Report
04/03/2023

DUKE ENERGY
FLORIDA

Stephanie A. Cuello
SENIOR COUNSEL

April 3, 2023

VIA ELECTRONIC DELIVERY

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

Re: Ten-Year Site Plan as of December 31, 2022; Undocketed

Dear Mr. Teitzman:

Pursuant to Rule 25-22.071, F.A.C., please find enclosed for filing Duke Energy Florida, LLC's, 2023 Ten-Year Site Plan.

Thank you for your assistance in this matter and if you have any questions, please feel free to contact me at (850) 521-1425.

Sincerely,

/s/ Stephanie A. Cuello

Stephanie A. Cuello

SAC/mw
Attachments

cc: Greg Davis, , GDavis@psc.state.fl.us and Phillip Ellis, PEllis@psc.state.fl.us, Division of Engineering, FPSC

Duke Energy Florida, LLC
Ten-Year Site Plan

April 2023

2023-2032

Submitted to:
Florida Public Service Commission

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CODE IDENTIFICATION SHEET

Generating Unit Type

BA - Battery Storage
CC - Combined Cycle
COG - Cogeneration Facility
CT - Combustion Turbine
GT - Gas Turbine
NP - Steam Power - Nuclear
PV – Photovoltaic
SPP - Small Power Producer
SPS – Solar (PV) Plus Storage
ST - Steam Turbine - Non-Nuclear

Fuel Type

BIO – Biomass
BIT - Bituminous Coal
DFO - No. 2 Distillate Fuel Oil
MSW - Municipal Solid Waste
NG - Natural Gas
NUC - Nuclear (Uranium)
RFO - No. 6 Residual Fuel Oil
SO – Solar PV
WH - Waste Heat

Fuel Transportation

PL - Pipeline
RR - Railroad
TK - Truck
UN - Unknown
WA - Water

Future Generating Unit Status

A - Generating unit capability increased
D – Generating unit capability decreased
FC - Existing generator planned for conversion to another fuel or energy source
P - Planned for installation but not authorized; not under construction
RP - Proposed for repowering or life extension
RT - Existing generator scheduled for retirement
T - Regulatory approval received but not under construction
U - Under construction, less than or equal to 50% complete
V - Under construction, more than 50% complete

EXECUTIVE SUMMARY

Duke Energy Florida's (DEF) 2023 Ten-Year Site Plan (TYSP) provides a description of the future electric generating unit additions and retirements selected to meet projected DEF customer resource needs for 2023 through 2032. DEF's plan continues the multi-year progress in the transition to a cleaner and more cost-effective generating fleet. In the near term, DEF anticipates the expiration of high-priced legacy contracts and retirement of numerous older simple cycle combustion turbine (CT) units offset by a planned investment in new solar and solar plus storage generation. Looking out beyond the ten-year horizon, DEF anticipates the retirement of the remaining two coal fired generating units and the potential to replace the most of energy supplied by those units with energy generated from future solar generating projects.

DEF's planned investments in renewable generation will enable fuel savings for customers, energy diversification, and will continue DEF's commitment towards a lower carbon future. Through this TYSP, DEF is planning to extend the successful deployment of utility scale solar projects approved by the Florida Public Service Commission (FPSC) in 2017 and 2021, which will bring over 1,500 MW of solar generating capacity to the DEF system through early 2024. Over the remainder of the ten-year planning period, DEF projects the addition of at least 300 MW per year of utility scale solar. By the end of the period, DEF expects to have more than 4,500 MW of utility scale solar generating capacity online.

DEF's measured and steady pace of projected solar generation adoption will combine with the increasingly clean gas fired generating fleet. DEF is beginning efficiency enhancements that will reduce fleet fuel consumption while adding close to 400 MW in highly efficient combined cycle generating capacity. Even with the additional CC upgrades, DEF anticipates a reduction in the fossil fuel fired generation of approximately 1,500 MW over the planning period.

In addition to improvements to the existing asset portfolio and the planned solar, DEF continues to build upon its pilot battery program approved in 2017. This program brings 50 MW of batteries coming into service from 2021 to 2023. These batteries will provide a variety of services including solar energy storage and smoothing, grid support and voltage control, and deferral of potential new distribution investments. A larger scale battery energy storage unit is planned in 2027. This unit combines over 200 MWh of energy storage and a 100 MW capacity to provide grid stabilization during periods of solar volatility and energy shifting to lower system costs. In addition, DEF continues to plan batteries paired with solar units in 2029-2031 and three stand-alone batteries in 2032 to further balance the system and provide reliability resources supporting the large amount of planned solar generation.

DEF plans to meet the power needs of its customers cost-effectively while adding an increasing portfolio of non-carbon emitting assets. The future solar and storage in this expansion plan along with increased efficiency in conventional generation provides energy diversity by reducing natural gas consumption while maintain reliable and dispatchable capacity.

INTRODUCTION

Section 186.801 of the Florida Statutes (F.S.) requires electric generating utilities to submit a TYSP to the FPSC. The TYSP includes historical and projected data pertaining to the utility's load and resource needs as well as a review of those needs, DEF's TYSP is compiled in accordance with FPSC Rules 25-22.070 through 25-22.072, Florida Administrative Code (F.A.C.).

DEF's TYSP is based on the projections of long-term planning requirements that are dynamic in nature and subject to change. These planning documents should be used for general guidance concerning DEF's planning assumptions and projections and should not be taken as an assurance that particular events discussed in the TYSP will materialize or that particular plans will be implemented. Information and projections pertinent to periods further out in time are inherently subject to greater uncertainty.

This TYSP document contains four chapters as indicated below:

- **CHAPTER 1 - DESCRIPTION OF EXISTING FACILITIES**

  This chapter provides an overview of DEF's generating resources as well as the transmission and distribution system.

- **CHAPTER 2 - FORECAST OF ELECTRICAL POWER DEMAND AND ENERGY CONSUMPTION**

  Chapter 2 presents the history and forecast for load and peak demand as well as the forecast methodology used. Demand-Side Management (DSM) savings and fuel requirement projections are also included.

- **CHAPTER 3 - FORECAST OF FACILITIES REQUIREMENTS**

  The resource planning forecast, transmission planning forecast as well as the proposed generating facilities and bulk transmission line additions status are discussed in Chapter 3.

- **<u>CHAPTER 4 - ENVIRONMENTAL AND LAND USE INFORMATION</u>**

Preferred and potential site locations along with any environmental and land use information are presented in this chapter.

CHAPTER 1

DESCRIPTION OF EXISTING FACILITIES

CHAPTER 1
DESCRIPTION OF EXISTING FACILITIES

EXISTING FACILITIES OVERVIEW

OWNERSHIP

Duke Energy Florida, LLC (DEF or the Company) is a wholly owned subsidiary of Duke Energy Corporation (Duke Energy).

AREA OF SERVICE

DEF has an obligation to serve approximately 1.9 million customers in Florida. Its service area covers approximately 20,000 square miles in west central Florida and includes the densely populated areas around Orlando, as well as the cities of Saint Petersburg and Clearwater. DEF is interconnected with 21 municipal and nine rural electric cooperative systems who serve additional customers in Florida. DEF is subject to the rules and regulations of the Federal Energy Regulatory Commission (FERC), the Nuclear Regulatory Commission (NRC), and the FPSC. DEF's Service Area is shown in Figure 1.1.

TRANSMISSION/DISTRIBUTION

The Company is part of a nationwide interconnected power network that enables power to be exchanged between utilities. The DEF transmission system includes approximately 5,300 circuit miles of transmission lines. The distribution system includes approximately 18,000 circuit miles of overhead distribution conductors and approximately 14,000 circuit miles of underground distribution cable.

ENERGY MANAGEMENT and ENERGY EFFICIENCY

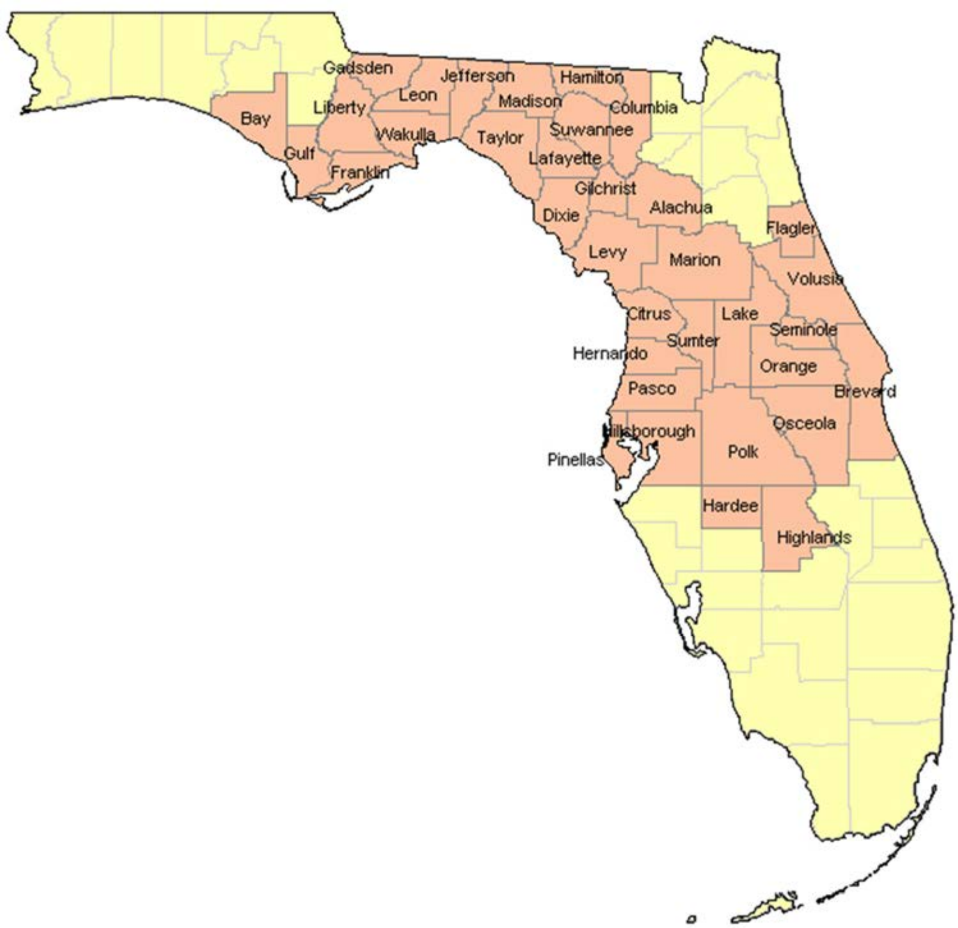
The Company's residential Energy Management program represents a demand response (DR) type of program where participating customers help manage future growth and costs. Approximately 433,000 customers participated in the residential Energy Management program during 2022, contributing about 668 MW of winter peak-shaving capacity for use during high load periods.

DEF's currently approved DSM programs consist of five residential programs, six commercial and industrial programs and one research and development program.

TOTAL CAPACITY RESOURCE

As of December 31, 2022, DEF had total summer firm capacity resources of 11,672 MW consisting of installed capacity of 10,122 MW and 1,550 MW of firm purchased power. Additional information on DEF's existing generating resources can be found in Schedule 1 and Table 3.1 (Chapter 3).

FIGURE 1.1
DUKE ENERGY FLORIDA
County Service Area Map



DUKE ENERGY FLORIDA

SCHEDULE 1
EXISTING GENERATING FACILITIES

AS OF DECEMBER 31, 2022

(1) PLANT NAME	(2) UNIT NO.	(3) LOCATION (COUNTY)	(4) UNIT TYPE	(5) FUEL PRI.	(6) FUEL ALT.	(7) FUEL TRANSPORT PRI.	(8) FUEL TRANSPORT ALT.	(9) ALT. FUEL DAYS USE	(10) COM'L IN-SERVICE MO./YEAR	(11) EXPECTED RETIREMENT MO./YEAR	(12) GEN. MAX. NAMEPLATE KW	(13) NET CAPABILITY SUMMER MW	(14) NET CAPABILITY WINTER MW
STEAM													
ANCLOTE	1	PASCO	ST	NG		PL			10/74		556,200	508	521
ANCLOTE	2	PASCO	ST	NG		PL			10/78		556,200	505	514
CRYSTAL RIVER	4	CITRUS	ST	BIT		WA	RR		12/82		739,260	712	721
CRYSTAL RIVER	5	CITRUS	ST	BIT		WA	RR		10/84		739,260	698	721
											Steam Total	**2,423**	**2,477**
COMBINED-CYCLE													
P L BARTOW	4	PINELLAS	CC	NG	DFO	PL	TK	*	6/09		1,254,200	1,112	1,259
CITRUS COUNTY COMBINED CYCLE	PB1	CITRUS	CC	NG		PL			10/18		985,150	807	925
CITRUS COUNTY COMBINED CYCLE	PB2	CITRUS	CC	NG		PL			11/18		985,150	803	929
HINES ENERGY COMPLEX	1	POLK	CC	NG		PL			4/99		546,500	490	521
HINES ENERGY COMPLEX	2	POLK	CC	NG	DFO	PL	TK	*	12/03		548,250	532	549
HINES ENERGY COMPLEX	3	POLK	CC	NG	DFO	PL	TK	*	11/05		561,000	523	555
HINES ENERGY COMPLEX	4	POLK	CC	NG	DFO	PL	TK	*	12/07		610,500	516	544
OSPREY ENERGY CENTER POWER PLANT	1	POLK	CC	NG		PL			5/04		644,300	245	245
TIGER BAY	1	POLK	CC	NG		PL			8/97		278,100	199	230
											CC Total	**5,227**	**5,757**
COMBUSTION TURBINE													
BARTOW	P1	PINELLAS	CT	DFO		WA		*	5/72	6/2027 **	55,400	41	50
BARTOW	P2	PINELLAS	CT	NG	DFO	PL	WA	*	6/72		55,400	41	53
BARTOW	P3	PINELLAS	CT	DFO		WA		*	6/72	6/2027 **	55,400	41	51
BARTOW	P4	PINELLAS	CT	NG	DFO	PL	WA	*	6/72		55,400	45	58
BAYBORO	P1	PINELLAS	CT	DFO		WA		*	4/73	12/2025 **	56,700	44	58
BAYBORO	P2	PINELLAS	CT	DFO		WA		*	4/73	12/2025 **	56,700	41	55
BAYBORO	P3	PINELLAS	CT	DFO		WA		*	4/73	12/2025 **	56,700	43	57
BAYBORO	P4	PINELLAS	CT	DFO		WA		*	4/73	12/2025 **	56,700	43	56
DEBARY	P2	VOLUSIA	CT	DFO		TK		*	12/75-4/76	6/2027 **	73,440	45	57
DEBARY	P3	VOLUSIA	CT	DFO		TK		*	12/75-4/76	6/2027 **	73,440	45	59
DEBARY	P4	VOLUSIA	CT	DFO		TK		*	12/75-4/76	6/2027 **	73,440	46	59
DEBARY	P5	VOLUSIA	CT	DFO		TK		*	12/75-4/76	6/2027 **	73,440	45	58
DEBARY	P6	VOLUSIA	CT	DFO		TK		*	12/75-4/76	6/2027 **	73,440	46	59
DEBARY	P7	VOLUSIA	CT	NG	DFO	PL	TK	*	10/92		103,500	74	93
DEBARY	P8	VOLUSIA	CT	NG	DFO	PL	TK	*	10/92		103,500	75	94
DEBARY	P9	VOLUSIA	CT	NG	DFO	PL	TK	*	10/92		103,500	76	94
DEBARY	P10	VOLUSIA	CT	DFO		TK		*	10/92		103,500	72	88
INTERCESSION CITY	P1	OSCEOLA	CT	DFO		PL,TK		*	5/74		56,700	45	61
INTERCESSION CITY	P2	OSCEOLA	CT	DFO		PL,TK		*	5/74		56,700	46	60
INTERCESSION CITY	P3	OSCEOLA	CT	DFO		PL,TK		*	5/74		56,700	46	61
INTERCESSION CITY	P4	OSCEOLA	CT	DFO		PL,TK		*	5/74		56,700	46	62
INTERCESSION CITY	P5	OSCEOLA	CT	DFO		PL,TK		*	5/74		56,700	45	59
INTERCESSION CITY	P6	OSCEOLA	CT	DFO		PL,TK		*	5/74		56,700	47	60
INTERCESSION CITY	P7	OSCEOLA	CT	NG	DFO	PL	PL,TK	*	10/93		103,500	78	90
INTERCESSION CITY	P8	OSCEOLA	CT	NG	DFO	PL	PL,TK	*	10/93		103,500	77	88
INTERCESSION CITY	P9	OSCEOLA	CT	NG	DFO	PL	PL,TK	*	10/93		103,500	77	88
INTERCESSION CITY	P10	OSCEOLA	CT	NG	DFO	PL	PL,TK	*	10/93		103,500	74	86
INTERCESSION CITY	P11	OSCEOLA	CT	DFO		PL,TK		*	1/97		148,500	140	161
INTERCESSION CITY	P12	OSCEOLA	CT	NG	DFO	PL	PL,TK	*	12/00		98,260	73	89
INTERCESSION CITY	P13	OSCEOLA	CT	NG	DFO	PL	PL,TK	*	12/00		98,260	73	91
INTERCESSION CITY	P14	OSCEOLA	CT	NG	DFO	PL	PL,TK	*	12/00		98,260	73	90
SUWANNEE RIVER	P1	SUWANNEE	CT	NG	DFO	PL	TK	*	10/80		65,999	48	65
SUWANNEE RIVER	P2	SUWANNEE	CT	NG	DFO	PL	TK	*	10/80		65,999	48	64
SUWANNEE RIVER	P3	SUWANNEE	CT	NG	DFO	PL	TK	*	11/80		65,999	49	65
UNIVERSITY OF FLORIDA	P1	ALACHUA	GT	NG		PL			1/94	11/2027 **	43,000	44	50
											CT Total	**1,992**	**2,489**

* APPROXIMATELY 2 TO 3 DAYS OF OIL USE TYPICALLY TARGETED FOR ENTIRE PLANT.
** DATES FOR RETIREMENT ARE APPROXIMATE AND SUBJECT TO CHANGE

DUKE ENERGY FLORIDA

SCHEDULE 1

EXISTING GENERATING FACILITIES

AS OF DECEMBER 31, 2022

(1) PLANT NAME	(2) UNIT NO.	(3) LOCATION (COUNTY)	(4) UNIT TYPE	(5) FUEL PRI.	(6) FUEL ALT.	(7) FUEL TRANSPORT PRI.	(8) FUEL TRANSPORT ALT.	(9) ALT. FUEL DAYS USE	(10) COM'L IN-SERVICE MO./YEAR	(11) EXPECTED RETIREMENT MO./YEAR	(12) GEN. MAX. NAMEPLATE KW	(13) NET CAPABILITY SUMMER MW	(14) NET CAPABILITY WINTER MW
SOLAR													
OSCEOLA SOLAR FACILITY	PV1	OSCEOLA	PV	SO					5/16		3,800	2	0
PERRY SOLAR FACILITY	PV1	TAYLOR	PV	SO					8/16		5,100	2	0
SUWANNEE RIVER SOLAR FACILITY	PV1	SUWANNEE	PV	SO					11/17		8,800	4	0
HAMILTON SOLAR POWER PLANT	PV1	HAMILTON	PV	SO					12/18		74,900	42	0
TRENTON SOLAR POWER PLANT	PV1	GILCHRIST	PV	SO					12/19		74,900	42	0
LAKE PLACID SOLAR POWER PLANT	PV1	HIGHLANDS	PV	SO					12/19		45,000	25	0
ST PETERSBURG PIER	PV1	PINELLAS	PV	SO					12/19		350	0	0
COLUMBIA SOLAR POWER PLANT	PV1	COLUMBIA	PV	SO					3/20		74,900	42	0
DEBARY SOLAR POWER PLANT	PV1	VOLUSIA	PV	SO					5/20		74,500	33	0
SANTA FE SOLAR POWER PLANT	PV1	COLUMBIA	PV	SO					3/21		74,900	42	0
TWIN RIVERS SOLAR POWER PLANT	PV1	HAMILTON	PV	SO					3/21		74,900	42	0
DUETTE SOLAR POWER PLANT	PV1	MANATEE	PV	SO					10/21		74,500	42	0
SANDY CREEK SOLAR POWER PLANT	PV1	BAY	PV	SO					5/22		74,900	42	0
FORT GREEN SOLAR POWER PLANT	PV1	HARDEE	PV	SO					6/22		74,900	34	0
CHARLIE CREEK SOLAR POWER PLANT	PV1	HARDEE	PV	SO					8/22		74,900	43	0
BAY TRAIL SOLAR POWER PLANT	PV1	CITRUS	PV	SO					9/22		74,900	43	0
											SOLAR Total	**480**	**0**
											TOTAL RESOURCES (MW)	**10,122**	**10,723**

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CHAPTER 2

FORECAST OF ELECTRIC POWER DEMAND AND ENERGY CONSUMPTION

CHAPTER 2

FORECAST OF ELECTRIC POWER DEMAND AND ENERGY CONSUMPTION

OVERVIEW

The information presented in Schedules 2, 3, and 4 represents DEF's history and forecast of customers, energy sales (GWh), and peak demand (MW). In general, this discussion refers to DEF's base forecast.

The DEF forecast utilizes economic data from July 2022. From a macro perspective, the Federal Reserve (The Fed) was tightening monetary policy by increasing interest rates and shrinking its balance sheet through quantitative tightening. The Fed was expected to continue to increase the funds rate in July and continue with more rate hikes with the goal of taming inflation to the target rate of 2%. Moody's forecasted the consumer price index to be 3.3% by the fourth quarter of 2022. The increase in policy was driven by the surge in inflation due to Russia's invasion of Ukraine, a strong economy with rapid job growth and low unemployment, and government stimulus. Total employment exceeded pre-pandemic levels in 2022. The Fed was expected to continue to allow its assets to mature (with the option of prepayment), with a likelihood of actively selling its mortgage-backed securities.

