In-Service Year \$/kW – Yr) Variable O&M (In-Service Year \$/MWh) K-Factor	20 2,080 1,869 211.69 - 6.42 - 0.93	

<sup>1</sup> Total installed cost includes transmission interconnection

<sup>2</sup> Construction schedule includes engineering design and permitting

#### Schedule 9 (Page 20 of 29) Status Report and Specifications of Proposed Generating Facilities

(1)	Plant Name and Unit Number	Future Solar 3
(2)	Net Capability	
	A. Summer	74.5 MW-ac
	B. Winter	74.5 MW-ac
(3)	Technology Type	Single Axis Tracking PV Solar
(4)	Anticipated Construction Timing	
( )	A. Field Construction Start Date <sup>2</sup>	Jan-27
	B. Commercial In-Service Date	Dec-28
(5)	Fuel	
(-)	A. Primary Fuel	Solar
	B. Alternate Fuel	N/A
(6)	Air Pollution Control Strategy	N/A
(-)		
(7)	Cooling Method	N/A
( )		,
(8)	Total Site Area	Undetermined
. ,		
(9)	Construction Status	Planned
(10)	Certification Status	N/A
(11)	Status with Federal Agencies	N/A
(12)	Projected Unit Performance Data	
	Planned Outage Factor (POF)	N/A
	Forced Outage Factor (FOF)	N/A
	Equivalent Availability Factor (EAF)	N/A
	Resulting Capacity Factor	TBD
	Average Net Operating Heat Rate (In-Service Year ANOHR)	N/A
(13)	Projected Unit Financial Data	
. ,	Book Life (Years)	35
	Total Installed Cost (In-Service Year \$/kW) <sup>1</sup>	TBD
	Direct Construction Cost (\$/kW)	TBD
	AFUDC Amount (\$/kW)	TBD
	Escalation (\$/kW)	TBD
	Fixed O&M (In-Service Year \$/kW – Yr)	TBD
	Variable O&M (In-Service Year \$/MWh)	-
	K-Factor	TBD

<sup>1</sup> Total installed cost includes transmission interconnection

#### Schedule 9 (Page 21 of 29)

Status Report and Specifications of Proposed Generating Facilities

(1)	Diant Name and Unit Number	Futuro	Solar 4
(1)	Plant Name and Unit Number	Future	Solar 4
(2)	Net Capability		
	A. Summer B. Winter	55.0 55.0	MW-ac
	B. Winter	55.0	MW-ac
(3)	Technology Type	Single	Axis Tracking PV Solar
(4)	Anticipated Construction Timing		
	A. Field Construction Start Date <sup>2</sup>	Jan-27	
	B. Commercial In-Service Date	Dec-28	3
(5)	Fuel		
(5)	Fuel A. Primary Fuel	Solar	
	B. Alternate Fuel	N/A	
		,,,,	
(6)	Air Pollution Control Strategy	N/A	
()			
(7)	Cooling Method	N/A	
(8)	Total Site Area	Undete	ermined
(9)	Construction Status	Planne	d
(10)	Certification Status	N/A	
(11)	Status with Federal Agencies	N/A	
(12)	Projected Unit Performance Data		
(/	Planned Outage Factor (POF)	N/A	
	Forced Outage Factor (FOF)	N/A	
	Equivalent Availability Factor (EAF)	N/A	
	Resulting Capacity Factor	TBD	
	Average Net Operating Heat Rate (In-Service Year ANOHR)	N/A	
(13)	Projected Unit Financial Data		
(_0)	Book Life (Years)	35	
	Total Installed Cost (In-Service Year \$/kW) 1	TBD	
	Direct Construction Cost (\$/kW)	TBD	
	AFUDC Amount (\$/kW)	TBD	
	Escalation (\$/kW)	TBD	
	Fixed O&M (In-Service Year \$/kW – Yr)	TBD -	
	Variable O&M (In-Service Year \$/MWh) K-Factor	- TBD	
		100	