Federal fiscal policy became a drag on economic growth, as pandemic support wound down. Total support throughout the pandemic exceeded $5 trillion, which is a significant portion of pre-pandemic GDP. As support wound down, the government posted a deficit of $2.8 trillion in fiscal 2021 and the publicly traded debt-to-GDP ratio surged to near 100%. In December 2021, the Build Back Better Package, which included an expansion of healthcare coverage, clean-energy, climate investments and universal preschool, stalled in the Senate. After months of revisions, in August 2022 the Inflation Reduction Act (IRA) was passed. It did not include universal preschool but will invest approximately $400 billion in clean-energy and climate change, healthcare coverage, and tax reform. Due to the uncertainty of its passage, Moody's did not incorporate the IRA into their July 2022 forecast. As such, the effects of the IRA are not reflected in the DEF load forecast.

Corporate profits represent the portion of the total income earned from current production that is accounted for by U.S. corporations. It is one of the most closely watched U.S. economic indicators, as it provides a summary measure of corporate financial health and thus serves as an essential indicator of economic performance. From a low in Q2 2020 of 1.7 trillion, corporate profits have increased to 2.5 trillion as of Q2 2022, a 47% increase. This was the largest quarter of profits on record.

In mid-2022, Florida's economy was performing well, with strong job growth and a low unemployment rate. Total employment exceeded pre-pandemic levels in 2022. Pre-pandemic net-migration was declining from 2016-2020 however, due to the low cost of doing business in Florida and favorable cost of living for residents as compared to other regions of the U.S., net migration has begun to increase from 2021 onward. Consumer confidence has dropped, and rising prices may slow growth in the tourism industry. Diversification of the state's economy, with an increase in industrialization and white-collar services, will help mitigate this impact. The housing market in Florida was also strong, but rising mortgage rates and falling affordability will slow the market. Long-term, Florida's low costs, pleasant weather, and favorable industrial composition will support growth, but short-term, rising prices and interest rates will have a negative impact on job growth.

Historical 29 county service area household, population, and people per household data was used for the Base Case, High Case, and Low Case service area population projections. The DEF service area population has been estimated to have grown at an average ten-year growth rate of 1.52% from 2013-2022 (Schedule 2.1.1 Column 2). The DEF service area population going forward weakens due to higher mortality rates of aging baby-boomers to a level of 1.35% over the 2023-2032 period. The rate of residential customer growth, which averaged 1.62% per year over the historical ten-year period, is expected to continue at an average of 1.92%. The total number of DEF customers grew from 1.68 million in 2013 to 1.93 million in 2022, an increase of 250,863 or 1.56% annual growth rate. The projected number of additional total customers between 2023 and 2032 is 352,593 for a 1.84% annual growth rate.

Responses to the pandemic which changed the patterns of class energy consumption have reverted to pre-COVID usage characteristics. The jump in "work from home" still exists but at a smaller level than that reached early in the pandemic. The "schooling from home" has ended. These changes imply a decrease in residential energy consumption which can be seen in the projected annual growth rate for average kWh consumption per customer (Schedule 2.1.1 Column 6). The projected ten-year annual growth rate for average kWh consumption per customer is -1.23% vs. a historical rate of 0.06%. Residential use per customer continues to decline due to the main driver of higher energy prices/inflation. In terms of annual GWh (0.66% projected vs. 1.68% historical), residential customer growth (1.92% projected vs. 1.62% historical) is working to offset the declining use per customer. Labor shortages and the low cost of living in Florida relative to other parts of the U.S. also continue to attract people to the state as per capita income adjusted for cost of living is more favorable in Florida than other parts of the U.S. Florida continues to be a tourist attraction and retirement haven. Given the increase in the retirement population in the U.S. over the near term as the "Baby Boomer" generation reaches 65 and older, the retirement cohort in Florida should increase significantly over the next five to ten years. Increases in commercial and industrial class energy requirements have returned as well. Commercial sales (0.78% projected vs. 0.47% historical) have been driven by population growth as well as a return to normal operating hours. Sales to the industrial class (-0.11% projected vs. 1.00% historical) were helped by the Nucor Steel plant startup and Mosaic's operations growth. The negative Industrial load growth is due to several major mining customers depleting their resources through their operations by 2032. This is discussed in further detail under "General Assumptions" page 2-33. Over nine years from 2023-2031, the industrial GWh growth rate is 0.50%. Long-term, total retail sales continue to increase but remain subject to uncertain economic conditions such as increasing rates, unemployment, and energy prices.

From 2013 to 2022, net energy for load (NEL) increased by 1.38% per year (Schedule 2.3.1 Column 4). The average projected ten-year Compound Annual Growth Rate (CAGR) for NEL is 0.46%, due in large measure to an average annual decline in Sales for Resale of -21.18% during the forecast period offsetting stronger retail growth. Long term, DEF Sales for Resale energy sales are projected to essentially disappear.

During the 2013 to 2022 historical period the DEF summer net firm demand (Schedule 3.1.1 Column 10) increased from 8,017 MW to 9,190 MW, an average annual ten-year increase of 1.53%. This increase was driven by the ten-year average customer growth of 1.56% per year as well as an average annual increase of 6.74% in Wholesale summer peak. This was offset by higher conservation levels and additional residential demand response capability (Schedule 3.3.1). The projected total DEF summer net firm demand increases by an average annual rate of 1.39% between 2023 and 2032 due to an increase in projected Retail peak demand of 1.47%. The historical DEF firm winter peak ten-year change was 1.75% per year due to an average annual increase of 2.50% in Wholesale winter peak. Projected total DEF winter net firm demand increased by an average annual rate of 0.74% between 2023 and 2032 due to a reduction in the projected Sales for Resale peak demand (-4.31% annual average decline) offset by expected ten-year growth in Retail winter peak of 1.11%. Both summer and winter Sales for Resale peak demand are expected to decline significantly towards the end of the ten-year projection.

DEF continues to provide alternate "high" and "low" forecasts for customers, energy, and peak demand, recognizing that the economic future is uncertain due to the tightening of monetary policy or other unknown events. The Fed's goal has been a "soft landing" where inflation is reigned in to 2% without sending the economy into a recession. Moody's S1 and S3 (high & low) Florida economic scenarios were used to provide a range of economic variables around the Base Case scenario. These were combined with high and low peak weather scenarios for each season and high and low population growth scenarios from Moody's.

ENERGY CONSUMPTION AND DEMAND FORECAST SCHEDULES

The below schedules have been provided to represent DEF's expectations for a Base Case as well as reasonable High and Low forecast scenarios for resource planning purposes. (Base-B, High-H and Low-L):

SCHEDULE	DESCRIPTION
2.1, 2.2 and 2.3	History and Forecast of Energy Consumption and Number of Customers by Customer Class (B, H and L)
3.1	History and Forecast of Base Summer Peak Demand (MW) (B, H and L)
3.2	History and Forecast of Base Winter Peak Demand (MW) (B, H and L)
3.3	History and Forecast of Base Annual Net Energy for Load (GWh) (B, H and L)
4	Previous Year Actual and Two-Year Forecast of Peak Demand and Net Energy for Load by Month (B, H and L)

DUKE ENERGY FLORIDA

SCHEDULE 2.1.1
HISTORY AND FORECAST OF ENERGY CONSUMPTION AND
NUMBER OF CUSTOMERS BY CUSTOMER CLASS
BASE CASE FORECAST

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	RURAL AND RESIDENTIAL					COMMERCIAL		
YEAR	DEF POPULATION	MEMBERS PER HOUSEHOLD	GWh	AVERAGE NO. OF CUSTOMERS	AVERAGE KWh CONSUMPTION PER CUSTOMER	GWh	AVERAGE NO. OF CUSTOMERS	AVERAGE KWh CONSUMPTION PER CUSTOMER
HISTORY:								
2013	3,713,013	2.495	18,508	1,488,159	12,437	11,718	165,936	70,617
2014	3,747,160	2.492	19,003	1,503,758	12,637	11,789	167,253	70,485
2015	3,794,138	2.489	19,932	1,524,605	13,074	12,070	169,147	71,359
2016	3,837,436	2.485	20,265	1,543,967	13,126	12,094	170,999	70,724
2017	3,906,975	2.483	19,791	1,573,260	12,579	11,918	173,695	68,612
2018	3,968,241	2.485	20,636	1,597,132	12,920	12,172	175,848	69,216
2019	4,037,435	2.483	20,775	1,626,117	12,776	12,198	178,036	68,514
2020	4,089,498	2.471	21,459	1,655,304	12,964	11,522	179,666	64,129
2021	4,130,929	2.448	21,192	1,687,471	12,558	11,785	182,195	64,686
2022	4,253,325	2.473	21,508	1,719,905	12,505	12,220	184,453	66,248
FORECAST:								
2023	4,313,536	2.452	21,139	1,759,191	12,016	11,875	187,851	63,215
2024	4,368,597	2.434	21,614	1,794,822	12,043	11,947	190,524	62,708
2025	4,420,978	2.416	21,702	1,829,875	11,860	12,036	193,167	62,309
2026	4,475,613	2.399	21,483	1,865,616	11,515	12,099	195,872	61,770
2027	4,534,332	2.384	21,551	1,901,985	11,331	12,189	198,630	61,365
2028	4,597,670	2.371	21,653	1,939,127	11,166	12,272	201,449	60,918
2029	4,665,165	2.360	21,873	1,976,765	11,065	12,367	204,308	60,531
2030	4,733,741	2.350	22,055	2,014,358	10,949	12,475	207,165	60,215
2031	4,802,089	2.341	22,317	2,051,298	10,880	12,615	209,973	60,077
2032	4,867,950	2.332	22,430	2,087,457	10,745	12,730	212,721	59,846

DUKE ENERGY FLORIDA

SCHEDULE 2.1.2
HISTORY AND FORECAST OF ENERGY CONSUMPTION AND
NUMBER OF CUSTOMERS BY CUSTOMER CLASS
HIGH CASE FORECAST

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	RURAL AND RESIDENTIAL					COMMERCIAL		
YEAR	DEF POPULATION	MEMBERS PER HOUSEHOLD	GWh	AVERAGE NO. OF CUSTOMERS	AVERAGE KWh CONSUMPTION PER CUSTOMER	GWh	AVERAGE NO. OF CUSTOMERS	AVERAGE KWh CONSUMPTION PER CUSTOMER
HISTORY:								
2013	3,713,013	2.495	18,508	1,488,159	12,437	11,718	165,936	70,617
2014	3,747,160	2.492	19,003	1,503,758	12,637	11,789	167,253	70,485
2015	3,794,138	2.489	19,932	1,524,605	13,074	12,070	169,147	71,359
2016	3,837,436	2.485	20,265	1,543,967	13,126	12,094	170,999	70,724
2017	3,906,975	2.483	19,791	1,573,260	12,579	11,918	173,695	68,612
2018	3,968,241	2.485	20,636	1,597,132	12,920	12,172	175,848	69,216
2019	4,037,435	2.483	20,775	1,626,117	12,776	12,198	178,036	68,514
2020	4,089,498	2.471	21,459	1,655,304	12,964	11,522	179,666	64,129
2021	4,130,929	2.448	21,192	1,687,471	12,558	11,785	182,195	64,686
2022	4,253,325	2.473	21,508	1,719,905	12,505	12,220	184,453	66,248
FORECAST:								
2023	4,326,862	2.452	22,704	1,764,626	12,866	12,580	188,264	66,819
2024	4,396,274	2.434	23,385	1,806,193	12,947	13,396	191,388	69,994
2025	4,455,626	2.416	23,471	1,844,216	12,727	13,724	194,258	70,649
2026	4,514,407	2.399	23,320	1,881,787	12,392	13,930	197,101	70,673
2027	4,576,114	2.384	23,362	1,919,511	12,171	14,168	199,962	70,852
2028	4,641,568	2.371	23,480	1,957,641	11,994	14,340	202,857	70,689
2029	4,710,908	2.360	23,695	1,996,148	11,870	14,539	205,782	70,655
2030	4,781,435	2.350	23,899	2,034,653	11,746	14,711	208,708	70,487
2031	4,851,903	2.341	24,165	2,072,577	11,659	14,937	211,590	70,595
2032	4,919,981	2.332	24,334	2,109,769	11,534	15,086	214,418	70,357

DUKE ENERGY FLORIDA

SCHEDULE 2.1.3
HISTORY AND FORECAST OF ENERGY CONSUMPTION AND
NUMBER OF CUSTOMERS BY CUSTOMER CLASS
LOW CASE FORECAST

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	RURAL AND RESIDENTIAL					COMMERCIAL		
YEAR	DEF POPULATION	MEMBERS PER HOUSEHOLD	GWh	AVERAGE NO. OF CUSTOMERS	AVERAGE KWh CONSUMPTION PER CUSTOMER	GWh	AVERAGE NO. OF CUSTOMERS	AVERAGE KWh CONSUMPTION PER CUSTOMER
HISTORY:								
2013	3,713,013	2.495	18,508	1,488,159	12,437	11,718	165,936	70,617
2014	3,747,160	2.492	19,003	1,503,758	12,637	11,789	167,253	70,485
2015	3,794,138	2.489	19,932	1,524,605	13,074	12,070	169,147	71,359
2016	3,837,436	2.485	20,265	1,543,967	13,126	12,094	170,999	70,724
2017	3,906,975	2.483	19,791	1,573,260	12,579	11,918	173,695	68,612
2018	3,968,241	2.485	20,636	1,597,132	12,920	12,172	175,848	69,216
2019	4,037,435	2.483	20,775	1,626,117	12,776	12,198	178,036	68,514
2020	4,089,498	2.471	21,459	1,655,304	12,964	11,522	179,666	64,129
2021	4,130,929	2.448	21,192	1,687,471	12,558	11,785	182,195	64,686
2022	4,253,325	2.473	21,508	1,719,905	12,505	12,220	184,453	66,248
FORECAST:								
2023	4,313,643	2.452	20,030	1,759,235	11,386	11,431	187,855	60,850
2024	4,362,756	2.434	20,489	1,792,423	11,431	11,570	190,341	60,787
2025	4,402,961	2.416	19,957	1,822,417	10,951	11,623	192,600	60,346
2026	4,442,366	2.399	19,572	1,851,757	10,569	11,530	194,818	59,185
2027	4,486,331	2.384	19,485	1,881,850	10,354	11,728	197,099	59,501
2028	4,536,347	2.371	19,312	1,913,263	10,094	11,793	199,483	59,119
2029	4,592,356	2.360	19,516	1,945,914	10,029	11,871	201,963	58,777
2030	4,651,687	2.350	19,545	1,979,441	9,874	11,971	204,510	58,536
2031	4,712,877	2.341	19,667	2,013,190	9,769	12,095	207,075	58,408
2032	4,774,723	2.332	19,830	2,047,480	9,685	12,209	209,682	58,227

DUKE ENERGY FLORIDA

SCHEDULE 2.2.1
HISTORY AND FORECAST OF ENERGY CONSUMPTION AND
NUMBER OF CUSTOMERS BY CUSTOMER CLASS
BASE CASE FORECAST

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	INDUSTRIAL						
YEAR	GWh	AVERAGE NO. OF CUSTOMERS	AVERAGE KWh CONSUMPTION PER CUSTOMER	RAILROADS AND RAILWAYS GWh	STREET & HIGHWAY LIGHTING GWh	OTHER SALES TO PUBLIC AUTHORITIES GWh	TOTAL SALES TO ULTIMATE CONSUMERS GWh
HISTORY:							
2013	3,206	2,343	1,368,331	0	25	3,159	36,616
2014	3,267	2,280	1,432,895	0	25	3,157	37,240
2015	3,293	2,243	1,468,123	0	24	3,234	38,553
2016	3,197	2,178	1,467,860	0	24	3,194	38,774
2017	3,120	2,137	1,459,991	0	24	3,171	38,023
2018	3,107	2,080	1,493,750	0	24	3,206	39,144
2019	2,963	2,025	1,463,210	0	24	3,227	39,187
2020	3,147	1,999	1,574,287	0	23	3,079	39,230
2021	3,292	1,978	1,664,307	0	24	3,158	39,451
2022	3,508	1,868	1,877,916	0	33	3,244	40,512
FORECAST:							
2023	3,307	1,855	1,782,719	0	31	3,160	39,511
2024	3,323	1,843	1,803,173	0	29	3,154	40,068
2025	3,345	1,832	1,825,652	0	29	3,146	40,257
2026	3,346	1,820	1,838,387	0	29	3,139	40,096
2027	3,370	1,808	1,863,872	0	29	3,133	40,272
2028	3,386	1,796	1,885,219	0	30	3,126	40,467
2029	3,403	1,784	1,907,587	0	30	3,120	40,793
2030	3,420	1,778	1,923,436	0	30	3,114	41,094
2031	3,441	1,778	1,935,259	0	31	3,108	41,511
2032	3,275	1,778	1,842,080	0	31	3,101	41,567

DUKE ENERGY FLORIDA

SCHEDULE 2.2.2
HISTORY AND FORECAST OF ENERGY CONSUMPTION AND
NUMBER OF CUSTOMERS BY CUSTOMER CLASS
HIGH CASE FORECAST

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	INDUSTRIAL						
YEAR	GWh	AVERAGE NO. OF CUSTOMERS	AVERAGE KWh CONSUMPTION PER CUSTOMER	RAILROADS AND RAILWAYS GWh	STREET & HIGHWAY LIGHTING GWh	OTHER SALES TO PUBLIC AUTHORITIES GWh	TOTAL SALES TO ULTIMATE CONSUMERS GWh
HISTORY:							
2013	3,206	2,343	1,368,331	0	25	3,159	36,616
2014	3,267	2,280	1,432,895	0	25	3,157	37,240
2015	3,293	2,243	1,468,123	0	24	3,234	38,553
2016	3,197	2,178	1,467,860	0	24	3,194	38,774
2017	3,120	2,137	1,459,991	0	24	3,171	38,023
2018	3,107	2,080	1,493,750	0	24	3,206	39,144
2019	2,963	2,025	1,463,210	0	24	3,227	39,187
2020	3,147	1,999	1,574,287	0	23	3,079	39,230
2021	3,292	1,978	1,664,307	0	24	3,158	39,451
2022	3,508	1,868	1,877,916	0	33	3,244	40,512
FORECAST:							
2023	3,357	1,855	1,809,728	0	30	3,259	41,930
2024	3,379	1,843	1,833,434	0	29	3,264	43,454
2025	3,404	1,832	1,857,999	0	29	3,267	43,895
2026	3,398	1,820	1,866,857	0	29	3,274	43,951
2027	3,413	1,808	1,887,808	0	29	3,280	44,252
2028	3,420	1,796	1,904,266	0	30	3,285	44,555
2029	3,433	1,784	1,924,124	0	30	3,291	44,988
2030	3,442	1,778	1,935,696	0	30	3,297	45,379
2031	3,454	1,778	1,942,732	0	31	3,304	45,891
2032	3,276	1,778	1,842,781	0	31	3,311	46,037

DUKE ENERGY FLORIDA

SCHEDULE 2.2.3
HISTORY AND FORECAST OF ENERGY CONSUMPTION AND
NUMBER OF CUSTOMERS BY CUSTOMER CLASS
LOW CASE FORECAST

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	INDUSTRIAL						
YEAR	GWh	AVERAGE NO. OF CUSTOMERS	AVERAGE KWh CONSUMPTION PER CUSTOMER	RAILROADS AND RAILWAYS GWh	STREET & HIGHWAY LIGHTING GWh	OTHER SALES TO PUBLIC AUTHORITIES GWh	TOTAL SALES TO ULTIMATE CONSUMERS GWh
HISTORY:							
2013	3,206	2,343	1,368,331	0	25	3,159	36,616
2014	3,267	2,280	1,432,895	0	25	3,157	37,240
2015	3,293	2,243	1,468,123	0	24	3,234	38,553
2016	3,197	2,178	1,467,860	0	24	3,194	38,774
2017	3,120	2,137	1,459,991	0	24	3,171	38,023
2018	3,107	2,080	1,493,750	0	24	3,206	39,144
2019	2,963	2,025	1,463,210	0	24	3,227	39,187
2020	3,147	1,999	1,574,287	0	23	3,079	39,230
2021	3,292	1,978	1,664,307	0	24	3,158	39,451
2022	3,508	1,868	1,877,916	0	33	3,244	40,512
FORECAST:							
2023	3,202	1,855	1,726,078	0	30	3,065	37,757
2024	3,222	1,843	1,748,164	0	29	3,060	38,369
2025	3,245	1,832	1,771,256	0	28	3,052	37,905
2026	3,206	1,820	1,761,788	0	28	3,036	37,373
2027	3,269	1,808	1,808,287	0	29	3,039	37,550
2028	3,283	1,796	1,827,954	0	29	3,032	37,449
2029	3,301	1,784	1,850,146	0	29	3,025	37,741
2030	3,315	1,778	1,864,401	0	29	3,018	37,879
2031	3,333	1,778	1,874,834	0	30	3,011	38,136
2032	3,163	1,778	1,779,162	0	30	3,004	38,236

DUKE ENERGY FLORIDA

SCHEDULE 2.3.1
HISTORY AND FORECAST OF ENERGY CONSUMPTION AND
NUMBER OF CUSTOMERS BY CUSTOMER CLASS
BASE CASE FORECAST

(1)	(2)	(3)	(4)	(5)	(6)
YEAR	SALES FOR RESALE GWh	UTILITY USE & LOSSES GWh	NET ENERGY FOR LOAD GWh	OTHER CUSTOMERS (AVERAGE NO.)	TOTAL NO. OF CUSTOMERS
HISTORY:					
2013	1,488	2,668	40,772	25,759	1,682,197
2014	1,333	2,402	40,975	25,800	1,699,091
2015	1,243	2,484	42,280	25,866	1,721,861
2016	1,803	2,277	42,854	26,005	1,743,149
2017	2,196	2,700	42,919	26,248	1,775,340
2018	2,304	2,776	44,224	26,504	1,801,564
2019	2,910	2,704	44,801	26,707	1,832,885
2020	2,887	2,697	44,814	26,845	1,863,814
2021	3,302	2,311	45,064	27,082	1,898,726
2022	3,673	1,956	46,141	26,834	1,933,060
FORECAST:					
2023	746	2,640	42,897	26,845	1,975,742
2024	1,504	2,781	44,352	26,793	2,013,982
2025	921	2,565	43,744	26,741	2,051,615
2026	921	2,780	43,798	26,689	2,089,997
2027	917	2,664	43,853	26,637	2,129,060
2028	906	2,788	44,161	26,586	2,168,958
2029	904	2,714	44,411	26,534	2,209,391
2030	904	2,764	44,761	26,482	2,249,783
2031	87	2,759	44,358	26,430	2,289,479
2032	88	3,050	44,705	26,379	2,328,335

DUKE ENERGY FLORIDA

SCHEDULE 2.3.2

HISTORY AND FORECAST OF ENERGY CONSUMPTION AND
NUMBER OF CUSTOMERS BY CUSTOMER CLASS

HIGH CASE FORECAST

(1)	(2)	(3)	(4)	(5)	(6)
YEAR	SALES FOR RESALE GWh	UTILITY USE & LOSSES GWh	NET ENERGY FOR LOAD GWh	OTHER CUSTOMERS (AVERAGE NO.)	TOTAL NO. OF CUSTOMERS
HISTORY:					
2013	1,488	2,668	40,772	25,759	1,682,197
2014	1,333	2,402	40,975	25,800	1,699,091
2015	1,243	2,484	42,280	25,866	1,721,861
2016	1,803	2,277	42,854	26,005	1,743,149
2017	2,196	2,700	42,919	26,248	1,775,340
2018	2,304	2,776	44,224	26,504	1,801,564
2019	2,910	2,704	44,801	26,707	1,832,885
2020	2,887	2,697	44,814	26,845	1,863,814
2021	3,302	2,311	45,064	27,082	1,898,726
2022	3,673	1,956	46,141	26,834	1,933,060
FORECAST:					
2023	746	3,028	45,704	26,845	1,981,590
2024	1,504	3,262	48,219	26,793	2,026,217
2025	921	3,046	47,862	26,741	2,067,047
2026	921	3,299	48,171	26,689	2,107,397
2027	917	3,186	48,355	26,637	2,147,918
2028	906	3,322	48,783	26,586	2,188,880
2029	904	3,253	49,145	26,533	2,230,247
2030	904	3,313	49,596	26,482	2,271,622
2031	87	3,316	49,295	26,431	2,312,376
2032	88	3,647	49,772	26,379	2,352,344

DUKE ENERGY FLORIDA

SCHEDULE 2.3.3
HISTORY AND FORECAST OF ENERGY CONSUMPTION AND
NUMBER OF CUSTOMERS BY CUSTOMER CLASS
LOW CASE FORECAST

(1)	(2)	(3)	(4)	(5)	(6)
YEAR	SALES FOR RESALE GWh	UTILITY USE & LOSSES GWh	NET ENERGY FOR LOAD GWh	OTHER CUSTOMERS (AVERAGE NO.)	TOTAL NO. OF CUSTOMERS
HISTORY:					
2013	1,488	2,668	40,772	25,759	1,682,197
2014	1,333	2,402	40,975	25,800	1,699,091
2015	1,243	2,484	42,280	25,866	1,721,861
2016	1,803	2,277	42,854	26,005	1,743,149
2017	2,196	2,700	42,919	26,248	1,775,340
2018	2,304	2,776	44,224	26,504	1,801,564
2019	2,910	2,704	44,801	26,707	1,832,885
2020	2,887	2,697	44,814	26,845	1,863,814
2021	3,302	2,311	45,064	27,082	1,898,726
2022	3,673	1,956	46,141	26,834	1,933,060
FORECAST:					
2023	746	2,374	40,877	26,845	1,975,789
2024	1,504	2,512	42,385	26,793	2,011,400
2025	921	2,315	41,141	26,741	2,043,591
2026	921	2,639	40,933	26,689	2,075,085
2027	917	2,364	40,831	26,637	2,107,394
2028	906	2,438	40,793	26,586	2,141,128
2029	904	2,388	41,033	26,533	2,176,194
2030	904	2,418	41,201	26,482	2,212,212
2031	87	2,416	40,639	26,431	2,248,474
2032	88	2,632	40,956	26,379	2,285,319

DUKE ENERGY FLORIDA

SCHEDULE 3.1.1

HISTORY AND FORECAST OF SUMMER PEAK DEMAND (MW)

BASE CASE FORECAST

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(OTH)	(10)
YEAR	TOTAL	WHOLESALE	RETAIL	INTERRUPTIBLE	RESIDENTIAL LOAD MANAGEMENT	RESIDENTIAL CONSERVATION	COMM. / IND. LOAD MANAGEMENT	COMM. / IND. CONSERVATION	OTHER DEMAND REDUCTIONS	NET FIRM DEMAND
HISTORY:										
2013	9,581	581	9,000	317	341	382	101	298	124	8,017
2014	10,067	814	9,253	232	355	404	108	313	132	8,523
2015	10,058	772	9,286	303	360	435	124	324	80	8,431
2016	10,530	893	9,637	235	366	466	100	339	80	8,945
2017	10,220	808	9,412	203	342	498	95	349	80	8,653
2018	10,271	812	9,459	257	386	532	83	387	80	8,545
2019	11,029	1021	10,008	230	394	566	86	414	80	9,260
2020	10,765	901	9,864	250	393	599	83	440	80	8,921
2021	10,835	1,010	9,825	375	394	623	85	451	80	8,826
2022	11,012	1,045	9,966	341	361	513	85	441	80	9,190
FORECAST:										
2023	10,173	461	9,712	340	374	554	89	466	80	8,270
2024	10,835	661	10,173	340	384	572	93	468	80	8,899
2025	10,700	461	10,239	340	396	587	96	473	80	8,728
2026	10,809	461	10,348	340	397	599	99	480	80	8,814
2027	10,884	461	10,423	340	398	613	102	484	80	8,868
2028	10,970	461	10,509	340	399	626	105	488	80	8,932
2029	11,077	461	10,616	340	400	639	109	492	80	9,019
2030	11,207	461	10,746	340	401	651	112	496	80	9,128
2031	11,304	411	10,893	340	402	662	115	500	80	9,205
2032	11,484	411	11,073	340	403	674	118	504	80	9,366

Historical Values (2013 - 2022):

Col. (2) = recorded peak + implemented load control + residential and commercial/industrial conservation and customer-owned self-service cogeneration.

Cols. (5) - (9) = Represent total cumulative capabilities at peak. Col. (8) includes commercial load management and standby generation.

Col. (OTH) =Customer-owned self-service cogeneration.

Col. (10) = (2) - (5) - (6) - (7) - (8) - (9) - (OTH).

Projected Values (2023 - 2032):

Cols. (2) - (4) = forecasted peak without load control, cumulative conservation, and customer-owned self-service cogeneration.

Cols. (5) - (9) = cumulative conservation and load control capabilities at peak. Col. (8) includes commercial load management and standby generation.

Col. (OTH) = customer-owned self-service cogeneration.

Col. (10) = (2) - (5) - (6) - (7) - (8) - (9) - (OTH).

DUKE ENERGY FLORIDA

SCHEDULE 3.1.2
HISTORY AND FORECAST OF SUMMER PEAK DEMAND (MW)
HIGH CASE FORECAST

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(OTH)	(10)
YEAR	TOTAL	WHOLESALE	RETAIL	INTERRUPTIBLE	RESIDENTIAL LOAD MANAGEMENT	RESIDENTIAL CONSERVATION	COMM. / IND. LOAD MANAGEMENT	COMM. / IND. CONSERVATION	OTHER DEMAND REDUCTIONS	NET FIRM DEMAND
HISTORY:										
2013	9,581	581	9,000	317	341	382	101	298	124	8,017
2014	10,067	814	9,253	232	355	404	108	313	132	8,523
2015	10,058	772	9,286	303	360	435	124	324	80	8,431
2016	10,530	893	9,637	235	366	466	100	339	80	8,945
2017	10,220	808	9,412	203	342	498	95	349	80	8,653
2018	10,271	812	9,459	257	386	532	83	387	80	8,545
2019	11,029	1,021	10,008	230	394	566	86	414	80	9,260
2020	10,765	901	9,864	250	393	599	83	440	80	8,921
2021	10,835	1,010	9,825	375	394	623	85	451	80	8,826
2022	11,012	1,045	9,966	341	361	513	85	441	80	9,190
FORECAST:										
2023	10,691	461	10,230	340	374	554	89	466	80	8,788
2024	11,344	661	10,683	340	384	572	93	468	80	9,408
2025	11,188	461	10,727	340	396	587	96	473	80	9,216
2026	11,239	461	10,778	340	397	599	99	480	80	9,244
2027	11,260	461	10,799	340	398	613	102	484	80	9,243
2028	11,338	461	10,877	340	399	626	105	488	80	9,300
2029	11,410	461	10,949	340	400	639	109	492	80	9,352
2030	11,493	461	11,032	340	401	651	112	496	80	9,414
2031	11,748	411	11,337	340	402	662	115	500	80	9,648
2032	11,841	411	11,430	340	403	674	118	504	80	9,722

Historical Values (2013 - 2022):
Col. (2) = recorded peak + implemented load control + residential and commercial/industrial conservation and customer-owned self-service cogeneration.
Cols. (5) - (9) = Represent total cumulative capabilities at peak. Col. (8) includes commercial load management and standby generation.
Col. (OTH) =Customer-owned self-service cogeneration.
Col. (10) = (2) - (5) - (6) - (7) - (8) - (9) - (OTH).
Projected Values (2023 - 2032):
Cols. (2) - (4) = forecasted peak without load control, cumulative conservation, and customer-owned self-service cogeneration.
Cols. (5) - (9) = cumulative conservation and load control capabilities at peak. Col. (8) includes commercial load management and standby generation.
Col. (OTH) = customer-owned self-service cogeneration.
Col. (10) = (2) - (5) - (6) - (7) - (8) - (9) - (OTH).

DUKE ENERGY FLORIDA

SCHEDULE 3.1.3
HISTORY AND FORECAST OF SUMMER PEAK DEMAND (MW)
LOW CASE FORECAST

(1) YEAR	(2) TOTAL	(3) WHOLESALE	(4) RETAIL	(5) INTERRUPTIBLE	(6) RESIDENTIAL LOAD MANAGEMENT	(7) RESIDENTIAL CONSERVATION	(8) COMM. / IND. LOAD MANAGEMENT	(9) COMM. / IND. CONSERVATION	(OTH) OTHER DEMAND REDUCTIONS	(10) NET FIRM DEMAND
HISTORY:										
2013	9,581	581	9,000	317	341	382	101	298	124	8,017
2014	10,067	814	9,253	232	355	404	108	313	132	8,523
2015	10,058	772	9,286	303	360	435	124	324	80	8,431
2016	10,530	893	9,637	235	366	466	100	339	80	8,945
2017	10,220	808	9,412	203	342	498	95	349	80	8,653
2018	10,271	812	9,459	257	386	532	83	387	80	8,545
2019	11,029	1,021	10,008	230	394	566	86	414	80	9,260
2020	10,765	901	9,864	250	393	599	83	440	80	8,921
2021	10,835	1,010	9,825	375	394	623	85	451	80	8,826
2022	11,012	1,045	9,966	341	361	513	85	441	80	9,190
FORECAST:										
2023	9,519	461	9,058	340	374	554	89	466	80	7,616
2024	9,901	661	9,239	340	384	572	93	468	80	7,965
2025	9,596	461	9,135	340	396	587	96	473	80	7,624
2026	9,553	461	9,092	340	397	599	99	480	80	7,558
2027	9,516	461	9,055	340	398	613	102	484	80	7,500
2028	9,512	461	9,051	340	399	626	105	488	80	7,474
2029	9,549	461	9,088	340	400	639	109	492	80	7,490
2030	9,573	461	9,112	340	401	651	112	496	80	7,493
2031	9,560	411	9,149	340	402	662	115	500	80	7,460
2032	9,605	411	9,194	340	403	674	118	504	80	7,486

Historical Values (2013 - 2022):

Col. (2) = recorded peak + implemented load control + residential and commercial/industrial conservation and customer-owned self-service cogeneration.

Cols. (5) - (9) = Represent total cumulative capabilities at peak. Col. (8) includes commercial load management and standby generation.

Col. (OTH) =Customer-owned self-service cogeneration.

Col. (10) = (2) - (5) - (6) - (7) - (8) - (9) - (OTH).

Projected Values (2023 - 2032):

Cols. (2) - (4) = forecasted peak without load control, cumulative conservation, and customer-owned self-service cogeneration.

Cols. (5) - (9) = cumulative conservation and load control capabilities at peak. Col. (8) includes commercial load management and standby generation.

Col. (OTH) = customer-owned self-service cogeneration.

Col. (10) = (2) - (5) - (6) - (7) - (8) - (9) - (OTH).

DUKE ENERGY FLORIDA

SCHEDULE 3.2.1
HISTORY AND FORECAST OF WINTER PEAK DEMAND (MW)
BASE CASE FORECAST

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(OTH)	(10)
YEAR	TOTAL	WHOLESALE	RETAIL	INTERRUPTIBLE	RESIDENTIAL LOAD MANAGEMENT	RESIDENTIAL CONSERVATION	COMM. / IND. LOAD MANAGEMENT	COMM. / IND. CONSERVATION	OTHER DEMAND REDUCTIONS	NET FIRM DEMAND
HISTORY:										
2012/13	9,109	831	8,278	287	652	747	97	220	213	6,893
2013/14	9,467	658	8,809	257	654	785	101	229	219	7,222
2014/15	10,648	1035	9,613	273	658	815	109	236	237	8,319
2015/16	9,678	1275	8,403	207	675	845	131	240	170	7,409
2016/17	8,739	701	8,038	191	695	878	79	243	165	6,489
2017/18	11,559	1071	10,488	244	699	913	79	246	196	9,182
2018/19	8,527	572	7,955	239	711	948	82	251	164	6,132
2019/20	9,725	613	9,112	292	670	982	80	256	177	7,268
2020/21	9,654	679	8,975	319	671	1,006	82	260	175	7,141
2021/22	10,594	1,038	9,556	317	668	1,013	82	261	195	8,057
FORECAST:										
2022/23	10,724	612	10,112	316	641	1,036	85	261	180	8,204
2023/24	11,744	1,264	10,480	316	655	1,063	89	264	193	9,163
2024/25	11,583	1,063	10,520	316	671	1,091	92	267	193	8,954
2025/26	11,636	1,063	10,573	316	672	1,111	95	269	194	8,979
2026/27	11,687	1,063	10,624	316	673	1,131	98	271	194	9,004
2027/28	11,138	462	10,676	316	674	1,152	102	273	194	8,427
2028/29	11,233	462	10,771	316	675	1,173	105	275	195	8,494
2029/30	11,349	462	10,887	316	676	1,193	108	277	196	8,583
2030/31	11,430	412	11,018	316	677	1,211	111	278	198	8,639
2031/32	11,583	412	11,172	316	678	1,229	114	280	199	8,766

Historical Values (2013 - 2022):

Col. (2) = recorded peak + implemented load control + residential and commercial/industrial conservation and customer-owned self-service cogeneration.

Cols. (5) - (9) = Represent total cumulative capabilities at peak. Col. (8) includes commercial load management and standby generation.

Col. (OTH) = Voltage reduction and customer-owned self-service cogeneration.

Col. (10) = (2) - (5) - (6) - (7) - (8) - (9) - (OTH).

Projected Values (2023 - 2032):

Cols. (2) - (4) = forecasted peak without load control, cumulative conservation, and customer-owned self-service cogeneration.

Cols. (5) - (9) = Represent cumulative conservation and load control capabilities at peak. Col. (8) includes commercial load management and standby generation.

Col. (OTH) = Voltage reduction and customer-owned self-service cogeneration.

Col. (10) = (2) - (5) - (6) - (7) - (8) - (9) - (OTH).

DUKE ENERGY FLORIDA

SCHEDULE 3.2.2

HISTORY AND FORECAST OF WINTER PEAK DEMAND (MW)

HIGH CASE FORECAST

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(OTH)	(10)
YEAR	TOTAL	WHOLESALE	RETAIL	INTERRUPTIBLE	RESIDENTIAL LOAD MANAGEMENT	RESIDENTIAL CONSERVATION	COMM. / IND. LOAD MANAGEMENT	COMM. / IND. CONSERVATION	OTHER DEMAND REDUCTIONS	NET FIRM DEMAND
HISTORY:										
2012/13	9,109	831	8,278	287	652	747	97	220	213	6,893
2013/14	9,467	658	8,809	257	654	785	101	229	219	7,222
2014/15	10,648	1,035	9,613	273	658	815	109	236	237	8,319
2015/16	9,678	1,275	8,403	207	675	845	131	240	170	7,409
2016/17	8,739	701	8,038	191	695	878	79	243	165	6,489
2017/18	11,559	1,071	10,488	244	699	913	79	246	196	9,182
2018/19	8,527	572	7,955	239	711	948	82	251	164	6,132
2019/20	9,725	613	9,112	292	670	982	80	256	177	7,268
2020/21	9,654	679	8,975	319	671	1,006	82	260	175	7,141
2021/22	10,594	1,038	9,556	317	668	1,013	82	261	195	8,057
FORECAST:										
2022/23	11,046	612	10,434	316	641	1,036	85	261	180	8,527
2023/24	12,198	1,264	10,934	316	655	1,063	89	264	193	9,617
2024/25	12,084	1,063	11,021	316	671	1,091	92	267	193	9,455
2025/26	12,158	1,063	11,094	316	672	1,111	95	269	194	9,501
2026/27	12,203	1,063	11,140	316	673	1,131	98	271	194	9,520
2027/28	11,691	462	11,229	316	674	1,152	102	273	194	8,980
2028/29	11,773	462	11,311	316	675	1,173	105	275	195	9,034
2029/30	11,865	462	11,403	316	676	1,193	108	277	196	9,099
2030/31	11,916	412	11,504	316	677	1,211	111	278	198	9,124
2031/32	12,031	412	11,619	316	678	1,229	114	280	199	9,214

Historical Values (2013 - 2022):

Col. (2) = recorded peak + implemented load control + residential and commercial/industrial conservation and customer-owned self-service cogeneration.

Cols. (5) - (9) = Represent total cumulative capabilities at peak. Col. (8) includes commercial load management and standby generation.

Col. (OTH) = Voltage reduction and customer-owned self-service cogeneration.

Col. (10) = (2) - (5) - (6) - (7) - (8) - (9) - (OTH).

Projected Values (2023 - 2032):

Cols. (2) - (4) = forecasted peak without load control, cumulative conservation, and customer-owned self-service cogeneration.

Cols. (5) - (9) = Represent cumulative conservation and load control capabilities at peak. Col. (8) includes commercial load management and standby generation.

Col. (OTH) = Voltage reduction and customer-owned self-service cogeneration.

Col. (10) = (2) - (5) - (6) - (7) - (8) - (9) - (OTH).

DUKE ENERGY FLORIDA

SCHEDULE 3.2.3
HISTORY AND FORECAST OF WINTER PEAK DEMAND (MW)
LOW CASE FORECAST

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(OTH)	(10)
YEAR	TOTAL	WHOLESALE	RETAIL	INTERRUPTIBLE	RESIDENTIAL LOAD MANAGEMENT	RESIDENTIAL CONSERVATION	COMM. / IND. LOAD MANAGEMENT	COMM. / IND. CONSERVATION	OTHER DEMAND REDUCTIONS	NET FIRM DEMAND
HISTORY:										
2012/13	9,109	831	8,278	287	652	747	97	220	213	6,893
2013/14	9,467	658	8,809	257	654	785	101	229	219	7,222
2014/15	10,648	1,035	9,613	273	658	815	109	236	237	8,319
2015/16	9,678	1,275	8,403	207	675	845	131	240	170	7,409
2016/17	8,739	701	8,038	191	695	878	79	243	165	6,489
2017/18	11,559	1,071	10,488	244	699	913	79	246	196	9,182
2018/19	8,527	572	7,955	239	711	948	82	251	164	6,132
2019/20	9,725	613	9,112	292	670	982	80	256	177	7,268
2020/21	9,654	679	8,975	319	671	1,006	82	260	175	7,141
2021/22	10,594	1,038	9,556	317	668	1,013	82	261	195	8,057
FORECAST:										
2022/23	9,263	612	8,651	316	641	1,036	85	261	180	6,744
2023/24	10,099	1,264	8,835	316	655	1,063	89	264	193	7,518
2024/25	9,797	1,063	8,734	316	671	1,091	92	267	193	7,168
2025/26	9,782	1,063	8,718	316	672	1,111	95	269	194	7,125
2026/27	9,756	1,063	8,693	316	673	1,131	98	271	194	7,073
2027/28	9,155	462	8,693	316	674	1,152	102	273	194	6,444
2028/29	9,215	462	8,753	316	675	1,173	105	275	195	6,476
2029/30	9,250	462	8,788	316	676	1,193	108	277	196	6,484
2030/31	9,249	412	8,837	316	677	1,211	111	278	198	6,457
2031/32	9,334	412	8,922	316	678	1,229	114	280	199	6,517

Historical Values (2013 - 2022):

Col. (2) = recorded peak + implemented load control + residential and commercial/industrial conservation and customer-owned self-service cogeneration.

Cols. (5) - (9) = Represent total cumulative capabilities at peak. Col. (8) includes commercial load management and standby generation.

Col. (OTH) = Voltage reduction and customer-owned self-service cogeneration.

Col. (10) = (2) - (5) - (6) - (7) - (8) - (9) - (OTH).

Projected Values (2023 - 2032):

Cols. (2) - (4) = forecasted peak without load control, cumulative conservation, and customer-owned self-service cogeneration.

Cols. (5) - (9) = Represent cumulative conservation and load control capabilities at peak. Col. (8) includes commercial load management and standby generation.

Col. (OTH) = Voltage reduction and customer-owned self-service cogeneration.

Col. (10) = (2) - (5) - (6) - (7) - (8) - (9) - (OTH).