<sup>1</sup> Total installed cost includes transmission interconnection

#### Schedule 9 (Page 22 of 29) Status Report and Specifications of Proposed Generating Facilities

(1)	Plant Name and Unit Number	Future Solar 5
(2)	Net Capability	
( )	A. Summer	74.5 MW-ac
	B. Winter	74.5 MW-ac
(3)	Technology Type	Single Axis Tracking PV Solar
(4)	Anticipated Construction Timing	
( )	A. Field Construction Start Date $^{2}$	Jan-27
	B. Commercial In-Service Date	Dec-28
	B. commercial in Service Date	500 20
(5)	Fuel	
(3)	A. Primary Fuel	Solar
	B. Alternate Fuel	N/A
(6)	Air Pollution Control Strategy	N/A
(-)		
(7)	Cooling Method	N/A
( )		
(8)	Total Site Area	Undetermined
(9)	Construction Status	Planned
(10)	Certification Status	N/A
(11)	Status with Federal Agencies	N/A
(12)	Projected Unit Performance Data	
	Planned Outage Factor (POF)	N/A
	Forced Outage Factor (FOF)	N/A
	Equivalent Availability Factor (EAF)	N/A
	Resulting Capacity Factor	TBD
	Average Net Operating Heat Rate (In-Service Year ANOHR)	N/A
(13)	Projected Unit Financial Data	
	Book Life (Years)	35
	Total Installed Cost (In-Service Year \$/kW) 1	TBD
	Direct Construction Cost (\$/kW)	TBD
	AFUDC Amount (\$/kW)	TBD
	Escalation (\$/kW)	TBD
	Fixed O&M (In-Service Year \$/kW – Yr)	TBD
	Variable O&M (In-Service Year \$/MWh)	-
	K-Factor	TBD

<sup>1</sup> Total installed cost includes transmission interconnection

#### Schedule 9 (Page 23 of 29)

#### Status Report and Specifications of Proposed Generating Facilities

(1) (2)	Plant Name and Unit Number Net Capability A. Summer B. Winter	Future Solar 6 (Multiple Sites, each not to exceed 74.5MW) 149.0 MW-ac 149.0 MW-ac
(3)	Technology Type	Single Axis Tracking PV Solar
(4)	Anticipated Construction Timing A. Field Construction Start Date <sup>2</sup> B. Commercial In-Service Date	Jan-28 Dec-29
(5)	Fuel A. Primary Fuel B. Alternate Fuel	Solar N/A
(6)	Air Pollution Control Strategy	N/A
(7)	Cooling Method	N/A
(8)	Total Site Area	Undetermined
(9)	Construction Status	Planned
(10)	Certification Status	N/A
(11)	Status with Federal Agencies	N/A
(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 (In-Service Year ANOHR)	N/A N/A TBD N/A
(13)	Projected Unit Financial Data Book Life (Years) Total Installed Cost (In-Service Year \$/kW) <sup>1</sup> Direct Construction Cost (\$/kW) AFUDC Amount (\$/kW) Escalation (\$/kW) Fixed O&M (In-Service Year \$/kW – Yr) Variable O&M (In-Service Year \$/MWh) K-Factor	35 TBD TBD TBD TBD - TBD

<sup>1</sup> Total installed cost includes transmission interconnection

#### Schedule 9 (Page 24 of 29)

( 8 )
Status Report and Specifications of Proposed Generating Facilities

(1)	Plant Name and Unit Number	Future Solar 7 (Multiple Sites, each not to exceed 74.5MW)
(2)	Net Capability A. Summer B. Winter	149.0 MW-ac 149.0 MW-ac
(3)	Technology Type	Single Axis Tracking PV Solar
(4)	Anticipated Construction Timing A. Field Construction Start Date <sup>2</sup> B. Commercial In-Service Date	Jan-29 Dec-30
(5)	Fuel A. Primary Fuel B. Alternate Fuel	Solar N/A
(6)	Air Pollution Control Strategy	N/A
(7)	Cooling Method	N/A
(8)	Total Site Area	Undetermined
(9)	Construction Status	Planned
(10)	Certification Status	N/A
(11)	Status with Federal Agencies	N/A
(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 (In-Service Year ANOHR)	N/A N/A TBD N/A
(13)	Projected Unit Financial Data Book Life (Years) Total Installed Cost (In-Service Year \$/kW) <sup>1</sup> Direct Construction Cost (\$/kW) AFUDC Amount (\$/kW) Escalation (\$/kW) Fixed O&M (In-Service Year \$/kW – Yr) Variable O&M (In-Service Year \$/MWh) K-Factor	35 TBD TBD TBD TBD - TBD