DUKE ENERGY FLORIDA

SCHEDULE 3.3.1

HISTORY AND FORECAST OF ANNUAL NET ENERGY FOR LOAD (GWh)

BASE CASE FORECAST

(1)	(2)	(3)	(4)	(OTH)	(5)	(6)	(7)	(8)	(9)
YEAR	TOTAL	RESIDENTIAL CONSERVATION	COMM. / IND. CONSERVATION	OTHER ENERGY REDUCTIONS	RETAIL	WHOLESALE	UTILITY USE & LOSSES	NET ENERGY FOR LOAD	LOAD FACTOR (%) *
HISTORY:									
2013	43,142	772	734	864	36,616	1,488	2,668	40,772	53.0
2014	43,443	812	791	864	37,240	1,333	2,402	40,975	50.7
2015	44,552	848	829	595	38,553	1,243	2,484	42,280	50.9
2016	45,200	892	857	596	38,774	1,803	2,277	42,854	50.6
2017	45,318	933	871	595	38,024	2,196	2,699	42,919	52.7
2018	46,729	977	933	595	39,145	2,304	2,775	44,224	48.9
2019	47,385	1,017	972	595	39,187	2,910	2,704	44,801	51.3
2020	47,476	1,050	1,016	596	39,230	2,887	2,697	44,814	52.9
2021	47,786	1,100	1,027	595	39,451	3,302	2,311	45,064	53.1
2022	48,842	1,120	986	595	40,512	3,673	1,956	46,141	52.8
FORECAST:									
2023	45,662	1,175	994	595	39,511	746	2,640	42,897	59
2024	47,180	1,230	1,001	596	40,068	1,504	2,781	44,352	55
2025	46,622	1,268	1,015	595	40,257	921	2,565	43,744	56
2026	46,724	1,307	1,025	595	40,096	921	2,780	43,798	56
2027	46,829	1,349	1,032	595	40,272	917	2,664	43,853	56
2028	47,188	1,390	1,040	596	40,467	906	2,788	44,161	56
2029	47,484	1,429	1,049	595	40,793	904	2,714	44,411	56
2030	47,878	1,464	1,057	595	41,094	904	2,764	44,761	56
2031	47,517	1,500	1,065	595	41,511	87	2,759	44,358	55
2032	47,907	1,535	1,072	596	41,567	88	3,050	44,705	54

* Load Factors for historical years are calculated using the actual and projected annual peak.

DUKE ENERGY FLORIDA

SCHEDULE 3.3.2

HISTORY AND FORECAST OF ANNUAL NET ENERGY FOR LOAD (GWh)

HIGH CASE FORECAST

(1)	(2)	(3)	(4)	(OTH)	(5)	(6)	(7)	(8)	(9)
YEAR	TOTAL	RESIDENTIAL CONSERVATION	COMM. / IND. CONSERVATION	OTHER ENERGY REDUCTIONS	RETAIL	WHOLESALE	UTILITY USE & LOSSES	NET ENERGY FOR LOAD	LOAD FACTOR (%) *
HISTORY:									
2013	43,142	772	734	864	36,616	1,488	2,668	40,772	53.0
2014	43,443	812	791	864	37,240	1,333	2,402	40,975	50.7
2015	44,552	848	829	595	38,553	1,243	2,484	42,280	50.9
2016	45,200	892	857	596	38,774	1,803	2,277	42,854	50.6
2017	45,318	933	871	595	38,024	2,196	2,699	42,919	52.7
2018	46,729	977	933	595	39,145	2,304	2,775	44,224	48.9
2019	47,385	1,017	972	595	39,187	2,910	2,704	44,801	51.3
2020	47,476	1,050	1,016	596	39,230	2,887	2,697	44,814	52.9
2021	47,786	1,100	1,027	595	39,451	3,302	2,311	45,064	53.1
2022	48,842	1,120	986	595	40,512	3,673	1,956	46,141	52.8
FORECAST:									
2023	48,468	1,175	994	595	41,930	746	3,028	45,704	59.4
2024	51,046	1,230	1,001	595	43,454	1,504	3,262	48,219	57.2
2025	50,742	1,268	1,015	596	43,895	921	3,046	47,862	57.6
2026	51,098	1,307	1,025	595	43,951	921	3,299	48,171	57.9
2027	51,331	1,349	1,032	595	44,252	917	3,186	48,355	58.0
2028	51,810	1,390	1,040	596	44,555	906	3,322	48,783	59.7
2029	52,217	1,429	1,049	595	44,988	904	3,253	49,145	60.0
2030	52,713	1,464	1,057	595	45,379	904	3,313	49,596	60.1
2031	52,454	1,500	1,065	595	45,891	87	3,316	49,295	58.3
2032	52,975	1,535	1,072	596	46,037	88	3,647	49,772	58.3

* Load Factors for historical years are calculated using the actual and projected annual peak.

DUKE ENERGY FLORIDA

SCHEDULE 3.3.3

HISTORY AND FORECAST OF ANNUAL NET ENERGY FOR LOAD (GWh)

LOW CASE FORECAST

(1)	(2)	(3)	(4)	(OTH)	(5)	(6)	(7)	(8)	(9)
YEAR	TOTAL	RESIDENTIAL CONSERVATION	COMM. / IND. CONSERVATION	OTHER ENERGY REDUCTIONS	RETAIL	WHOLESALE	UTILITY USE & LOSSES	NET ENERGY FOR LOAD	LOAD FACTOR (%) *
HISTORY:									
2013	43,142	772	734	864	36,616	1,488	2,668	40,772	53.0
2014	43,443	812	791	864	37,240	1,333	2,402	40,975	50.7
2015	44,552	848	829	595	38,553	1,243	2,484	42,280	50.9
2016	45,200	892	857	596	38,774	1,803	2,277	42,854	50.6
2017	45,318	933	871	595	38,024	2,196	2,699	42,919	52.7
2018	46,729	977	933	595	39,145	2,304	2,775	44,224	48.9
2019	47,385	1,017	972	595	39,187	2,910	2,704	44,801	51.3
2020	47,476	1,050	1,016	596	39,230	2,887	2,697	44,814	52.9
2021	47,786	1,100	1,027	595	39,451	3,302	2,311	45,064	53.1
2022	48,842	1,120	986	595	40,512	3,673	1,956	46,141	52.8
FORECAST:									
2023	43,642	1,175	994	595	37,757	746	2,374	40,877	61.3
2024	45,213	1,230	1,001	596	38,369	1,504	2,512	42,385	60.6
2025	44,019	1,268	1,015	595	37,905	921	2,315	41,141	61.6
2026	43,860	1,307	1,025	595	37,373	921	2,639	40,933	61.8
2027	43,807	1,349	1,032	595	37,550	917	2,364	40,831	62.1
2028	43,820	1,390	1,040	596	37,449	906	2,438	40,793	62.1
2029	44,105	1,429	1,049	595	37,741	904	2,388	41,033	62.5
2030	44,317	1,464	1,057	595	37,879	904	2,418	41,201	62.8
2031	43,799	1,500	1,065	595	38,136	87	2,416	40,639	62.2
2032	44,159	1,535	1,072	596	38,236	88	2,632	40,956	62.3

* Load Factors for historical years are calculated using the actual and projected annual peak.

DUKE ENERGY FLORIDA

SCHEDULE 4.1

PREVIOUS YEAR ACTUAL AND TWO-YEAR FORECAST OF PEAK DEMAND
AND NET ENERGY FOR LOAD BY MONTH

BASE CASE FORECAST

(1)	(2)	(3)	(4)	(5)	(6)	(7)
	A C T U A L		F O R E C A S T		F O R E C A S T	
	2022		2023		2024	
MONTH	PEAK DEMAND MW	NEL GWh	PEAK DEMAND MW	NEL GWh	PEAK DEMAND MW	NEL GWh
JANUARY	**9,240**	3,397	**9,347**	3,127	**10,336**	3,242
FEBRUARY	7,539	2,950	8,228	2,890	8,845	3,021
MARCH	7,003	3,251	7,159	3,118	7,700	3,195
APRIL	7,905	3,403	7,404	3,303	7,534	3,384
MAY	8,743	4,197	8,713	3,907	8,885	4,033
JUNE	**9,977**	4,721	**9,076**	4,146	9,347	4,296
JULY	9,799	5,001	9,033	4,355	9,296	4,514
AUGUST	9,848	4,876	9,073	4,287	**9,715**	4,459
SEPTEMBER	9,306	4,124	8,777	4,049	9,003	4,198
OCTOBER	7,956	3,546	8,126	3,560	8,306	3,678
NOVEMBER	7,811	3,274	7,267	2,980	7,397	3,063
DECEMBER	9,157	3,401	7,853	3,177	8,462	3,271
TOTAL		46,141		42,897		44,352

NOTE: Recorded Net Peak demands and NEL include off-system wholesale contracts.

DUKE ENERGY FLORIDA

SCHEDULE 4.2
PREVIOUS YEAR ACTUAL AND TWO-YEAR FORECAST OF PEAK DEMAND
AND NET ENERGY FOR LOAD BY MONTH
HIGH CASE FORECAST

(1)	(2)	(3)	(4)	(5)	(6)	(7)
	ACTUAL		FORECAST		FORECAST	
	2022		2023		2024	
MONTH	PEAK DEMAND MW	NEL GWh	PEAK DEMAND MW	NEL GWh	PEAK DEMAND MW	NEL GWh
JANUARY	**9,240**	3,397	**9,706**	3,373	**10,805**	3,561
FEBRUARY	7,539	2,950	8,520	3,071	9,540	3,296
MARCH	7,003	3,251	7,361	3,393	8,245	3,567
APRIL	7,905	3,403	7,911	3,487	8,059	3,654
MAY	8,743	4,197	9,136	4,085	9,670	4,298
JUNE	**9,977**	4,721	9,566	4,350	10,165	4,594
JULY	9,799	5,001	9,562	4,564	10,130	4,826
AUGUST	9,848	4,876	**9,718**	4,491	**10,348**	4,751
SEPTEMBER	9,306	4,124	9,238	4,238	9,811	4,472
OCTOBER	7,956	3,546	8,489	3,880	9,006	4,088
NOVEMBER	7,811	3,274	7,424	3,250	7,864	3,411
DECEMBER	9,157	3,401	8,112	3,524	9,049	3,702
TOTAL		46,141		45,704		48,219

NOTE: Recorded Net Peak demands and NEL include off-system wholesale contracts.

DUKE ENERGY FLORIDA

SCHEDULE 4.3
PREVIOUS YEAR ACTUAL AND TWO-YEAR FORECAST OF PEAK DEMAND
AND NET ENERGY FOR LOAD BY MONTH
LOW CASE FORECAST

(1)	(2)	(3)	(4)	(5)	(6)	(7)
	ACTUAL		FORECAST		FORECAST	
	2022		2023		2024	
MONTH	PEAK DEMAND MW	NEL GWh	PEAK DEMAND MW	NEL GWh	PEAK DEMAND MW	NEL GWh
JANUARY	**9,240**	3,397	**7,923**	3,016	**8,706**	3,095
FEBRUARY	7,539	2,950	7,283	2,725	8,032	2,848
MARCH	7,003	3,251	6,757	2,947	7,432	3,006
APRIL	7,905	3,403	7,108	3,151	7,344	3,243
MAY	8,743	4,197	8,275	3,772	8,561	3,888
JUNE	**9,977**	4,721	8,451	3,997	8,784	4,160
JULY	9,799	5,001	8,335	4,209	8,637	4,391
AUGUST	9,848	4,876	**8,546**	4,142	**8,905**	4,324
SEPTEMBER	9,306	4,124	8,200	3,910	8,528	4,071
OCTOBER	7,956	3,546	7,695	3,353	7,998	3,481
NOVEMBER	7,811	3,274	6,994	2,768	7,289	2,875
DECEMBER	9,157	3,401	7,220	2,887	7,969	3,004
TOTAL		46,141		40,877		42,385

NOTE: Recorded Net Peak demands and NEL include off-system wholesale contracts.

FUEL REQUIREMENTS AND ENERGY SOURCES

DEF's two-year actual and ten-year projected nuclear, coal, oil, and gas requirements (by fuel unit) are shown in Schedule 5. DEF's two-year actual and ten-year projected energy sources by fuel type are presented in Schedules 6.1 and 6.2, in GWh and percent (%) respectively. Although DEF's fuel mix continues to rely on an increasing amount of natural gas to meet its generation needs, DEF continues to maintain alternate fuel supplies including long term operation of some coal fired facilities, adequate supplies of oil for dual fuel back up and increasing amounts of renewable generation particularly from solar generation. Projections shown in Schedules 5 and 6 reflect the Base Load and Energy Forecasts.

DUKE ENERGY FLORIDA

SCHEDULE 5
FUEL REQUIREMENTS

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
				-ACTUAL-											
	FUEL REQUIREMENTS		UNITS	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
(1)	NUCLEAR		TRILLION BTU	0	0	0	0	0	0	0	0	0	0	0	0
(2)	COAL		1,000 TON	2,390	2,117	615	773	794	692	708	1,034	965	1,333	1,925	1,735
(3)	RESIDUAL	TOTAL	1,000 BBL	0	0	0	0	0	0	0	0	0	0	0	0
(4)		STEAM	1,000 BBL	0	0	0	0	0	0	0	0	0	0	0	0
(5)		CC	1,000 BBL	0	0	0	0	0	0	0	0	0	0	0	0
(6)		CT	1,000 BBL	0	0	0	0	0	0	0	0	0	0	0	0
(7)		DIESEL	1,000 BBL	0	0	0	0	0	0	0	0	0	0	0	0
(8)	DISTILLATE	TOTAL	1,000 BBL	191	312	13	13	16	14	15	23	40	32	14	13
(9)		STEAM	1,000 BBL	49	48	11	10	12	7	11	14	13	14	9	10
(10)		CC	1,000 BBL	0	123	0	0	0	0	0	0	0	0	0	0
(11)		CT	1,000 BBL	142	141	2	3	4	7	3	9	27	19	6	3
(12)		DIESEL	1,000 BBL	0	0	0	0	0	0	0	0	0	0	0	0
(13)	NATURAL GAS	TOTAL	1,000 MCF	255,329	271,484	251,077	260,589	249,863	255,007	250,559	243,222	239,146	228,653	209,475	206,522
(14)		STEAM	1,000 MCF	23,250	25,066	18,129	19,087	8,867	13,902	13,464	13,613	10,309	8,954	6,885	7,031
(15)		CC	1,000 MCF	224,581	238,711	227,885	235,833	235,547	235,919	232,971	227,473	226,507	217,413	200,899	197,884
(16)		CT	1,000 MCF	7,498	7,708	5,063	5,669	5,449	5,186	4,125	2,137	2,330	2,286	1,692	1,606
	OTHER (SPECIFY)														
(17)	OTHER, DISTILLATE	ANNUAL FIRM INTERCHANGE	1,000 BBL	N/A	N/A	0	0	0	0	0	0	0	0	0	0
(18)	OTHER, NATURAL GAS	ANNUAL FIRM INTERCHANGE, CC	1,000 MCF	N/A	N/A	0	0	0	0	0	0	0	0	0	0
(18.1)	OTHER, NATURAL GAS	ANNUAL FIRM INTERCHANGE, CT	1,000 MCF	N/A	N/A	7,370	7,197	4,381	2,682	858	0	0	0	0	0
(19)	OTHER, COAL	ANNUAL FIRM INTERCHANGE, STEAM	1,000 TON	N/A	N/A	0	0	0	0	0	0	0	0	0	0

DUKE ENERGY FLORIDA

SCHEDULE 6.1
ENERGY SOURCES (GWh)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
				-ACTUAL-											
	ENERGY SOURCES		UNITS	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
(1)	ANNUAL FIRM INTERCHANGE 1/		GWh	2,420	1,203	721	705	430	263	84	1	4	5	2	1
(2)	NUCLEAR		GWh	0	0	0	0	0	0	0	0	0	0	0	0
(3)	COAL		GWh	5,042	4,375	1,233	1,567	1,609	1,388	1,404	2,096	1,983	2,789	4,025	3,642
(4)	RESIDUAL	TOTAL	GWh	0	0	0	0	0	0	0	0	0	0	0	0
(5)		STEAM	GWh	0	0	0	0	0	0	0	0	0	0	0	0
(6)		CC	GWh	0	0	0	0	0	0	0	0	0	0	0	0
(7)		CT	GWh	0	0	0	0	0	0	0	0	0	0	0	0
(8)		DIESEL	GWh	0	0	0	0	0	0	0	0	0	0	0	0
(9)	DISTILLATE	TOTAL	GWh	56	146	1	1	2	3	1	4	12	8	3	1
(10)		STEAM	GWh	0	0	0	0	0	0	0	0	0	0	0	0
(11)		CC	GWh	0	91	0	0	0	0	0	0	0	0	0	0
(12)		CT	GWh	56	55	1	1	2	3	1	4	12	8	3	1
(13)		DIESEL	GWh	0	0	0	0	0	0	0	0	0	0	0	0
(14)	NATURAL GAS	TOTAL	GWh	34,523	36,423	35,812	37,176	36,255	36,878	36,346	35,245	34,840	33,346	30,575	30,086
(15)		STEAM	GWh	2,112	2,249	1,648	1,753	776	1,240	1,174	1,192	850	728	540	548
(16)		CC	GWh	31,841	33,607	33,673	34,883	34,959	35,136	34,768	33,880	33,804	32,438	29,903	29,411
(17)		CT	GWh	570	567	490	539	520	502	403	174	186	181	133	127
(18)	OTHER 2/														
	QF PURCHASES		GWh	1,805	1,769	1,936	838	503	2	2	2	2	2	2	2
	RENEWABLES OTHER		GWh	0	0	0	0	0	0	0	0	0	0	0	0
	RENEWABLES MSW		GWh	609	645	640	649	645	391	391	391	391	391	391	393
	RENEWABLES BIOMASS		GWh	0	0	0	0	0	0	0	0	0	0	0	0
	RENEWABLES SOLAR		GWh	609	1,581	2,554	3,415	4,301	4,873	5,639	6,437	7,195	8,236	9,375	10,619
	BATTERIES		GWh			0	0	0	0	-15	-15	-16	-16	-15	-38
				0	0										
	IMPORT FROM OUT OF STATE		GWh			0	0	0	0	0	0	0	0	0	0
	EXPORT TO OUT OF STATE		GWh	0	0	0	0	0	0	0	0	0	0	0	0
				0	0										
(19)	NET ENERGY FOR LOAD		GWh	45,064	46,141	42,897	44,352	43,744	43,798	43,853	44,161	44,411	44,761	44,358	44,705

1/ NET ENERGY PURCHASED (+) OR SOLD (-) WITHIN THE FRCC REGION.
2/ NET ENERGY PURCHASED (+) OR SOLD (-).

DUKE ENERGY FLORIDA

SCHEDULE 6.2

ENERGY SOURCES (PERCENT)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
				-ACTUAL-											
	ENERGY SOURCES		UNITS	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
(1)	ANNUAL FIRM INTERCHANGE 1/		%	5.4%	2.6%	1.7%	1.6%	1.0%	0.6%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%
(2)	NUCLEAR		%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
(3)	COAL		%	11.2%	9.5%	2.9%	3.5%	3.7%	3.2%	3.2%	4.7%	4.5%	6.2%	9.1%	8.1%
(4)	RESIDUAL	TOTAL	%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
(5)		STEAM	%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
(6)		CC	%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
(7)		CT	%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
(8)		DIESEL	%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
(9)	DISTILLATE	TOTAL	%	0.1%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
(10)		STEAM	%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
(11)		CC	%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
(12)		CT	%	0.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
(13)		DIESEL	%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
(14)	NATURAL GAS	TOTAL	%	76.6%	78.9%	83.5%	83.8%	82.9%	84.2%	82.9%	79.8%	78.4%	74.5%	68.9%	67.3%
(15)		STEAM	%	4.7%	4.9%	3.8%	4.0%	1.8%	2.8%	2.7%	2.7%	1.9%	1.6%	1.2%	1.2%
(16)		CC	%	70.7%	72.8%	78.5%	78.7%	79.9%	80.2%	79.3%	76.7%	76.1%	72.5%	67.4%	65.8%
(17)		CT	%	1.3%	1.2%	1.1%	1.2%	1.2%	1.1%	0.9%	0.4%	0.4%	0.4%	0.3%	0.3%
(18)	OTHER 2/														
	QF PURCHASES		%	4.0%	3.8%	4.5%	1.9%	1.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	RENEWABLES OTHER		%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	RENEWABLES MSW		%	1.4%	1.4%	1.5%	1.5%	1.5%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%	0.9%
	RENEWABLES BIOMASS		%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	RENEWABLES SOLAR		%	1.4%	3.4%	6.0%	7.7%	9.8%	11.1%	12.9%	14.6%	16.2%	18.4%	21.1%	23.8%
	BATTERIES		%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.1%
	IMPORT FROM OUT OF STATE		%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	EXPORT TO OUT OF STATE		%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
(19)	NET ENERGY FOR LOAD		%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

1/ NET ENERGY PURCHASED (+) OR SOLD (-) WITHIN THE FRCC REGION.

2/ NET ENERGY PURCHASED (+) OR SOLD (-).

FORECASTING METHODS AND PROCEDURES

INTRODUCTION

Accurate forecasts of long-range electric energy consumption, customer growth, and peak demand are essential elements in electric utility planning. Accurate projections of a utility's future load growth require a forecasting methodology with the ability to account for a variety of factors influencing electric consumption over the planning horizon. DEF's forecasting framework utilizes a set of econometric models as well as the Itron statistically adjusted end-use (SAE) approach to achieve this end. This section will describe the underlying methodology of the customer, energy, and peak demand forecasts including the principal assumptions incorporated within each. Also included is a description of how DSM impacts the forecast and a review of DEF's DSM programs.

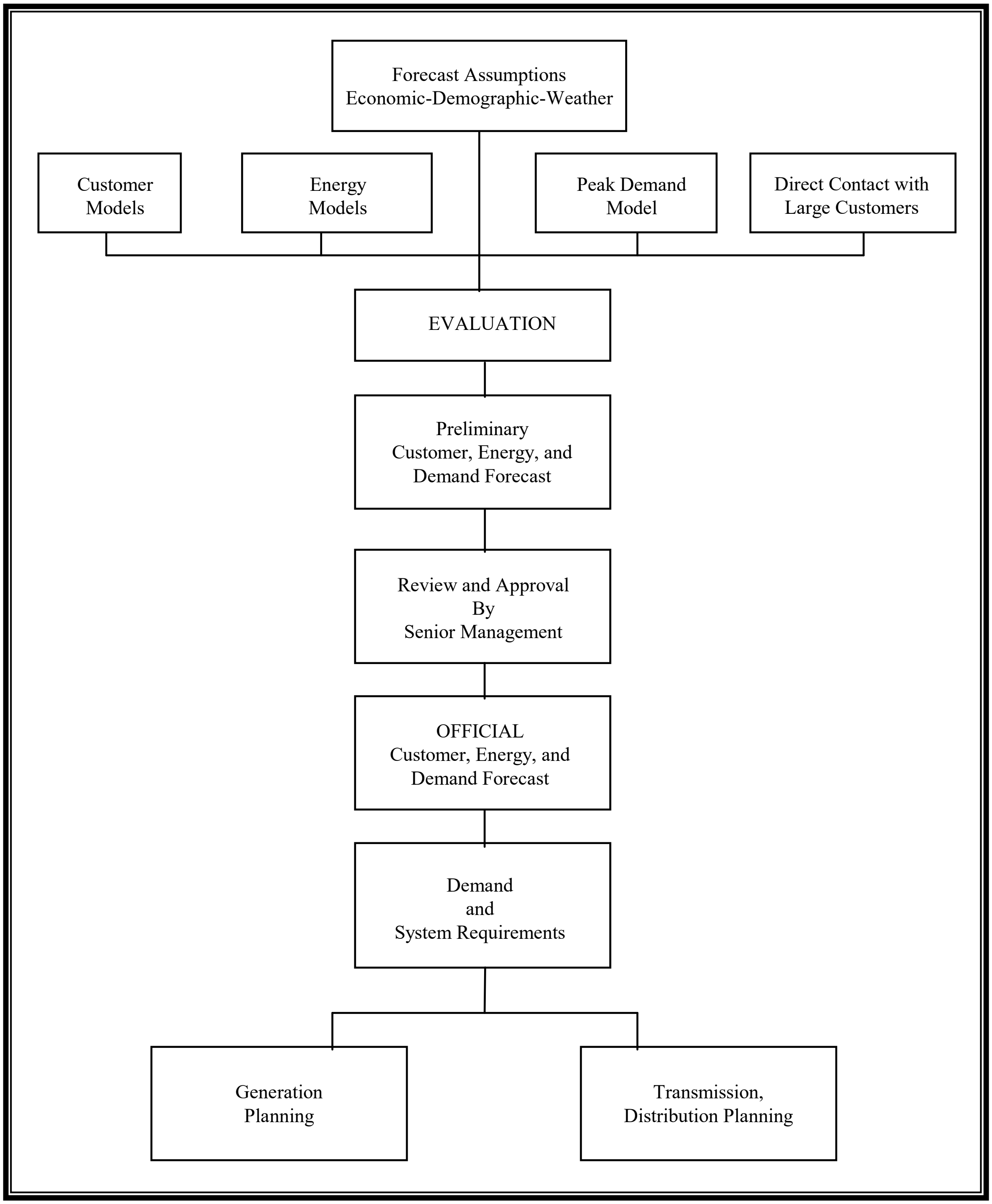
Figure 2.1, entitled "Customer, Energy and Demand Forecast," gives a general description of DEF's forecasting process. Highlighted in the diagram is a disaggregated modeling approach that blends the impacts of average class usage, as well as customer growth, based on a specific set of assumptions for each class. Also accounted for is some direct contact with large customers. These inputs provide the tools needed to frame the most likely scenario of the Company's future demand.

FORECAST ASSUMPTIONS

The first step in any forecasting effort is the development of assumptions upon which the forecast is based. A collaborative internal Company effort develops these assumptions including the research efforts of several external sources. These assumptions specify major factors that influence the level of customers, energy sales, or peak demand over the forecast horizon. The following set of assumptions forms the basis for the forecast presented in this document.

FIGURE 2.1

Customer, Energy, and Demand Forecast



GENERAL ASSUMPTIONS

1. Normal weather conditions for energy sales are assumed over the forecast horizon using a sales-weighted 30-year average of conditions at the St Petersburg, Orlando, and Tallahassee weather stations. For billed kilowatt-hour (kWh) sales projections, the normal weather calculation begins with a historical 30-year average of calendar and billing cycle weighted monthly heating and cooling degree-days (HDD and CDD). The expected consumption period read dates for each projected billing cycle determines the exact historical dates for developing the 30-year average weather condition each month. Each class displays different weather-sensitive base temperatures from which degree day (DD) values begin to accumulate. Seasonal and monthly peak demand projections are based on a 30-year historical average of system-weighted degree days using the "Itron Rank-Sort Normal" approach which takes annual weather extremes into account as well as the date and hour of occurrence.

2. The DEF customer forecast is based upon Moody's historical and forecasted population estimates of the 29 counties served by DEF. National and Florida economic projections produced by Moody's Analytics in their July 2022 forecast, along with Energy Information Administration (EIA) 2021 surveys of residential appliance saturation and average appliance efficiency levels provided the basis for development of the DEF energy forecast.

3. Within the DEF service area, the phosphate mining industry is the dominant sector in the industrial sales class. Three major customers accounted for 30% of the industrial class MWh sales in 2022. These energy-intensive "crop nutrient" producers mine and process phosphate-based fertilizer products for the global marketplace. The supply and demand (price) for their products are dictated by global conditions that include, but are not limited to, foreign competition, national/international agricultural industry conditions, exchange-rate fluctuations, international trade pacts and U.S. environmental regulations. The market price of the raw mined commodity often dictates production levels. Load and energy consumption at the DEF-served mining or chemical processing sites depend heavily on plant operations, which are heavily influenced by these global as well as the local conditions, including environmental regulations. Going forward, global currency fluctuations and global stockpiles of farm commodities will determine the demand for fertilizers. Any increase in self-service generation will act to reduce energy requirements from

DEF. An upside risk to this projection lies in the price of energy, especially low natural gas price, which is a major cost in mining and producing phosphoric fertilizers. DEF has begun to assume a decline in Phosphate sector energy consumption late in the planning horizon as mining product becomes scarce in the areas currently mined.

4. DEF has supplied capacity and energy service to wholesale customers on a “full” and “partial” requirement basis for many years. Many Sales for Resale Customers have moved to other suppliers for their needs or have begun to self-generate. What remains are Partial Requirements (PR) contracted loads with the Reedy Creek Improvement District (RCID) and Seminole Electric Cooperative, Inc. (SECI). The forecast reflects the current contractual obligations based on the nature of the stratified load being requested, plus their ability to receive dispatched energy from power marketers any time it is more economical for them to do so. All contracts are projected to expire in the specific year designated in the respective contracts.

5. This forecast assumes that DEF will successfully renew all future franchise agreements.

6. This forecast incorporates demand and energy reductions expected to be realized through currently FPSC approved DSM goals as stated in Docket No. 20190018-EG.

7. This forecast reflects impacts from both Plug-in Hybrid Electric Vehicle (PHEV) and behind the meter customer-owned renewable generation which is mostly solar photovoltaic (PV) installations on energy and peak demand. PHEV customer penetration levels, which are expected to be a small share of the total DEF service area vehicle stock over the planning horizon, incorporates an EPRI Model view that includes gasoline price expectations. DEF customer PV penetration levels are expected to continue to grow over the planning horizon and the forecast incorporates a view on equipment and electric price impacts on customer use.

8. Expected energy and demand reductions from customer-owned self-service cogeneration facilities are also included in this forecast. DEF will supply the supplemental load of self-service

cogeneration customers. While DEF offers "standby" service to all cogeneration customers, the forecast does not assume an unplanned need for power at time of peak.

This forecast assumes that the regulatory environment and the obligation to serve our retail customers will continue throughout the forecast horizon. Regarding wholesale customers, the forecast does not plan for generation resources unless a long-term contract is in place.

ECONOMIC ASSUMPTIONS

The economic outlook for this forecast was developed in the summer of 2022.

As mentioned in the overview, by mid-2022 the U.S. had experienced rapid recovery from the pandemic resulting in strong job growth, rising wages, low unemployment, and record corporate profits. However, due to the loose monetary and fiscal policies enacted to combat the pandemic, inflation began to take hold with 9.1% year over year inflation as of the second quarter of 2022. The Federal Reserve began to raise rates to get inflation under control with the goal of a "soft landing".

It is with this background that the DEF Customer, Energy and Peak Demand forecast was developed and the environment in which the Moody's Analytics July 2022 U.S. forecast and Florida forecast was applied. Major assumptions are as follows:

- Moody's assumed Russia's oil-supply losses will reach 3 million barrels per day by the start of 2023. The loss in Russian supply will be largely offset by increasing OPEC and non-OPEC output, demand destruction due to higher prices, and the flexibilization of sanctions on Iran and Venezuela. Thus, their baseline forecast assumes that the global oil market remains mostly balanced into 2023, allowing oil prices to gradually drop.
- The assumption is that a full-employment economy is one with an unemployment rate around 3.5%, a 62.5% labor force participation rate, and a prime-age employment-to-population ratio at or north of 80%. Moody's projected the economy to reach full employment in the second half of 2022.
- Moody's forecasted a 50-basis point rate hike at the July and September meetings, to be followed by a 25-basis point rate hike at the November and December meetings. This was a cumulative 150 basis points in rate hikes by the end of the year. The Fed was then expected to raise rates by 25 basis points at each of the first two meetings in 2023, putting the terminal

fed funds rate at 3.5%, less than the median projection from the latest Summary of Economic Projections.

- Though the likelihood of Democratic success in resurrecting a stalled Build Back Better (BBB) agenda had risen during the first half of 2022, it was still not high enough that Moody's would reincorporate some version of the BBB agenda in the baseline.
- The ten-year U.S. Treasury yield was expected to steadily increase over the next few years.

Throughout the ten-year forecast horizon, risks and uncertainties are always recognized and handled on a "highest probability of outcome" basis. General rules of economic theory, namely, supply and demand equilibrium are maintained in the long run. This notion is applied to energy/commodity prices, currency levels, the housing market, wage rates, birth rates, inflation and interest rates. Uncertainty surrounding specific weather anomalies (hurricanes or earthquakes), international crises, such as wars or terrorist acts, or future pandemic events, are not explicitly designed into this projection. Thus, any situations of this variety will result in a deviation from this forecast.

FORECAST METHODOLOGY

The DEF forecast of customers, energy sales, and peak demand applies both an econometric and end-use methodology. The residential and commercial energy projections incorporate Itron's SAE approach while other classes use customer-class specific econometric models. These models are expressly designed to capture class-specific variation over time. Peak demand models are projected on a disaggregated basis as well. This allows for appropriate handling of individual assumptions in the areas of wholesale contracts, demand response, interruptible service, and changes in self-service generation capacity.

ENERGY AND CUSTOMER FORECAST

In the retail jurisdiction, customer class models have been specified showing a historical relationship to weather and economic/demographic indicators using monthly data for sales models and customer models. Sales are regressed against "driver" variables that best explain monthly fluctuations over the historical sample period. Forecasts of these input variables are either derived internally or come from a review of the latest projections made by several independent forecasting concerns. Internal company forecasts are used for projections of electricity price, weather conditions, the length of the billing month and rates of customer owned renewable and electric vehicle adoption. The external sources of data include Moody's Analytics forecasts of changes in population, demographics and economic conditions. The incorporation of residential and commercial "end-use" energy has been modeled as well. Surveys of residential appliance saturation and average efficiency performed by the company's Market Research department and the EIA, along with trended projections of both by Itron capture a significant piece of the changing future environment for electric energy consumption. Specific sectors are modeled as follows:

Residential Sector

Residential kWh usage per customer is modeled using the SAE framework. This approach explicitly introduces trends in appliance saturation and efficiency, dwelling size and thermal efficiency. It allows for an easier explanation of usage levels and changes in weather-sensitivity over time. The "bundling" of 19 residential appliances into "heating", "cooling" and "other" end uses form the basis of equipment-oriented drivers that interact with typical exogenous factors such as real median household income, average household size, cooling degree-days, heating degree-days, the real price of electricity to the residential class and the average number of billing days in each sales month. This structure captures significant variation in residential usage caused by changing appliance efficiency and saturation levels, economic cycles, weather fluctuations, electric price, and sales month duration. Projections of kWh usage per customer combined with the customer forecast provide the forecast of total residential energy sales. The residential customer forecast is developed by correlating monthly residential customers with county level population projections, provided by Moody's, for counties in which DEF serves residential customers.

Commercial Sector

Commercial MWh energy sales are forecast based on commercial sector (non-agricultural, non-manufacturing and non-governmental) employment, the real price of electricity to the commercial class, the average number of billing days in each sales month, and the heating and cooling degree-day values. As in the residential sector, these variables interact with the commercial end-use equipment (listed below) after trends in equipment efficiency and saturation rates have been projected.

- Heating

- Cooling
- Ventilation
- Water heating
- Cooking
- Refrigeration
- Outdoor Lighting
- Indoor Lighting
- Office Equipment (PCs)
- Miscellaneous

The SAE model contains indices that are based on end-use energy intensity projections developed from EIA's commercial end-use forecast database. Commercial energy intensity is measured in terms of end-use energy use per square foot. End-use energy intensity projections are based on end-use efficiency and saturation estimates that are in turn driven by assumptions in available technology and costs, energy prices, and economic conditions. Energy intensities are calculated from the EIA's Annual Energy Outlook (AEO) commercial database. End-use intensity projections are derived for eleven building types. The energy intensity (EI) is derived by dividing end-use electricity consumption projections by square footage:

$$EI_{bet} = Energy_{bet} / sqft_{bt}$$

Where:

$Energy_{bet}$ = energy consumption for building type b, end-use e, year t

$Sqft_{bt}$ = square footage for building type b in year t

Commercial customers are modeled using the projected level of residential customers.

Industrial Sector

Energy sales to this sector are separated into two sub-sectors. A large portion of industrial energy use is consumed by the phosphate mining industry. Because this one industry is such a large share of the total industrial class, it is separated and modeled apart from the rest of the class. The term "non-phosphate industrial" is used to refer to those customers who comprise the remaining portion of total industrial class sales. Both groups are impacted by changes in economic activity. However, adequately explaining sales levels requires separate explanatory variables. Non-phosphate industrial energy sales are modeled using Florida manufacturing employment interacted with the Florida industrial production index, and the average number of sales month billing days.

The industrial phosphate mining industry is modeled using customer-specific information with respect to anticipated market conditions. Since this sub-sector is comprised of only three customers, the forecast is dependent upon information received from direct customer contact. DEF Large Account Management employees provide specific phosphate customer information regarding customer production schedules, inventory levels, area mine-out and start-up predictions, and changes in self-service generation or energy supply situations over the forecast horizon. These Florida mining companies compete globally into a global market where farming conditions dictate the need for "crop nutrients".

The projection of industrial accounts is not expected to decline as rapidly as it has for years. The pace of "off-shoring" manufacturing jobs is expected to decline from past levels. Both the Trump and Biden administrations have favored the rebuilding of the American manufacturing sector, with the Biden administration adding a focus on carbon reduction. Also, the rapid increase in Florida population should recalibrate Florida's competitiveness in "location analysis" studies performed by industry when determining site selection for new operations.

Street Lighting

Electricity sales to the street and highway lighting class are projected to increase over the forecast period. The number of accounts has increased due to rate changes from the Public Authority class. A simple time-trend was used to project energy consumption and customer growth in this class.

Public Authorities

Energy sales to public authorities (SPA), comprised of federal, state and local government operated services, are projected to decline within the DEF's service area. This is a result of lower projected customer growth/customers moving to the Street Lighting class. The level of government services, and thus energy, can be tied to the population base, as well as the amount of tax revenue collected to pay for these services. Factors affecting population growth will affect the need for additional governmental services (i.e., public schools, city services, etc.) thereby increasing SPA energy consumption. Government employment has been determined to be the best indicator of the level of government services provided. This variable, along with cooling degree-days and the sales month billing days, explains most of the variation over the historical sample period. Adjustments are also included in this model to account for the large change in school-related energy use throughout the year. The SPA customer forecast is projected linearly as a function of a time-trend. Recent budget issues have also had an impact on the near-term pace of growth.

Sales for Resale Sector

The Sales for Resale sector encompasses all firm sales to other electric power entities. This includes sales to other utilities (municipal or investor-owned) as well as power agencies (rural electric authority or municipal).

SECI is a wholesale, or sales for resale, customer of DEF that contracts for both seasonal and stratified loads over the forecast horizon. The municipal sales for resale class includes a number of customers, divergent not only in scope of service (i.e., full or partial requirement), but also in composition of ultimate consumers. Each customer is modeled separately in order to accurately reflect its individual profile. DEF serves partial requirement service (PR) to load serving customers such as Reedy Creek Improvement District. In each case, these customers contract with DEF for a specific level and type of stratified capacity (MW) needed to provide their particular electrical system with an appropriate level of reliability. The energy forecast for each contract is derived using information provided by the purchaser who better understands their needs. Electric energy growth and competitive market prices will dictate the amount of wholesale demand and energy throughout the forecast horizon.

PEAK DEMAND FORECAST

The forecast of peak demand also employs a disaggregated econometric methodology. For seasonal (winter and summer) peak demands, as well as each month of the year, DEF's coincident system peak is separated into five major components. These components consist of total retail load, interruptible and curtailable tariff non-firm load, conservation and demand response program capability, wholesale demand, and company use demand.

Total retail load refers to projections of DEF retail monthly net peak demand before any activation of DEF's General Load Reduction Plan. The historical values of this series are constructed to show the size of DEF's retail net peak demand assuming no utility activated load control had ever taken place. The value of constructing such a "clean" series enables the forecaster to observe and correlate the underlying trend in retail peak demand to retail customer levels and coincident weather conditions at the time of the peak and the amounts of Base-Heating-Cooling load estimated by the monthly Itron models without the impacts of year-to-year variation in utility-sponsored DR programs. Monthly peaks are projected using the Itron SAE generated use patterns for both weather sensitive (cooling & heating) appliances and base load appliances calculated by class in the energy models. Daily and hourly models of applying DEF class-of-business load research survey data lead to class and total retail hourly load profiles when a 30-year normal weather template replaces actual weather. The projections of retail peak are the result of a monthly model driven by the summation of class base, heating and cooling energy interpolated 30-year normal weather pattern-driven load profile. The projection for the months of January (winter) and August (summer) are typically when the seasonal peaks occur. Energy conservation and direct load control estimates consistent with DEF's DSM goals that have been established by the FPSC are applied to the MW forecast. Projections of dispatchable and cumulative non-dispatchable DSM impacts are subtracted from the projection of potential firm retail demand resulting in a projected series of firm retail monthly peak demand figures. The Interruptible and Curtailable service (IS and CS) tariff load projection is developed from historic monthly trends, as well as the incorporation of specific projected information obtained from DEF's large industrial accounts on these tariffs by account executives. Developing this piece of the demand forecast allows for appropriate firm retail demand results in the total retail coincident peak demand projection.

Sales for Resale demand projections represent load supplied by DEF to other electric suppliers such as SECI, RCID, and other electric transmission and distribution entities. For Partial Requirement demand projections, contracted MW levels dictate the level of seasonal demands.

DEF "company use" at the time of system peak is estimated using load research metering studies similar to potential firm retail. It is assumed to remain stable over the forecast horizon as it has historically.

Each of the peak demand components described above is a positive value except for the DSM program MW impacts and IS and CS load. These impacts represent a reduction in peak demand and are assigned a negative value. Total system firm peak demand is then calculated as the arithmetic sum of the five components.

HIGH AND LOW SCENARIOS

DEF has developed high and low scenarios around the base case energy sales and peak demand projections. Both scenarios incorporate historical variation in weather and economic conditions as well as service area population and household growth. Historical variation for economic driver variables selected in the base case energy sales models using the Moody's S1 & S3 (High/Low) scenarios. High and low weather variables were determined for the energy and peak weather variables (HDDs, CDDs, and monthly peak DDs) using actual 30-year weather conditions. Each weather variable used in the modeling process is ranked monthly from "high-to-low" degree days. The high (hottest or coldest) one-fourth of each variable is averaged and becomes a normal "High Case" weather condition. Similarly, the "mildest" one-fourth of each weather variable's 30 observations are averaged and become the normal "Low Case" weather condition. A review of twenty-year historical variation of DEF 29-county population growth based on Moody's high and low customer projections out ten years resulted in the final area of variability around the Load Forecast.

This procedure captures the most influential variables around energy sales and peak demand by estimating high and low cases for economics, demographics, and weather conditions. DEF has evaluated the load projections generated through this process against projected loads based on extreme temperature events over the last 40 years and concluded that the range of load represented in these cases encompasses the probable outcome of such extreme weather recurrence.

DEMAND SIDE MANAGEMENT

Pursuant to the provisions of Florida Statutes Section 366.82 (the "FEECA Statute"), which requires the FPSC to adopt goals for the FEECA utilities to increase energy efficiency and increase the development of demand-side renewable energy systems and directs the FPSC to review those goals every five years, in 2019, the FPSC conducted its statutorily required review and determined that it was in the public interest to continue with the goals for the 2020-2024 time period established in the 2014 Goals setting proceeding and directed the utilities to file Program Plans designed to achieve these goals (Order No. PSC-2019-00509-FOF). In August 2020, DEF submitted a Plan designed to achieve the 2020-2024 goals which was approved by the Commission (Order No. PSC-2020-0274-PAA-EG). The programs included in this Plan are subject to periodic monitoring and evaluation to ensure that all demand-side resources are acquired in a cost-effective manner and that the program savings are durable. Tables 2.1 and 2.2 reflect the annual Program achievements for the residential and commercial sector compared to the Commission established goals for the 2020-2024 time period.

RESIDENTIAL DEMAND SIDE MANAGEMENT PROGRAMS

TABLE 2.1

Residential DSM MW and GWH Savings

RESIDENTIAL									
	WINTER PEAK MW REDUCTION			SUMMER PEAK MW REDUCTION			GWH ENERGY REDUCTION		
YEAR	TOTAL ACHIEVED	COMMISSION APPROVED GOAL	% VARIANCE	TOTAL ACHIEVED	COMMISSION APPROVED GOAL	% VARIANCE	TOTAL ACHIEVED	COMMISSION APPROVED GOAL	% VARIANCE
2020	31	32	-5%	18	16	13%	35	9	277%
2021	16	28	-42%	10	14	-26%	25	6	311%
2022	25	25	1%	16	12	30%	49	4	1205%
2023		22			11			2	
2024		21			11			1	

The following provides a list of DEF's Residential DSM programs as of December 31, 2022, along with a brief overview of each program:

Home Energy Check – This is DEF's home energy audit program as required by Rule 25-17.003(3)(b), F.A.C. DEF offers a variety of options to customers for home energy audits including walk-through audits, phone assisted audits, and web enabled on-line audits. At the completion of the audit, DEF also provides kits that contain energy saving measures that may be easily installed by the customer.

Residential Incentive Program – This program provides incentives on a variety of cost-effective measures designed to provide energy savings. DEF expects to provide incentives to customers for the installation of approximately 75,000 energy saving measures over the 2020 to 2024 time period. These measures primarily include heating and cooling, duct repair, insulation, and energy efficient windows. The measures and incentive levels included in this program have been updated to reflect the impacts of new codes and standards.