<sup>1</sup> Total installed cost includes transmission interconnection

#### Schedule 9 (Page 25 of 29)

Status Report and Specifications of Proposed Generating Facilities

(1)	Plant Name and Unit Number	Future CT
(2)	Net Capability A. Summer B. Winter	222 MW 247 MW
(3)	Technology Type	Combustion Turbine
(4)	Anticipated Construction Timing A. Field Construction Start Date <sup>2</sup> B. Commercial In-Service Date	TBD Jan-31
(5)	Fuel A. Primary Fuel B. Alternate Fuel	Natural Gas N/A
(6)	Air Pollution Control Strategy	Dry-Low Nox
(7)	Cooling Method	N/A
(8)	Total Site Area	Undetermined
(9)	Construction Status	Planned
(10)	Certification Status	N/A
(11)	Status with Federal Agencies	N/A
(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 (In-Service Year ANOHR)	4% 2% 94% 8% 10,867 Btu/kWh
(13)	Projected Unit Financial Data Book Life (Years) Total Installed Cost (In-Service Year \$/kW) <sup>1</sup> Direct Construction Cost (\$/kW) AFUDC Amount (\$/kW) Escalation (\$/kW) Fixed O&M (In-Service Year \$/kW – Yr) Variable O&M (In-Service Year \$/MWh) K-Factor	40 1,497 1,300 106.11 90.54 12.96 327.72 1.33

<sup>1</sup> Total installed cost includes transmission interconnection

#### Schedule 9 (Page 26 of 29) Status Report and Specifications of Proposed Generating Facilities

(1)	Plant Name and Unit Number	Future	e Solar 8
(2)	Net Capability		
	A. Summer	74.5	MW-ac
	B. Winter	74.5	MW-ac
(3)	Technology Type	Single	Axis Tracking PV Solar
(4)	Anticipated Construction Timing		
( )	A. Field Construction Start Date <sup>2</sup>	Jan-30	)
	B. Commercial In-Service Date	Dec-3	1
(5)	Fuel		
	A. Primary Fuel	Solar	
	B. Alternate Fuel	N/A	
(6)	Air Pollution Control Strategy	N/A	
(7)	Cooling Method	N/A	
(8)	Total Site Area	Undet	ermined
(9)	Construction Status	Planne	ed
( ) = )			
(10)	Certification Status	N/A	
(11)	Chattan with Factore I According	NI / A	
(11)	Status with Federal Agencies	N/A	
(12)	Projected Unit Performance Data		
(12)	Planned Outage Factor (POF)	N/A	
	Forced Outage Factor (FOF)	N/A	
	Equivalent Availability Factor (EAF)	N/A	
		TBD	
	Resulting Capacity Factor Average Net Operating Heat Rate (In-Service Year ANOHR)	N/A	
	Average Net Operating Heat Rate (III-Service Year ANORK)	N/A	
(13)	Projected Unit Financial Data		
(13)	Book Life (Years)	35	
	Total Installed Cost (In-Service Year \$/kW) <sup>1</sup>	TBD	
	Direct Construction Cost (\$/kW)	TBD	
	AFUDC Amount (\$/kW)	TBD	
	Escalation (\$/kW)	TBD	
	Fixed O&M (In-Service Year \$/kW – Yr)	TBD	
	Variable O&M (In-Service Year \$/MWh)	тыр -	
	K-Factor	- TBD	
		100	

<sup>1</sup> Total installed cost includes transmission interconnection

<sup>2</sup> Construction schedule includes engineering design and permitting

## 102

#### Schedule 9 (Page 27 of 29)

Status Report and Specifications of Proposed Generating Facilities

(1)	Plant Name and Unit Number	Future Solar 9
(2)	Net Capability A. Summer B. Winter	74.5 MW-ac 74.5 MW-ac
(3)	Technology Type	Single Axis Tracking PV Solar
(4)	Anticipated Construction Timing A. Field Construction Start Date <sup>2</sup> B. Commercial In-Service Date	Jan-31 Dec-32
(5)	Fuel A. Primary Fuel B. Alternate Fuel	Solar N/A
(6)	Air Pollution Control Strategy	N/A
(7)	Cooling Method	N/A
(8)	Total Site Area	Undetermined
(9)	Construction Status	Planned
(10)	Certification Status	N/A
(11)	Status with Federal Agencies	N/A
(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 (In-Service Year ANOHR)	N/A N/A TBD N/A
(13)	Projected Unit Financial Data Book Life (Years) Total Installed Cost (In-Service Year \$/kW) <sup>1</sup> Direct Construction Cost (\$/kW) AFUDC Amount (\$/kW) Escalation (\$/kW) Fixed O&M (In-Service Year \$/kW – Yr) Variable O&M (In-Service Year \$/MWh) K-Factor	35 TBD TBD TBD TBD - TBD