Neighborhood Energy Saver – This program is designed to provide energy saving education and assistance to low-income customers. This program targets neighborhoods that meet certain income eligibility requirements. DEF plans to install energy saving measures in approximately 5,250 homes annually over the 2020 to 2024 time period. These measures will be installed at no cost to the customer and include air infiltration measures, water heating measures, lighting, insulation, duct repair, and heat pump and air conditioning tune-ups.

Low Income Weatherization Assistance Program – DEF partners with local agencies to provide funding for energy efficiency and weatherization measures to low-income customers through this program. DEF expects to provide assistance to approximately 500 customers annually through this program.

Residential Load Management a/k/a EnergyWise – This is a voluntary residential demand response program that provides monthly bill credits to customers who allow DEF to reduce peak demand by controlling service to selected electric equipment through various devices and communication options installed on the customer's premises. These interruptions are at DEF's option, during specified time periods, and coincident with hours of peak demand. Customers must have a minimum average monthly usage of 600 kWh to be eligible to participate in this program.

Recent technology changes have impacted the Company's Demand Response capability projections. The 3G cellular network was discontinued in 2022, removing about 30 MW from the program. Also, 80% of the residential program capability is connected to one way paging devices, known to be nearing their end of life. The company has been laying out plans to begin upgrading the paging system to modern 2-way cellular technology but has been delayed first by COVID and then by supply chain issues. Supply chain issues are slowly coming to resolution, and as such the company plans to begin its upgrade in 2024. However, at this time the company feels it is prudent to lower its projected MW capability to account for the 3G network closure and reflect the planned recovery through 2025. These changes are reflected in Schedules 3.1 and 3.2.

COMMERCIAL/INDUSTRIAL DEMAND SIDE MANAGEMENT PROGRAMS

TABLE 2.2

Commercial/Industrial DSM MW and GWH Savings

COMMERCIAL / INDUSTRIAL									
	WINTER PEAK MW REDUCTION			SUMMER PEAK MW REDUCTION			GWH ENERGY REDUCTION		
YEAR	TOTAL ACHIEVED	COMMISSION APPROVED GOAL	% VARIANCE	TOTAL ACHIEVED	COMMISSION APPROVED GOAL	% VARIANCE	TOTAL ACHIEVED	COMMISSION APPROVED GOAL	% VARIANCE
2020	24	5	354%	46	8	460%	40	6	582%
2021	11	5	124%	24	7	248%	22	4	454%
2022	5	5	1%	5	6	-17%	3	2	25%
2023		5			6			1	
2024		5			5			1	

The following provides a list of DEF's Commercial DSM programs as of December 31, 2022, along with a brief overview of each program:

Business Energy Check – This is a commercial energy audit program that provides commercial customers with an analysis of their energy usage and information about energy-saving practices and cost-effective measures that they can implement at their facilities.

Smart $aver Business f/k/a Better Business – This program provides incentives to commercial customers on a variety of cost-effective energy efficiency measures. These measures are primarily comprised of measures that reduce cooling and heating load.

Smart $aver Custom Incentive f/k/a Florida Custom Incentive – The objective of this program is to encourage customers to make capital investments for the installation of energy efficiency measures which reduce energy and peak demand. This program provides incentives for customized energy efficiency projects and measures that are cost effective but are not otherwise included in DEF's prescriptive commercial programs.

Interruptible Service – This program is available to non-residential customers with a minimum billing demand of 500 KW or more who are willing to have their power interrupted. DEF has remote control access to the switch providing power to the customer's equipment. Customers participating in the Interruptible Service program receive a monthly interruptible demand credit based on their bills.

Curtailable Service - This program is an indirect load control program that reduces DEF's energy demand at times of capacity shortage during peak or emergency conditions.

Standby Generation - This program is a demand control program that reduces DEF's demand based upon the control of the customer's back-up generator. The program is a voluntary program available to all commercial and industrial customers who have on-site stand-by generation capacity of at least 50 KW and are willing to reduce their DEF demand when deemed necessary.

OTHER DSM PROGRAMS

The following provides an overview of other DSM programs:

Technology Development – This program is used to fund research and development of new energy efficiency and demand response technologies. This program provides the opportunity to investigate and test new technologies and determine their usefulness and feasibility in the support energy efficiency and demand response programs.

Qualifying Facilities – This program analyzes, forecasts, facilitates, and administers the potential and actual power purchases from Qualifying Facilities (QFs) and the state jurisdictional QF or distributed generator interconnections. The program supports meetings with interested parties or potential QFs, including cogeneration and small power production facilities including renewables interested in providing renewable capacity or energy deliveries within our service territory. Project, interconnection, and avoided cost discussions with renewable and combined heat and power developers who are also exploring distributed generation options continue to remain steady. Most of the interest is coming from companies utilizing solar photovoltaic technology as the price of photovoltaic panels has decreased over time. The cost of this technology continues to decrease, and subsidies remain in place. As of December 31st, 2022, DEF had 70 active solar projects totaling over 5,100 MW in its FERC jurisdictional interconnection queue and 14 of those projects included DEF as the project developer. As the technologies advance and the market evolves, the Company's policies will continue to be refined and remain compliant.

CHAPTER 3

FORECAST OF FACILITIES REQUIREMENTS

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FLORIDA

CHAPTER 3

FORECAST OF FACILITIES REQUIREMENTS

RESOURCE PLANNING FORECAST

OVERVIEW OF CURRENT FORECAST

Supply-Side Resources

As of December 31, 2022, DEF had a summer total firm capacity resource of 11,672 MW (see Table 3.1). This capacity resource includes fossil steam generators (2,423 MW), combined cycle plants (5,227 MW), combustion turbines (1,992 MW), solar power plants (480 MW), independent power purchases (1,138 MW), and non-utility purchased power (412 MW). Table 3.2 presents DEF's firm capacity contracts with renewable and cogeneration Facilities.

Demand-Side Programs

In August 2020, the FPSC approved demand-side management programs designed to meet the DSM goals established by the Commission in Order PSC-2019-00509-FOF. Total DSM resources are presented in Schedules 3.1 and 3.2 of Chapter 2. These programs include Non-Dispatchable DSM, Interruptible Load, and Dispatchable Load Control resources.

Capacity and Demand Forecast

DEF's forecasts of capacity and demand for the projected summer and winter peaks can been found in Schedules 7.1 and 7.2, respectively. Demand forecasts shown in these schedules are based on Schedules 3.1.1 and 3.2.1, the base summer and winter forecasts. DEF's forecasts of capacity and demand are based on serving expected growth in retail requirements in its regulated service area and meeting commitments to wholesale power customers who have entered into supply contracts with DEF. In its planning process, DEF balances its supply plan for the needs of retail and wholesale customers and endeavors to ensure that cost-effective resources are available to meet the needs across the customer base.

Base Expansion Plan

DEF's planned supply resource additions and changes are shown in Schedule 8 and are referred to as DEF's Base Expansion Plan. This plan includes a net addition of over 3,700 MW of solar PV generation with an expected equivalent summer firm capacity contribution of approximately 800 MW, 90 MW of firm storage added in 2027 and 135 MW of firm storage added in 2032. The incorporation of the full firm capacity of the Osprey Energy Center takes place at the end of 2024. Between 2022 and 2027, DEF will add close to 400 MW of combined cycle capacity that results from projects focusing on increasing the fuel efficiency of the combined cycle generating units. DEF continues to consider market supply-side resource alternatives to enhance DEF's resource plan.

DEF recognizes that as solar penetration increases, including both DEF and customer owned PV, the relationship between the solar production and the coincident load peak will change. In this plan, DEF has assigned this DEF owned solar PV generation an equivalent summer capacity value equal to 57% of the nameplate capacity of the planned installations from 2021 to 2024. DEF modeling derives an equivalent summer non-coincident, but on-peak-hour capacity value equal to 25% of the facility's nameplate rating for planned PV installations from 2025 to 2026 and 12.5% for 2027 and beyond. An annual performance degradation factor of 0.5% has been assigned to the PV installations. DEF will continue to evaluate these assignments over time and may revise these values in future Site Plans based on changes in project designs and the data received from actual operation of these facilities once they are installed. In addition, DEF recognizes that higher penetration of PV resources on the system will result in a need for additional balancing of generation intermittency. The declining capacity value for PV installations late in this decade and beyond could be improved substantially if battery technology advances support economic pairing of PV with energy storage, which could also help to address the need for balancing generation intermittency. DEF's strategy of steady and carefully paced additions of PV to the system will allow continued evaluation of these impacts and the need for additional resources in the future to meet these needs.

On June 19, 2019, the Environmental Protection Agency (EPA) issued the Affordable Clean Energy (ACE) Rule to replace the 2015 Clean Power Plan. However, on January 19, 2021, the U.S. Court of Appeals for the District of Columbia issued its opinion vacating the ACE Rule and remanding the rule to the EPA. On October 29, 2021 the Supreme Court agreed to hear the appeal of the ACE vacatur. The case was heard at the Supreme Court in February 2022, and on June 30, 2022 the Court issued a decision reversing and remanding the January 19, 2021 D.C. Circuit Court decision. Currently, neither the CPP nor the ACE rule are in effect, as the EPA is working on a replacement rule that is expected to be proposed in April 2023. DEF continues to monitor developments around the future of this rule.

Duke Energy has set a goal at the enterprise level of achieving at least a 50% reduction in CO_2 emissions from a 2005 baseline by 2030 and net-zero emissions by 2050. DEF has incorporated anticipated tax savings from the 2022 IRA into our resource plan optimization and production cost models. These savings have increased the cost effectiveness of clean energy resources, particularly solar and batteries, enabling further cost-effective progress toward achievement of Duke Energy's enterprise level target.

DEF continues to modernize its generation resources with the retirement and projected retirements of several of the older units in the fleet, particularly combustion turbines at Bayboro, DeBary P2 - P6, Bartow P1 & P3, and University of Florida. Continued operations of the peaking units at Bayboro are planned through the year 2025. The DeBary units P2 - P6, Bartow units P1 & P3, and University of Florida cogeneration unit are projected to retire in 2027. There are many factors which may impact these retirements including environmental regulations and permitting, unit age and maintenance requirements, local operational needs, their relatively small capacity size and system requirement needs. In addition to retirements, DEF anticipates the expiration of several contracts with Qualifying Facilities (QFs) and Independent Power Producers (IPPs) over the plan period. Although the Base Expansion Plan projects expiration of all these contracts, DEF continues to consider options for renewing these contracts in a manner that provides system reliability and cost-effective capacity and energy for our customers.

DEF continues to improve the performance of its generation fleet. Starting in mid-2023 and through the end of 2027, DEF will perform upgrades to the combustion turbines associated with several of the fleet combined cycle units. The goal of these upgrades is to reduce the unit heat rates, improve the fleet fuel efficiency, and reduce DEF CO2 emissions. These upgrades will also result in the addition of close to 400 MWs of combined cycle capacity.

DEF's Base Expansion Plan projects the need for additional capacity with proposed in-service dates during the ten-year period from 2023 through 2032. The planned capacity additions, together with purchases from QFs, Investor Owned Utilities (IOUs), and IPPs enable the DEF system to meet the energy requirements of its customer base. The capacity needs identified in this plan may be impacted by DEF's ability to extend or replace existing purchase power, cogeneration and QF contracts and to secure new renewable purchased power resources in their respective projected timeframes. The additions in the Base Expansion Plan depend, in part, on projected load growth, and obtaining all necessary state and federal permits under current schedules. Changes in these or other factors could impact DEF's Base Expansion Plan.

DEF has examined the high and low load scenarios presented in Schedules 3.1 and 3.2. As discussed in Chapter 2, these scenarios were developed to present and test a range of likely outcomes in peak load and energy demand. DEF found that the Base Expansion Plan was robust under the range of conditions examined. Current planned capacity is sufficient to meet the demand including reserve margin in these cases through 2029 allowing DEF sufficient time to plan additional generation capacity either through power purchase or new generation construction as needed if higher than baseline conditions emerge. If lower than baseline conditions emerge, DEF can defer future generation additions.

Status reports and specifications for the planned new generation facilities are included in Schedule 9. Planned transmission lines associated with the DEF Bulk Electric System (BES) are shown in Schedule 10.

TABLE 3.1

DUKE ENERGY FLORIDA

TOTAL CAPACITY RESOURCES OF
POWER PLANTS AND PURCHASED POWER CONTRACTS

AS OF DECEMBER 31, 2022

PLANTS	SUMMER NET DEPENDABLE CAPABILITY (MW)
Fossil Steam	2,423
Combined Cycle	5,227
Combustion Turbine	1,992
Solar	480
Total Net Dependable Generating Capability	**10,122**
Dependable Purchased Power	1,550
Firm Qualifying Facility Contracts (412 MW)	
Investor Owned Utilities (0 MW)	
Independent Power Producers (1,135 MW)	
TOTAL DEPENDABLE CAPACITY RESOURCES	**11,672**

TABLE 3.2

DUKE ENERGY FLORIDA
FIRM RENEWABLES
AND COGENERATION CONTRACTS

AS OF DECEMBER 31, 2022

Facility Name	Firm Capacity (MW)
Mulberry	115
Orange Cogen (CFR-Biogen)	104
Orlando Cogen	115
Pasco County Resource Recovery	23
Pinellas County Resource Recovery	54.8
TOTAL	**411.8**

DUKE ENERGY FLORIDA

SCHEDULE 7.1

FORECAST OF CAPACITY, DEMAND AND SCHEDULED MAINTENANCE
AT TIME OF SUMMER PEAK

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	TOTAL INSTALLED CAPACITY	FIRM[a] CAPACITY IMPORT	FIRM CAPACITY EXPORT	QF[b]	TOTAL CAPACITY AVAILABLE	SYSTEM FIRM SUMMER PEAK DEMAND	RESERVE MARGIN BEFORE MAINTENANCE		SCHEDULED MAINTENANCE	RESERVE MARGIN AFTER MAINTENANCE	
YEAR	MW	MW	MW	MW	MW	MW	MW	% OF PEAK	MW	MW	% OF PEAK
2023	10,293	1,472	0	78	11,843	8,270	3,574	43%	0	3,574	43%
2024	10,418	876	0	78	11,371	8,899	2,473	28%	0	2,473	28%
2025	11,107	761	0	0	11,868	8,728	3,139	36%	0	3,139	36%
2026	11,040	657	0	0	11,697	8,814	2,883	33%	0	2,883	33%
2027	10,892	0	0	0	10,892	8,868	2,024	23%	0	2,024	23%
2028	10,932	0	0	0	10,932	8,932	2,000	22%	0	2,000	22%
2029	10,965	0	0	0	10,965	9,019	1,946	22%	0	1,946	22%
2030	11,006	0	0	0	11,006	9,128	1,879	21%	0	1,879	21%
2031	11,057	0	0	0	11,057	9,205	1,852	20%	0	1,852	20%
2032	11,252	0	0	0	11,252	9,366	1,886	20%	0	1,886	20%

Notes:

a. FIRM Capacity Import includes Cogeneration, Utility and Independent Power Producers, and Short Term Purchase Contracts.

b. QF includes Firm Renewables

DUKE ENERGY FLORIDA

SCHEDULE 7.2

FORECAST OF CAPACITY, DEMAND AND SCHEDULED MAINTENANCE
AT TIME OF WINTER PEAK

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	TOTAL INSTALLED CAPACITY	FIRM[a] CAPACITY IMPORT	FIRM CAPACITY EXPORT	QF[b]	TOTAL CAPACITY AVAILABLE	SYSTEM FIRM WINTER PEAK DEMAND	RESERVE MARGIN BEFORE MAINTENANCE		SCHEDULED MAINTENANCE	RESERVE MARGIN AFTER MAINTENANCE	
YEAR	MW	MW	MW	MW	MW	MW	MW	% OF PEAK	MW	MW	% OF PEAK
2022/23	10,723	1,558	0	78	12,359	8,204	4,155	51%	0	4,155	51%
2023/24	10,723	1,443	0	78	12,244	9,163	3,081	34%	0	3,081	34%
2024/25	11,223	805	0	0	12,028	8,954	3,074	34%	0	3,074	34%
2025/26	11,106	701	0	0	11,807	8,979	2,828	31%	0	2,828	31%
2026/27	11,283	701	0	0	11,984	9,004	2,980	33%	0	2,980	33%
2027/28	10,892	0	0	0	10,892	8,427	2,465	29%	0	2,465	29%
2028/29	10,892	0	0	0	10,892	8,494	2,398	28%	0	2,398	28%
2029/30	10,959	0	0	0	10,959	8,583	2,376	28%	0	2,376	28%
2030/31	11,026	0	0	0	11,026	8,639	2,388	28%	0	2,388	28%
2031/32	11,093	0	0	0	11,093	8,766	2,327	27%	0	2,327	27%

Notes:

a. FIRM Capacity Import includes Cogeneration, Utility and Independent Power Producers, and Short Term Purchase Contracts.

b. QF includes Firm Renewables

DUKE ENERGY FLORIDA

SCHEDULE 8

PLANNED AND PROSPECTIVE GENERATING FACILITY ADDITIONS AND CHANGES

AS OF JANUARY 1, 2023 THROUGH DECEMBER 31, 2032

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
												FIRM			
								CONST.	COM'L IN-	EXPECTED	GEN. MAX.	NET CAPABILITY			
	UNIT	LOCATION	UNIT	FUEL		FUEL TRANSPORT		START	SERVICE	RETIREMENT	NAMEPLATE	SUMMER	WINTER		
PLANT NAME	NO.	(COUNTY)	TYPE	PRI.	ALT.	PRI.	ALT.	MO. / YR	MO. / YR	MO. / YR	KW	MW	MW	STATUS[a]	NOTES[b]
BAY RANCH	1	BAY	PV	SO				09/2022	05/2023		74,900	43	0	P	(1)
HILDRETH	1	SUWANNEE	PV	SO				09/2022	05/2023		74,900	43	0	P	(1)
HARDEETOWN	1	LEVY	PV	SO				09/2022	05/2023		74,900	43	0	P	(1)
OSPREY CC	1	POLK	CC	NG	DFO	PL	TK	04/2023	06/2023			16	15	P	(1), (5), (6)
HIGH SPRINGS	1	ALACHUA	PV	SO				11/2022	07/2023		74,900	43	0	P	(1)
SOLAR DEGRADATION	N/A	N/A	N/A	N/A		N/A		N/A	N/A	N/A	N/A	(2)			(2)
MULE CREEK	1	BAY	PV	SO				06/2023	02/2024		74,900	43	0	P	(1)
WINQUEPIN	1	MADISON	PV	SO				06/2023	02/2024		74,900	43	0	P	(1)
FALMOUTH	1	SUWANNEE	PV	SO				07/2023	03/2024		74,900	43	0	P	(1)
OSPREY CC	1	POLK	CC	NG	DFO	PL	TK		11/2024			351	400	P	(3)
P L BARTOW	4	PINELLAS	CC	NG	DFO	PL	TK	09/2024	11/2024			100	100	P	(1) and (5)
SOLAR DEGRADATION	N/A	N/A	N/A	N/A		N/A		N/A	N/A	N/A	N/A	(3)			(2)
UNKNOWN		UNKNOWN	PV	SO				05/2024	01/2025		149,800	37	0	P	(1) and (4)
COUNTY LINE	1	GILCHRIST	PV	SO				06/2024	02/2025		74,900	43	0		(1)
HINES	2	POLK	CC	NG	DFO	PL	TK	03/2025	05/2025			65	65	P	(1) and (5)
TIGER BAY	1	POLK	CC	NG	DFO	PL	TK	03/2025	05/2025			22	22	P	(1) and (5)
UNKNOWN		UNKNOWN	PV	SO				12/2024	08/2025		299,600	75	0	P	(1) and (4)
CITRUS	PB1	CITRUS	CC	NG				10/2025	12/2025			22	22	P	(1) and (5)
BAYBORO	P1 - P4	PINELLAS	CT	DFO		WA				12/2025		(171)	(226)		
SOLAR DEGRADATION	N/A	N/A	N/A	N/A		N/A		N/A	N/A	N/A	N/A	(4)			(2)
CITRUS	PB2	CITRUS	CC	NG				02/2026	04/2026			22	22	P	(1) and (5)
HINES	3	POLK	CC	NG	DFO	PL	TK	03/2026	05/2026			65	65	P	(1) and (5)
UNKNOWN		UNKNOWN	PV	SO				04/2026	12/2026		299,600	75	0	P	(1) and (4)
SOLAR DEGRADATION	N/A	N/A	N/A	N/A		N/A		N/A	N/A	N/A	N/A	(5)			(2)
UNKNOWN		UNKNOWN	BA	N/A		N/A		01/2026	01/2027		100,000	90	90	P	(1)
DEBARY	P2 - P6	VOLUSIA	CT	DFO		TK				06/2027		(227)	(292)		
BARTOW	P1, P3	PINELLAS	CT	DFO		WA				06/2027		(82)	(101)		
UNKNOWN		UNKNOWN	PV	SO				04/2027	12/2027		299,600	37	0	P	(1) and (4)
UNIVERSITY OF FLORIDA	P1	ALACHUA	GT	NG		PL				11/2027		(44)	(50)		
HINES	4	POLK	CC	NG	DFO	PL	TK	10/2027	12/2027			52	52	P	(1) and (5)
SOLAR DEGRADATION	N/A	N/A	N/A	N/A		N/A		N/A	N/A	N/A	N/A	(5)			(2)

a. See page v. for Code Identification of Future Generating Unit Status.

b. NOTES

(1) Planned, Prospective, or Committed project.

(2) Solar capacity degrades by 0.5% every year

(3) Osprey CC Acquisition total capacity is available once Transmission Upgrades are in service, total Summer capacity goes up to 596MW and total Winter capacity goes up to 645MW

(4) Multiple 74.9 MWs units at different sites. For SPS, 37.5 MW of storage for 74.9 MW of Solar PV.

(5) Combustion Turbines Heat Rate upgrades for Combined Cycles

(6) This uprate will not impact January, June, July, or August MWs because of the transmission limitation

DUKE ENERGY FLORIDA

SCHEDULE 8

PLANNED AND PROSPECTIVE GENERATING FACILITY ADDITIONS AND CHANGES

AS OF JANUARY 1, 2023 THROUGH DECEMBER 31, 2032

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
												FIRM			
								CONST.	COM'L IN-	EXPECTED	GEN. MAX.	NET CAPABILITY			
	UNIT	LOCATION	UNIT	FUEL		UEL TRANSPOR		START	SERVICE	RETIREMENT	NAMEPLATE	SUMMER	WINTER		
PLANT NAME	NO.	(COUNTY)	TYPE	PRI.	ALT.	PRI.	ALT.	MO. / YR	MO. / YR	MO. / YR	KW	MW	MW	STATUS[a]	NOTES[b]
UNKNOWN		UNKNOWN	PV	SO				04/2028	12/2028		299,600	37	0	P	(1) and (4)
SOLAR DEGRADATION	N/A	N/A	N/A	N/A		N/A		N/A	N/A	N/A	N/A	(5)			(2)
UNKNOWN		UNKNOWN	PV	SO				04/2029	12/2029		224,700	28	0	P	(1) and (4)
UNKNOWN		UNKNOWN	SPS	SO				04/2029	12/2029		149,800	19	67	P	(1) and (4)
SOLAR DEGRADATION	N/A	N/A	N/A	N/A		N/A		N/A	N/A	N/A	N/A	(5)			(2)
UNKNOWN		UNKNOWN	PV	SO				04/2030	12/2030		299,600	37	0	P	(1) and (4)
UNKNOWN		UNKNOWN	SPS	SO				04/2030	12/2030		149,800	19	67	P	(1) and (4)
SOLAR DEGRADATION	N/A	N/A	N/A	N/A		N/A		N/A	N/A	N/A	N/A	(6)			(2)
UNKNOWN		UNKNOWN	PV	SO				04/2031	12/2031		374,500	47	0	P	(1) and (4)
UNKNOWN		UNKNOWN	SPS	SO				04/2031	12/2031		149,800	19	67	P	(1) and (4)
SOLAR DEGRADATION	N/A	N/A	N/A	N/A		N/A		N/A	N/A	N/A	N/A	(6)			(2)
UNKNOWN		UNKNOWN	BA	N/A		N/A		06/2031	06/2032		150,000	135	135	P	(1)
UNKNOWN		UNKNOWN	PV	SO				04/2032	12/2032		449,400	56	0	P	(1) and (4)
SOLAR DEGRADATION	N/A	N/A	N/A	N/A		N/A		N/A	N/A	N/A	N/A	(6)			(2)

a. See page v. for Code Identification of Future Generating Unit Status.

b. NOTES

(1) Planned, Prospective, or Committed project.

(2) Solar capacity degrades by 0.5% every year

(3) Osprey CC Acquisition total capacity is available once Transmission Upgrades are in service, total Summer capacity goes up to 596MW and total Winter capacity goes up to 645MW

(4) Multiple 74.9 MWs units at different sites. For SPS, 37.5 MW of storage for 74.9 MW of Solar PV.

(5) Combustion Turbines Heat Rate upgrades for Combined Cycles

(6) This uprate will not impact January, June, July, or August MWs because of the transmission limitation

DUKE ENERGY FLORIDA

SCHEDULE 9
STATUS REPORT AND SPECIFICATIONS OF PROPOSED GENERATING FACILITIES
AS OF JANUARY 1, 2023

(1)	Plant Name and Unit Number:		**Bay Ranch**	
(2)	Capacity			
	a. Nameplate (MWac):		74.9	
	b. Summer Firm (MWac):		42.7	
	c. Winter Firm (MWac):		-	
(3)	Technology Type:		PHOTOVOLTAIC	
(4)	Anticipated Construction Timing			
	a. Field construction start date:		9/2022	
	b. Commercial in-service date:		5/2023	(EXPECTED)
(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:		~500-600 ACRES	
(9)	Construction Status:		PLANNED	
(10)	Certification Status:			
(11)	Status with Federal Agencies:			
(12)	Projected Unit Performance Data			
	a. Planned Outage Factor (POF):		N/A	%
	b. Forced Outage Factor (FOF):		N/A	%
	c. Equivalent Availability Factor (EAF):		N/A	%
	d. Resulting Capacity Factor (%):		~28	%
	e. Average Net Operating Heat Rate (ANOHR):		N/A	BTU/Kwh
(13)	Projected Unit Financial Data			
	a. Book Life (Years):		30	
	b. Total Installed Cost (In-service year $/Kw):		1,272.64	
	c. Direct Construction Cost ($/Kw ac):	($2023)		
	d. AFUDC Amount ($/Kw):			
	e. Escalation ($/Kw):			
	f. Fixed O&M ($/Kw dc-yr):	($2023)	10.30	
	g. Variable O&M ($/MWh):	($2023)	0.00	
	h. K Factor:		NO CALCULATION	

DUKE ENERGY FLORIDA

SCHEDULE 9
STATUS REPORT AND SPECIFICATIONS OF PROPOSED GENERATING FACILITIES
AS OF JANUARY 1, 2023

(1)	Plant Name and Unit Number:		**Hildreth**	
(2)	Capacity			
	a. Nameplate (MWac):		74.9	
	b. Summer Firm (MWac):		42.7	
	c. Winter Firm (MWac):		-	
(3)	Technology Type:		PHOTOVOLTAIC	
(4)	Anticipated Construction Timing			
	a. Field construction start date:		9/2022	
	b. Commercial in-service date:		5/2023	(EXPECTED)
(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:		~500-600 ACRES	
(9)	Construction Status:		PLANNED	
(10)	Certification Status:			
(11)	Status with Federal Agencies:			
(12)	Projected Unit Performance Data			
	a. Planned Outage Factor (POF):		N/A	%
	b. Forced Outage Factor (FOF):		N/A	%
	c. Equivalent Availability Factor (EAF):		N/A	%
	d. Resulting Capacity Factor (%):		~28	%
	e. Average Net Operating Heat Rate (ANOHR):		N/A	BTU/Kwh
(13)	Projected Unit Financial Data			
	a. Book Life (Years):		30	
	b. Total Installed Cost (In-service year $/Kw):		1,272.64	
	c. Direct Construction Cost ($/Kw ac):	($2023)		
	d. AFUDC Amount ($/Kw):			
	e. Escalation ($/Kw):			
	f. Fixed O&M ($/Kw dc-yr):	($2023)	10.30	
	g. Variable O&M ($/MWh):	($2023)	0.00	
	h. K Factor:		NO CALCULATION	

DUKE ENERGY FLORIDA

SCHEDULE 9
STATUS REPORT AND SPECIFICATIONS OF PROPOSED GENERATING FACILITIES
AS OF JANUARY 1, 2023

(1)	Plant Name and Unit Number:		**Hardeetown**	
(2)	Capacity			
	a. Nameplate (MWac):		74.9	
	b. Summer Firm (MWac):		42.7	
	c. Winter Firm (MWac):		-	
(3)	Technology Type:		PHOTOVOLTAIC	
(4)	Anticipated Construction Timing			
	a. Field construction start date:		9/2022	
	b. Commercial in-service date:		5/2023	(EXPECTED)
(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:		~500-600 ACRES	
(9)	Construction Status:		PLANNED	
(10)	Certification Status:			
(11)	Status with Federal Agencies:			
(12)	Projected Unit Performance Data			
	a. Planned Outage Factor (POF):		N/A	%
	b. Forced Outage Factor (FOF):		N/A	%
	c. Equivalent Availability Factor (EAF):		N/A	%
	d. Resulting Capacity Factor (%):		~28	%
	e. Average Net Operating Heat Rate (ANOHR):		N/A	BTU/Kwh
(13)	Projected Unit Financial Data			
	a. Book Life (Years):		30	
	b. Total Installed Cost (In-service year $/Kw):		1,272.64	
	c. Direct Construction Cost ($/Kw ac):	($2023)		
	d. AFUDC Amount ($/Kw):			
	e. Escalation ($/Kw):			
	f. Fixed O&M ($/Kw dc-yr):	($2023)	10.30	
	g. Variable O&M ($/MWh):	($2023)	0.00	
	h. K Factor:		NO CALCULATION	

DUKE ENERGY FLORIDA

SCHEDULE 9
STATUS REPORT AND SPECIFICATIONS OF PROPOSED GENERATING FACILITIES
AS OF JANUARY 1, 2023

(1)	Plant Name and Unit Number:		**High Springs**	
(2)	Capacity			
	a. Nameplate (MWac):		74.9	
	b. Summer Firm (MWac):		42.7	
	c. Winter Firm (MWac):		-	
(3)	Technology Type:		PHOTOVOLTAIC	
(4)	Anticipated Construction Timing			
	a. Field construction start date:		11/2022	
	b. Commercial in-service date:		7/2023	(EXPECTED)
(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:		~500-600 ACRES	
(9)	Construction Status:		PLANNED	
(10)	Certification Status:			
(11)	Status with Federal Agencies:			
(12)	Projected Unit Performance Data			
	a. Planned Outage Factor (POF):		N/A %	
	b. Forced Outage Factor (FOF):		N/A %	
	c. Equivalent Availability Factor (EAF):		N/A %	
	d. Resulting Capacity Factor (%):		~28 %	
	e. Average Net Operating Heat Rate (ANOHR):		N/A BTU/Kwh	
(13)	Projected Unit Financial Data			
	a. Book Life (Years):		30	
	b. Total Installed Cost (In-service year $/Kw):		1,272.64	
	c. Direct Construction Cost ($/Kw ac):	($2023)		
	d. AFUDC Amount ($/Kw):			
	e. Escalation ($/Kw):			
	f. Fixed O&M ($/Kw dc-yr):	($2023)	10.30	
	g. Variable O&M ($/MWh):	($2023)	0.00	
	h. K Factor:		NO CALCULATION	

DUKE ENERGY FLORIDA

SCHEDULE 9
STATUS REPORT AND SPECIFICATIONS OF PROPOSED GENERATING FACILITIES
AS OF JANUARY 1, 2023

(1)	Plant Name and Unit Number:		**Mule Creek**	
(2)	Capacity			
	a. Nameplate (MWac):		74.9	
	b. Summer Firm (MWac):		42.7	
	c. Winter Firm (MWac):		-	
(3)	Technology Type:		PHOTOVOLTAIC	
(4)	Anticipated Construction Timing			
	a. Field construction start date:		6/2023	
	b. Commercial in-service date:		2/2024	(EXPECTED)
(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:		~500-600 ACRES PER SOLAR SITE (74.9 MW)	
(9)	Construction Status:		PLANNED	
(10)	Certification Status:			
(11)	Status with Federal Agencies:			
(12)	Projected Unit Performance Data			
	a. Planned Outage Factor (POF):		N/A	%
	b. Forced Outage Factor (FOF):		N/A	%
	c. Equivalent Availability Factor (EAF):		N/A	%
	d. Resulting Capacity Factor (%):		~28	%
	e. Average Net Operating Heat Rate (ANOHR):		N/A	BTU/Kwh
(13)	Projected Unit Financial Data			
	a. Book Life (Years):		30	
	b. Total Installed Cost (In-service year $/Kw):		1,221.86	
	c. Direct Construction Cost ($/Kw ac):	($2023)		
	d. AFUDC Amount ($/Kw):			
	e. Escalation ($/Kw):			
	f. Fixed O&M ($/Kw dc-yr):	($2023)	10.30	
	g. Variable O&M ($/MWh):	($2023)	0.00	
	h. K Factor:		NO CALCULATION	

DUKE ENERGY FLORIDA

SCHEDULE 9
STATUS REPORT AND SPECIFICATIONS OF PROPOSED GENERATING FACILITIES
AS OF JANUARY 1, 2023

(1)	Plant Name and Unit Number:		**Winquepin**	
(2)	Capacity			
	a. Nameplate (MWac):		74.9	
	b. Summer Firm (MWac):		42.7	
	c. Winter Firm (MWac):		-	
(3)	Technology Type:		PHOTOVOLTAIC	
(4)	Anticipated Construction Timing			
	a. Field construction start date:		6/2023	
	b. Commercial in-service date:		2/2024	(EXPECTED)
(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:		~500-600 ACRES PER SOLAR SITE (74.9 MW)	
(9)	Construction Status:		PLANNED	
(10)	Certification Status:			
(11)	Status with Federal Agencies:			
(12)	Projected Unit Performance Data			
	a. Planned Outage Factor (POF):		N/A	%
	b. Forced Outage Factor (FOF):		N/A	%
	c. Equivalent Availability Factor (EAF):		N/A	%
	d. Resulting Capacity Factor (%):		~28	%
	e. Average Net Operating Heat Rate (ANOHR):		N/A	BTU/Kwh
(13)	Projected Unit Financial Data			
	a. Book Life (Years):		30	
	b. Total Installed Cost (In-service year $/Kw):		1,221.86	
	c. Direct Construction Cost ($/Kw ac):	($2023)		
	d. AFUDC Amount ($/Kw):			
	e. Escalation ($/Kw):			
	f. Fixed O&M ($/Kw dc-yr):	($2023)	10.30	
	g. Variable O&M ($/MWh):	($2023)	0.00	
	h. K Factor:		NO CALCULATION	

DUKE ENERGY FLORIDA

SCHEDULE 9
STATUS REPORT AND SPECIFICATIONS OF PROPOSED GENERATING FACILITIES
AS OF JANUARY 1, 2023

(1)	Plant Name and Unit Number:		**Falmouth**	
(2)	Capacity			
	a. Nameplate (MWac):		74.9	
	b. Summer Firm (MWac):		42.7	
	c. Winter Firm (MWac):		-	
(3)	Technology Type:		PHOTOVOLTAIC	
(4)	Anticipated Construction Timing			
	a. Field construction start date:		7/2023	
	b. Commercial in-service date:		3/2024	(EXPECTED)
(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:		~500-600 ACRES PER SOLAR SITE (74.9 MW)	
(9)	Construction Status:		PLANNED	
(10)	Certification Status:			
(11)	Status with Federal Agencies:			
(12)	Projected Unit Performance Data			
	a. Planned Outage Factor (POF):		N/A %	
	b. Forced Outage Factor (FOF):		N/A %	
	c. Equivalent Availability Factor (EAF):		N/A %	
	d. Resulting Capacity Factor (%):		~28 %	
	e. Average Net Operating Heat Rate (ANOHR):		N/A BTU/Kwh	
(13)	Projected Unit Financial Data			
	a. Book Life (Years):		30	
	b. Total Installed Cost (In-service year $/Kw):		1,221.86	
	c. Direct Construction Cost ($/Kw ac):	($2023)		
	d. AFUDC Amount ($/Kw):			
	e. Escalation ($/Kw):			
	f. Fixed O&M ($/Kw dc-yr):	($2023)	10.30	
	g. Variable O&M ($/MWh):	($2023)	0.00	
	h. K Factor:		NO CALCULATION	

DUKE ENERGY FLORIDA

SCHEDULE 9
STATUS REPORT AND SPECIFICATIONS OF PROPOSED GENERATING FACILITIES
AS OF JANUARY 1, 2023

(1)	Plant Name and Unit Number:		**County Line**	
(2)	Capacity			
	a. Nameplate (MWac):		74.9	
	b. Summer Firm (MWac):		42.7	
	c. Winter Firm (MWac):		-	
(3)	Technology Type:		PHOTOVOLTAIC	
(4)	Anticipated Construction Timing			
	a. Field construction start date:		6/2024	
	b. Commercial in-service date:		2/2025	(EXPECTED)
(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:		~500-600 ACRES PER SOLAR SITE (74.9 MW)	
(9)	Construction Status:		PLANNED	
(10)	Certification Status:			
(11)	Status with Federal Agencies:			
(12)	Projected Unit Performance Data			
	a. Planned Outage Factor (POF):		N/A %	
	b. Forced Outage Factor (FOF):		N/A %	
	c. Equivalent Availability Factor (EAF):		N/A %	
	d. Resulting Capacity Factor (%):		~28 %	
	e. Average Net Operating Heat Rate (ANOHR):		N/A BTU/Kwh	
(13)	Projected Unit Financial Data			
	a. Book Life (Years):		30	
	b. Total Installed Cost (In-service year $/Kw):		1,221.86	
	c. Direct Construction Cost ($/Kw ac):	($2023)		
	d. AFUDC Amount ($/Kw):			
	e. Escalation ($/Kw):			
	f. Fixed O&M ($/Kw dc-yr):	($2023)	10.30	
	g. Variable O&M ($/MWh):	($2023)	0.00	
	h. K Factor:		NO CALCULATION	

DUKE ENERGY FLORIDA

SCHEDULE 9
STATUS REPORT AND SPECIFICATIONS OF PROPOSED GENERATING FACILITIES
AS OF JANUARY 1, 2023

(1)	Plant Name and Unit Number:	**TBD**	
(2)	Capacity		
	a. Nameplate (MWac):	149.8	
	b. Summer Firm (MWac):	37.5	
	c. Winter Firm (MWac):	-	
(3)	Technology Type:	PHOTOVOLTAIC	
(4)	Anticipated Construction Timing		
	a. Field construction start date:	5/2024	
	b. Commercial in-service date:	1/2025	(EXPECTED)
(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:	~500-600 ACRES PER SOLAR SITE (74.9 MW)	
(9)	Construction Status:	PLANNED	
(10)	Certification Status:		
(11)	Status with Federal Agencies:		
(12)	Projected Unit Performance Data		
	a. Planned Outage Factor (POF):	N/A %	
	b. Forced Outage Factor (FOF):	N/A %	
	c. Equivalent Availability Factor (EAF):	N/A %	
	d. Resulting Capacity Factor (%):	~28 %	
	e. Average Net Operating Heat Rate (ANOHR):	N/A BTU/Kwh	
(13)	Projected Unit Financial Data		
	a. Book Life (Years):	30	
	b. Total Installed Cost (In-service year $/Kw):	1,700.40	
	c. Direct Construction Cost ($/Kw ac): ($2023)		
	d. AFUDC Amount ($/Kw):		
	e. Escalation ($/Kw):		
	f. Fixed O&M ($/Kw dc-yr): ($2023)		
	g. Variable O&M ($/MWh): ($2023)	0.00	
	h. K Factor:	NO CALCULATION	

DUKE ENERGY FLORIDA

SCHEDULE 9
STATUS REPORT AND SPECIFICATIONS OF PROPOSED GENERATING FACILITIES
AS OF JANUARY 1, 2023

(1)	Plant Name and Unit Number:	**TBD**	
(2)	Capacity		
	a. Nameplate (MWac):	299.6	
	b. Summer Firm (MWac):	74.9	
	c. Winter Firm (MWac):	-	
(3)	Technology Type:	PHOTOVOLTAIC	
(4)	Anticipated Construction Timing		
	a. Field construction start date:	12/2024	
	b. Commercial in-service date:	8/2025	(EXPECTED)
(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:	~500-600 ACRES PER SOLAR SITE (74.9 MW)	
(9)	Construction Status:	PLANNED	
(10)	Certification Status:		
(11)	Status with Federal Agencies:		
(12)	Projected Unit Performance Data		
	a. Planned Outage Factor (POF):	N/A %	
	b. Forced Outage Factor (FOF):	N/A %	
	c. Equivalent Availability Factor (EAF):	N/A %	
	d. Resulting Capacity Factor (%):	~28 %	
	e. Average Net Operating Heat Rate (ANOHR):	N/A BTU/Kwh	
(13)	Projected Unit Financial Data		
	a. Book Life (Years):	30	
	b. Total Installed Cost (In-service year $/Kw):	1,700.40	
	c. Direct Construction Cost ($/Kw ac): ($2023)		
	d. AFUDC Amount ($/Kw):		
	e. Escalation ($/Kw):		
	f. Fixed O&M ($/Kw dc-yr): ($2023)		
	g. Variable O&M ($/MWh): ($2023)	0.00	
	h. K Factor:	NO CALCULATION	

DUKE ENERGY FLORIDA

SCHEDULE 9
STATUS REPORT AND SPECIFICATIONS OF PROPOSED GENERATING FACILITIES
AS OF JANUARY 1, 2023

(1)	Plant Name and Unit Number:	**TBD**	
(2)	Capacity		
	a. Nameplate (MWac):	299.6	
	b. Summer Firm (MWac):	74.9	
	c. Winter Firm (MWac):	-	
(3)	Technology Type:	PHOTOVOLTAIC	
(4)	Anticipated Construction Timing		
	a. Field construction start date:	4/2026	
	b. Commercial in-service date:	12/2026	(EXPECTED)
(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:	~500-600 ACRES PER SOLAR SITE (74.9 MW)	
(9)	Construction Status:	PLANNED	
(10)	Certification Status:		
(11)	Status with Federal Agencies:		
(12)	Projected Unit Performance Data		
	a. Planned Outage Factor (POF):	N/A %	
	b. Forced Outage Factor (FOF):	N/A %	
	c. Equivalent Availability Factor (EAF):	N/A %	
	d. Resulting Capacity Factor (%):	~28 %	
	e. Average Net Operating Heat Rate (ANOHR):	N/A BTU/Kwh	
(13)	Projected Unit Financial Data		
	a. Book Life (Years):	30	
	b. Total Installed Cost (In-service year $/Kw):	1,682.74	
	c. Direct Construction Cost ($/Kw ac): ($2023)		
	d. AFUDC Amount ($/Kw):		
	e. Escalation ($/Kw):		
	f. Fixed O&M ($/Kw dc-yr): ($2023)		
	g. Variable O&M ($/MWh): ($2023)	0.00	
	h. K Factor:	NO CALCULATION	

DUKE ENERGY FLORIDA

SCHEDULE 9
STATUS REPORT AND SPECIFICATIONS OF PROPOSED GENERATING FACILITIES
AS OF JANUARY 1, 2023

(1)	Plant Name and Unit Number:	**TBD**		
(2)	Capacity			
	a. Nameplate (MWac):	100.0		
	b. Summer Firm (MWac):	90.0		
	c. Winter Firm (MWac):	90.0		
(3)	Technology Type:	BATTERY STORAGE		
(4)	Anticipated Construction Timing			
	a. Field construction start date:	1/2026		
	b. Commercial in-service date:	1/2027	(EXPECTED)	
(5)	Fuel			
	a. Primary fuel:	N/A		
	b. Alternate fuel:	N/A		
(6)	Air Pollution Control Strategy:	N/A		
(7)	Cooling Method:	N/A		
(8)	Total Site Area:	~1 ACRE / 5 MW		
(9)	Construction Status:	PLANNED		
(10)	Certification Status:			
(11)	Status with Federal Agencies:			
(12)	Projected Unit Performance Data			
	a. Planned Outage Factor (POF):		N/A	%
	b. Forced Outage Factor (FOF):		N/A	%
	c. Equivalent Availability Factor (EAF):		N/A	%
	d. Resulting Capacity Factor (%):		~10	%
	e. Average Net Operating Heat Rate (ANOHR):		N/A	BTU/Kwh
(13)	Projected Unit Financial Data			
	a. Book Life (Years):		15	
	b. Total Installed Cost (In-service year $/Kw):		1,650.00	
	c. Direct Construction Cost ($/Kw ac): ($2023)			
	d. AFUDC Amount ($/Kw):			
	e. Escalation ($/Kw):			
	f. Fixed O&M ($/Kw dc-yr): ($2023)			
	g. Variable O&M ($/MWh): ($2023)		0.00	
	h. K Factor:	NO CALCULATION		