<sup>1</sup> Total installed cost includes transmission interconnection

#### Schedule 9 (Page 28 of 29) Status Report and Specifications of Proposed Generating Facilities

(1)	Plant Name and Unit Number	Future Solar 10
(2)	Net Capability	
	A. Summer	74.5 MW-ac
	B. Winter	74.5 MW-ac
(3)	Technology Type	Single Axis Tracking PV Solar
(4)	Anticipated Construction Timing	
( . )	A. Field Construction Start Date $^2$	Jan-32
	B. Commercial In-Service Date	Dec-33
	B. commercial in Service Date	
(5)	Fuel	
(-)	A. Primary Fuel	Solar
	B. Alternate Fuel	N/A
(6)	Air Pollution Control Strategy	N/A
(-)		
(7)	Cooling Method	N/A
( )		
(8)	Total Site Area	Undetermined
(9)	Construction Status	Planned
(10)	Certification Status	N/A
(11)	Status with Federal Agencies	N/A
(12)	Projected Unit Performance Data	
	Planned Outage Factor (POF)	N/A
	Forced Outage Factor (FOF)	N/A
	Equivalent Availability Factor (EAF)	N/A
	Resulting Capacity Factor	TBD
	Average Net Operating Heat Rate (In-Service Year ANOHR)	N/A
(13)	Projected Unit Financial Data	
. ,	Book Life (Years)	35
	Total Installed Cost (In-Service Year \$/kW) <sup>1</sup>	TBD
	Direct Construction Cost (\$/kW)	ТВD
	AFUDC Amount (\$/kW)	TBD
	Escalation (\$/kW)	ТВО
	Fixed O&M (In-Service Year \$/kW – Yr)	TBD
	Variable O&M (In-Service Year \$/MWh)	-
	K-Factor	ТВО

<sup>1</sup> Total installed cost includes transmission interconnection

#### Schedule 9 (Page 29 of 29)

Status Report and Specifications of Proposed Generating Facilities

(1)	Plant Name and Unit Number	Future Solar 11
(2)	Net Capability A. Summer B. Winter	74.5 MW-ac 74.5 MW-ac
(3)	Technology Type	Single Axis Tracking PV Solar
(4)	Anticipated Construction Timing A. Field Construction Start Date <sup>2</sup> B. Commercial In-Service Date	Jan-33 Dec-34
(5)	Fuel A. Primary Fuel B. Alternate Fuel	Solar N/A
(6)	Air Pollution Control Strategy	N/A
(7)	Cooling Method	N/A
(8)	Total Site Area	Undetermined
(9)	Construction Status	Planned
(10)	Certification Status	N/A
(11)	Status with Federal Agencies	N/A
(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 (In-Service Year ANOHR)	N/A N/A N/A TBD N/A
(13)	Projected Unit Financial Data Book Life (Years) Total Installed Cost (In-Service Year \$/kW) <sup>1</sup> Direct Construction Cost (\$/kW) AFUDC Amount (\$/kW) Escalation (\$/kW) Fixed O&M (In-Service Year \$/kW – Yr) Variable O&M (In-Service Year \$/MWh) K-Factor	35 TBD TBD TBD TBD - TBD

<sup>1</sup> Total installed cost includes transmission interconnection

Units	Point of Origin and Termination	Number of Circuits	Right-of-Way (ROW)	Circuit Length	Voltage	Anticipated In-Service Date	Anticipated Capital Investment ***	Substations	Participation with <u>Other</u> <u>Utilities</u>
Big Bend ST 4	Big Bend ST 4 does not require any new transmission line	Т.	ţ.	€.)	230 kV	April 2025	€¢	Big Bend	None
Polk CT 1****	Polk CT 1 does not require any new transmission lines****	C	S	C.	230 kV	June 2025	,	Polk	None
Polk CC 2 Phase I	Polk CC 2	9	э	э	230 KV	November 2026	21	Polk	None
Curiosity Creek Solar***	Curiosity Creek Solar - Curiosity Creek 230kV	<b>T</b>	Not Determined	0.01	230 kV	December 2026	Included in total installed cost on Schedule 9	Curriosity Creek Solar Station; Curriosity Creek Substation	None
Polk CC 2 Phase II	Polk CC 2	21	R	а	230 kV	June 2027	ı	Polk	None
Note: * Specific information related to "U, * Approximate mileage listed is ba ** Cumulative capital investment at t *** Interconnection Requests pertain **** Interconnection Requests pertain	<ul> <li>Note:</li> <li>Specific information related to "Unsited" units unknown at this time.</li> <li>Approximate mileage listed is based on construction activity, not overall circuit length.</li> <li>Cumulative capital investment at the in-service date. Cost included in total installed cost on Schedule 9.</li> <li>Interconnection request studies pertaining to a Large Generating Facility have been completed and the unit does not require any new transmission lines.</li> </ul>	uis time. /, not overall. cluded in tota ating Facility Facility have	circuit length. I installed cost on 5 baen submitted for	Schedule 9. ed and the u these units.	nit does not re Pending corr	quire any new transmic pletion of the Interconn	sion lines. ection Request studies, th	te information provided	on Schedule 10 may change.

Schedule 10

Status Report and Specifications of Proposed Directly Associated Transmission Lines As of December 31, 2024

### THIS PAGE INTENTIONALLY LEFT BLANK

# **Chapter VI**



#### **ENVIRONMENTAL AND LAND USE INFORMATION**

The H.L. Culbreath Bayside Power Station site is located in Hillsborough County on Port Sutton Road (See Figure VI-I), Polk Power Station site is located in southwest Polk County close to the Hillsborough and Hardee County lines (See Figure VI-II) and Big Bend Power Station is located in Hillsborough County on Big Bend Road (See Figure VI-III). The solar sites identified in Schedule 1 are spread across Hillsborough, Polk, and Pasco counties (See Figure VI-IV). Additional land use requirements and/or alternative site locations are currently under consideration to accommodate the addition of future solar PV generation facilities and distributed energy resources.





Figure VI-I: Site Location of H.L. Culbreath Bayside Power Station

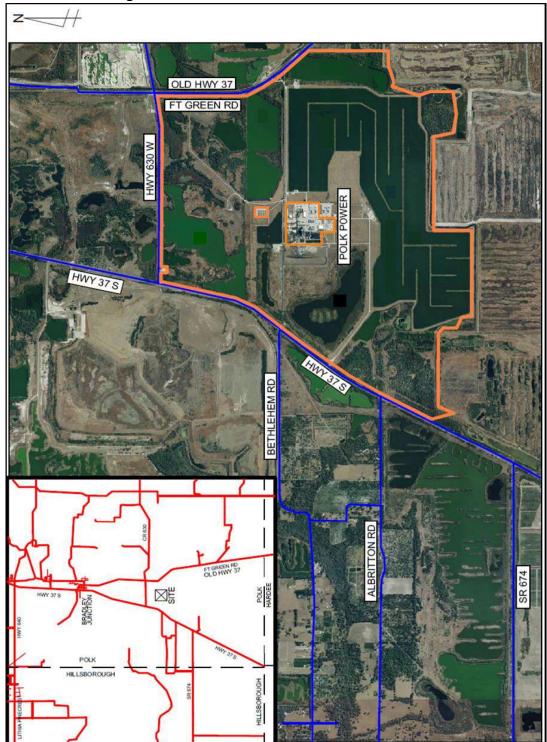


Figure VI-II: Site Location of Polk Power Station



Figure VI-III: Site Location of Big Bend Power Station

#### 00 Florida 23 MANATEE HARDEE 1 Alafia 10 Grange Hall 19 Magnolia Solar Generation 2 Balm 11 Jamison 20 Mountain View Floating Solar 3 Bayside 12 Juniper 21 Payne Creek Agrivoltaics 4 Big Bend 13 Lake Hancock 22 Peace Creek **Power Station** 5 Bonnie Mine 14 Lake Mabel 23 Polk Storage 6 Bullfrog Creek 15 Laurel Oaks 24 Riverside Service Area 7 Dover 16 Legoland Florida 25 Tampa International Airport 8 Durrance 17 Lithia 26 Wimauma 18 Little Manatee River 9 English Creek

#### Figure VI-IV: Site Location of Solar Power Stations