DUKE ENERGY FLORIDA

SCHEDULE 9
STATUS REPORT AND SPECIFICATIONS OF PROPOSED GENERATING FACILITIES
AS OF JANUARY 1, 2023

(1)	Plant Name and Unit Number:	**TBD**	
(2)	Capacity		
	a. Nameplate (MWac):	299.6	
	b. Summer Firm (MWac):	37.5	
	c. Winter Firm (MWac):	-	
(3)	Technology Type:	PHOTOVOLTAIC	
(4)	Anticipated Construction Timing		
	a. Field construction start date:	4/2027	
	b. Commercial in-service date:	12/2027	(EXPECTED)
(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:	~500-600 ACRES PER SOLAR SITE (74.9 MW)	
(9)	Construction Status:	PLANNED	
(10)	Certification Status:		
(11)	Status with Federal Agencies:		
(12)	Projected Unit Performance Data		
	a. Planned Outage Factor (POF):	N/A %	
	b. Forced Outage Factor (FOF):	N/A %	
	c. Equivalent Availability Factor (EAF):	N/A %	
	d. Resulting Capacity Factor (%):	~28 %	
	e. Average Net Operating Heat Rate (ANOHR):	N/A BTU/Kwh	
(13)	Projected Unit Financial Data		
	a. Book Life (Years):	30	
	b. Total Installed Cost (In-service year $/Kw):	1,665.61	
	c. Direct Construction Cost ($/Kw ac): ($2023)		
	d. AFUDC Amount ($/Kw):		
	e. Escalation ($/Kw):		
	f. Fixed O&M ($/Kw dc-yr): ($2023)		
	g. Variable O&M ($/MWh): ($2023)	0.00	
	h. K Factor:	NO CALCULATION	

DUKE ENERGY FLORIDA

SCHEDULE 9
STATUS REPORT AND SPECIFICATIONS OF PROPOSED GENERATING FACILITIES
AS OF JANUARY 1, 2023

(1)	Plant Name and Unit Number:	**TBD**	
(2)	Capacity		
	a. Nameplate (MWac):	299.6	
	b. Summer Firm (MWac):	37.5	
	c. Winter Firm (MWac):	-	
(3)	Technology Type:	PHOTOVOLTAIC	
(4)	Anticipated Construction Timing		
	a. Field construction start date:	4/2028	
	b. Commercial in-service date:	12/2028	(EXPECTED)
(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:	~500-600 ACRES PER SOLAR SITE (74.9 MW)	
(9)	Construction Status:	PLANNED	
(10)	Certification Status:		
(11)	Status with Federal Agencies:		
(12)	Projected Unit Performance Data		
	a. Planned Outage Factor (POF):	N/A %	
	b. Forced Outage Factor (FOF):	N/A %	
	c. Equivalent Availability Factor (EAF):	N/A %	
	d. Resulting Capacity Factor (%):	~28 %	
	e. Average Net Operating Heat Rate (ANOHR):	N/A BTU/Kwh	
(13)	Projected Unit Financial Data		
	a. Book Life (Years):	30	
	b. Total Installed Cost (In-service year $/Kw):	1,648.99	
	c. Direct Construction Cost ($/Kw ac): ($2023)		
	d. AFUDC Amount ($/Kw):		
	e. Escalation ($/Kw):		
	f. Fixed O&M ($/Kw dc-yr): ($2023)		
	g. Variable O&M ($/MWh): ($2023)	0.00	
	h. K Factor:	NO CALCULATION	

DUKE ENERGY FLORIDA

SCHEDULE 9
STATUS REPORT AND SPECIFICATIONS OF PROPOSED GENERATING FACILITIES
AS OF JANUARY 1, 2023

(1)	Plant Name and Unit Number:	**TBD**	
(2)	Capacity		
	a. Nameplate (MWac):	224.7	
	b. Summer Firm (MWac):	28.1	
	c. Winter Firm (MWac):	-	
(3)	Technology Type:	PHOTOVOLTAIC	
(4)	Anticipated Construction Timing		
	a. Field construction start date:	4/2029	
	b. Commercial in-service date:	12/2029	(EXPECTED)
(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:	~500-600 ACRES PER SOLAR SITE (74.9 MW)	
(9)	Construction Status:	PLANNED	
(10)	Certification Status:		
(11)	Status with Federal Agencies:		
(12)	Projected Unit Performance Data		
	a. Planned Outage Factor (POF):	N/A %	
	b. Forced Outage Factor (FOF):	N/A %	
	c. Equivalent Availability Factor (EAF):	N/A %	
	d. Resulting Capacity Factor (%):	~28 %	
	e. Average Net Operating Heat Rate (ANOHR):	N/A BTU/Kwh	
(13)	Projected Unit Financial Data		
	a. Book Life (Years):	30	
	b. Total Installed Cost (In-service year $/Kw):	1,632.89	
	c. Direct Construction Cost ($/Kw ac): ($2023)		
	d. AFUDC Amount ($/Kw):		
	e. Escalation ($/Kw):		
	f. Fixed O&M ($/Kw dc-yr): ($2023)		
	g. Variable O&M ($/MWh): ($2023)	0.00	
	h. K Factor:	NO CALCULATION	

DUKE ENERGY FLORIDA

SCHEDULE 9
STATUS REPORT AND SPECIFICATIONS OF PROPOSED GENERATING FACILITIES
AS OF JANUARY 1, 2023

(1)	Plant Name and Unit Number:	**TBD**	
(2)	Capacity		
	a. Nameplate (MWac):	149.8	
	b. Summer Firm (MWac):	18.7	
	c. Winter Firm (MWac):	67.4	
(3)	Technology Type:	PHOTOVOLTAIC WITH BATTERY STORAGE	
(4)	Anticipated Construction Timing		
	a. Field construction start date:	4/2029	
	b. Commercial in-service date:	12/2029	(EXPECTED)
(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:	~500-600 ACRES PER SOLAR SITE (74.9 MW)	
(9)	Construction Status:	PLANNED	
(10)	Certification Status:		
(11)	Status with Federal Agencies:		
(12)	Projected Unit Performance Data		
	a. Planned Outage Factor (POF):		N/A %
	b. Forced Outage Factor (FOF):		N/A %
	c. Equivalent Availability Factor (EAF):		N/A %
	d. Resulting Capacity Factor (%):		~34 %
	e. Average Net Operating Heat Rate (ANOHR):		N/A BTU/Kwh
(13)	Projected Unit Financial Data		
	a. Book Life (Years):		30
	b. Total Installed Cost (In-service year $/Kw):		2,470.83
	c. Direct Construction Cost ($/Kw ac): ($2023)		
	d. AFUDC Amount ($/Kw):		
	e. Escalation ($/Kw):		
	f. Fixed O&M ($/Kw dc-yr): ($2023)		
	g. Variable O&M ($/MWh): ($2023)		0.00
	h. K Factor:	NO CALCULATION	

DUKE ENERGY FLORIDA

SCHEDULE 9
STATUS REPORT AND SPECIFICATIONS OF PROPOSED GENERATING FACILITIES
AS OF JANUARY 1, 2023

(1)	Plant Name and Unit Number:		**TBD**	
(2)	Capacity			
	a. Nameplate (MWac):		299.6	
	b. Summer Firm (MWac):		37.5	
	c. Winter Firm (MWac):		-	
(3)	Technology Type:		PHOTOVOLTAIC	
(4)	Anticipated Construction Timing			
	a. Field construction start date:		4/2030	
	b. Commercial in-service date:		12/2030	(EXPECTED)
(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:		~500-600 ACRES PER SOLAR SITE (74.9 MW)	
(9)	Construction Status:		PLANNED	
(10)	Certification Status:			
(11)	Status with Federal Agencies:			
(12)	Projected Unit Performance Data			
	a. Planned Outage Factor (POF):		N/A	%
	b. Forced Outage Factor (FOF):		N/A	%
	c. Equivalent Availability Factor (EAF):		N/A	%
	d. Resulting Capacity Factor (%):		~28	%
	e. Average Net Operating Heat Rate (ANOHR):		N/A	BTU/Kwh
(13)	Projected Unit Financial Data			
	a. Book Life (Years):		30	
	b. Total Installed Cost (In-service year $/Kw):		1,617.30	
	c. Direct Construction Cost ($/Kw ac):	($2023)		
	d. AFUDC Amount ($/Kw):			
	e. Escalation ($/Kw):			
	f. Fixed O&M ($/Kw dc-yr):	($2023)		
	g. Variable O&M ($/MWh):	($2023)	0.00	
	h. K Factor:		NO CALCULATION	

DUKE ENERGY FLORIDA

SCHEDULE 9
STATUS REPORT AND SPECIFICATIONS OF PROPOSED GENERATING FACILITIES
AS OF JANUARY 1, 2023

(1)	Plant Name and Unit Number:	**TBD**	
(2)	Capacity		
	a. Nameplate (MWac):	149.8	
	b. Summer Firm (MWac):	18.7	
	c. Winter Firm (MWac):	67.4	
(3)	Technology Type:	PHOTOVOLTAIC WITH BATTERY STORAGE	
(4)	Anticipated Construction Timing		
	a. Field construction start date:	4/2030	
	b. Commercial in-service date:	12/2030	(EXPECTED)
(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:	~500-600 ACRES PER SOLAR SITE (74.9 MW)	
(9)	Construction Status:	PLANNED	
(10)	Certification Status:		
(11)	Status with Federal Agencies:		
(12)	Projected Unit Performance Data		
	a. Planned Outage Factor (POF):	N/A %	
	b. Forced Outage Factor (FOF):	N/A %	
	c. Equivalent Availability Factor (EAF):	N/A %	
	d. Resulting Capacity Factor (%):	~34 %	
	e. Average Net Operating Heat Rate (ANOHR):	N/A BTU/Kwh	
(13)	Projected Unit Financial Data		
	a. Book Life (Years):	30	
	b. Total Installed Cost (In-service year $/Kw):	2,444.11	
	c. Direct Construction Cost ($/Kw ac): ($2023)		
	d. AFUDC Amount ($/Kw):		
	e. Escalation ($/Kw):		
	f. Fixed O&M ($/Kw dc-yr): ($2023)		
	g. Variable O&M ($/MWh): ($2023)	0.00	
	h. K Factor:	NO CALCULATION	

DUKE ENERGY FLORIDA

SCHEDULE 9
STATUS REPORT AND SPECIFICATIONS OF PROPOSED GENERATING FACILITIES
AS OF JANUARY 1, 2023

(1)	Plant Name and Unit Number:	**TBD**	
(2)	Capacity		
	a. Nameplate (MWac):	374.5	
	b. Summer Firm (MWac):	46.8	
	c. Winter Firm (MWac):	-	
(3)	Technology Type:	PHOTOVOLTAIC	
(4)	Anticipated Construction Timing		
	a. Field construction start date:	4/2031	
	b. Commercial in-service date:	12/2031	(EXPECTED)
(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:	~500-600 ACRES PER SOLAR SITE (74.9 MW)	
(9)	Construction Status:	PLANNED	
(10)	Certification Status:		
(11)	Status with Federal Agencies:		
(12)	Projected Unit Performance Data		
	a. Planned Outage Factor (POF):	N/A	%
	b. Forced Outage Factor (FOF):	N/A	%
	c. Equivalent Availability Factor (EAF):	N/A	%
	d. Resulting Capacity Factor (%):	~28	%
	e. Average Net Operating Heat Rate (ANOHR):	N/A	BTU/Kwh
(13)	Projected Unit Financial Data		
	a. Book Life (Years):	30	
	b. Total Installed Cost (In-service year $/Kw):	1,602.23	
	c. Direct Construction Cost ($/Kw ac): ($2023)		
	d. AFUDC Amount ($/Kw):		
	e. Escalation ($/Kw):		
	f. Fixed O&M ($/Kw dc-yr): ($2023)		
	g. Variable O&M ($/MWh): ($2023)	0.00	
	h. K Factor:	NO CALCULATION	

DUKE ENERGY FLORIDA

SCHEDULE 9
STATUS REPORT AND SPECIFICATIONS OF PROPOSED GENERATING FACILITIES
AS OF JANUARY 1, 2023

(1)	Plant Name and Unit Number:	**TBD**		
(2)	Capacity			
	a. Nameplate (MWac):	149.8		
	b. Summer Firm (MWac):	18.7		
	c. Winter Firm (MWac):	67.4		
(3)	Technology Type:	PHOTOVOLTAIC WITH BATTERY STORAGE		
(4)	Anticipated Construction Timing			
	a. Field construction start date:	4/2031		
	b. Commercial in-service date:	12/2031	(EXPECTED)	
(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:	~500-600 ACRES PER SOLAR SITE (74.9 MW)		
(9)	Construction Status:	PLANNED		
(10)	Certification Status:			
(11)	Status with Federal Agencies:			
(12)	Projected Unit Performance Data			
	a. Planned Outage Factor (POF):		N/A	%
	b. Forced Outage Factor (FOF):		N/A	%
	c. Equivalent Availability Factor (EAF):		N/A	%
	d. Resulting Capacity Factor (%):		~34	%
	e. Average Net Operating Heat Rate (ANOHR):		N/A	BTU/Kwh
(13)	Projected Unit Financial Data			
	a. Book Life (Years):		30	
	b. Total Installed Cost (In-service year $/Kw):		2,418.04	
	c. Direct Construction Cost ($/Kw ac): ($2023)			
	d. AFUDC Amount ($/Kw):			
	e. Escalation ($/Kw):			
	f. Fixed O&M ($/Kw dc-yr): ($2023)			
	g. Variable O&M ($/MWh): ($2023)		0.00	
	h. K Factor:	NO CALCULATION		

DUKE ENERGY FLORIDA

SCHEDULE 9
STATUS REPORT AND SPECIFICATIONS OF PROPOSED GENERATING FACILITIES
AS OF JANUARY 1, 2023

(1)	Plant Name and Unit Number:	**TBD**	
(2)	Capacity		
	a. Nameplate (MWac):	150.0	
	b. Summer Firm (MWac):	135.0	
	c. Winter Firm (MWac):	135.0	
(3)	Technology Type:	BATTERY STORAGE	
(4)	Anticipated Construction Timing		
	a. Field construction start date:	6/2031	
	b. Commercial in-service date:	6/2032	(EXPECTED)
(5)	Fuel		
	a. Primary fuel:	N/A	
	b. Alternate fuel:	N/A	
(6)	Air Pollution Control Strategy:	N/A	
(7)	Cooling Method:	N/A	
(8)	Total Site Area:	~1 ACRE / 5 MW	
(9)	Construction Status:	PLANNED	
(10)	Certification Status:		
(11)	Status with Federal Agencies:		
(12)	Projected Unit Performance Data		
	a. Planned Outage Factor (POF):	N/A %	
	b. Forced Outage Factor (FOF):	N/A %	
	c. Equivalent Availability Factor (EAF):	N/A %	
	d. Resulting Capacity Factor (%):	~17 %	
	e. Average Net Operating Heat Rate (ANOHR):	N/A BTU/Kwh	
(13)	Projected Unit Financial Data		
	a. Book Life (Years):	15	
	b. Total Installed Cost (In-service year $/Kw):	2,097.99	
	c. Direct Construction Cost ($/Kw ac): ($2023)		
	d. AFUDC Amount ($/Kw):		
	e. Escalation ($/Kw):		
	f. Fixed O&M ($/Kw dc-yr): ($2023)		
	g. Variable O&M ($/MWh): ($2023)	0.00	
	h. K Factor:	NO CALCULATION	

DUKE ENERGY FLORIDA

SCHEDULE 9
STATUS REPORT AND SPECIFICATIONS OF PROPOSED GENERATING FACILITIES
AS OF JANUARY 1, 2023

(1)	Plant Name and Unit Number:	**TBD**	
(2)	Capacity		
	a. Nameplate (MWac):	449.4	
	b. Summer Firm (MWac):	56.2	
	c. Winter Firm (MWac):	-	
(3)	Technology Type:	PHOTOVOLTAIC	
(4)	Anticipated Construction Timing		
	a. Field construction start date:	4/2032	
	b. Commercial in-service date:	12/2032	(EXPECTED)
(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:	~500-600 ACRES PER SOLAR SITE (74.9 MW)	
(9)	Construction Status:	PLANNED	
(10)	Certification Status:		
(11)	Status with Federal Agencies:		
(12)	Projected Unit Performance Data		
	a. Planned Outage Factor (POF):	N/A %	
	b. Forced Outage Factor (FOF):	N/A %	
	c. Equivalent Availability Factor (EAF):	N/A %	
	d. Resulting Capacity Factor (%):	~28 %	
	e. Average Net Operating Heat Rate (ANOHR):	N/A BTU/Kwh	
(13)	Projected Unit Financial Data		
	a. Book Life (Years):	30	
	b. Total Installed Cost (In-service year $/Kw):	1,587.67	
	c. Direct Construction Cost ($/Kw ac): ($2023)		
	d. AFUDC Amount ($/Kw):		
	e. Escalation ($/Kw):		
	f. Fixed O&M ($/Kw dc-yr): ($2023)		
	g. Variable O&M ($/MWh): ($2023)	0.00	
	h. K Factor:	NO CALCULATION	

DUKE ENERGY FLORIDA

SCHEDULE 10
STATUS REPORT AND SPECIFICATIONS OF PROPOSED DIRECTLY ASSOCIATED TRANSMISSION LINES

BAY RANCH SOLAR

(1) POINT OF ORIGIN AND TERMINATION:	Honeybee Switching Station
(2) NUMBER OF LINES:	1
(3) RIGHT-OF-WAY:	Existing transmission line right-of-way
(4) LINE LENGTH:	0.03 miles
(5) VOLTAGE:	230 kV
(6) ANTICIPATED CONSTRUCTION TIMING:	4/1/2023
(7) ANTICIPATED CAPITAL INVESTMENT:	$2,834,000
(8) SUBSTATIONS:	Honeybee Switching Station
(9) PARTICIPATION WITH OTHER UTILITIES:	N/A

DUKE ENERGY FLORIDA

SCHEDULE 10

STATUS REPORT AND SPECIFICATIONS OF PROPOSED DIRECTLY ASSOCIATED TRANSMISSION LINES

HILDRETH SOLAR

(1) POINT OF ORIGIN AND TERMINATION:	Hickory Switching Station
(2) NUMBER OF LINES:	1
(3) RIGHT-OF-WAY:	Existing transmission line right-of-way
(4) LINE LENGTH:	0.03 miles
(5) VOLTAGE:	69 kV
(6) ANTICIPATED CONSTRUCTION TIMING:	4/1/2023
(7) ANTICIPATED CAPITAL INVESTMENT:	$2,452,000
(8) SUBSTATIONS:	Hickory Switching Station
(9) PARTICIPATION WITH OTHER UTILITIES:	N/A

DUKE ENERGY FLORIDA

SCHEDULE 10

STATUS REPORT AND SPECIFICATIONS OF PROPOSED DIRECTLY ASSOCIATED TRANSMISSION LINES

HARDEETOWN SOLAR

(1) POINT OF ORIGIN AND TERMINATION:	Chiefland Substation
(2) NUMBER OF LINES:	1
(3) RIGHT-OF-WAY:	New and existing transmission line right-of-way
(4) LINE LENGTH:	0.07 miles
(5) VOLTAGE:	69 kV
(6) ANTICIPATED CONSTRUCTION TIMING:	4/20/2023
(7) ANTICIPATED CAPITAL INVESTMENT:	$2,245,000
(8) SUBSTATIONS:	Chiefland Substation
(9) PARTICIPATION WITH OTHER UTILITIES:	N/A

DUKE ENERGY FLORIDA

SCHEDULE 10

STATUS REPORT AND SPECIFICATIONS OF PROPOSED DIRECTLY ASSOCIATED TRANSMISSION LINES

HIGH SPRINGS SOLAR

(1) POINT OF ORIGIN AND TERMINATION:	Ginnie Substation
(2) NUMBER OF LINES:	1
(3) RIGHT-OF-WAY:	New and existing transmission line right-of-way
(4) LINE LENGTH:	0.06 miles
(5) VOLTAGE:	69 kV
(6) ANTICIPATED CONSTRUCTION TIMING:	6/1/2023
(7) ANTICIPATED CAPITAL INVESTMENT:	$1,497,000
(8) SUBSTATIONS:	Ginnie Substation
(9) PARTICIPATION WITH OTHER UTILITIES:	N/A

DUKE ENERGY FLORIDA

SCHEDULE 10

STATUS REPORT AND SPECIFICATIONS OF PROPOSED DIRECTLY ASSOCIATED TRANSMISSION LINES

MULE CREEK SOLAR

(1) POINT OF ORIGIN AND TERMINATION:	Ladybug Substation
(2) NUMBER OF LINES:	1
(3) RIGHT-OF-WAY:	Existing transmission line right-of-way
(4) LINE LENGTH:	0.1 miles
(5) VOLTAGE:	230 kV
(6) ANTICIPATED CONSTRUCTION TIMING:	1/1/2024
(7) ANTICIPATED CAPITAL INVESTMENT:	$5,536,000
(8) SUBSTATIONS:	Ladybug Substation
(9) PARTICIPATION WITH OTHER UTILITIES:	N/A

DUKE ENERGY FLORIDA

SCHEDULE 10

STATUS REPORT AND SPECIFICATIONS OF PROPOSED DIRECTLY ASSOCIATED TRANSMISSION LINES

WINQUEPIN SOLAR

(1) POINT OF ORIGIN AND TERMINATION:	Birch Switching Station
(2) NUMBER OF LINES:	1
(3) RIGHT-OF-WAY:	New transmission line right-of-way
(4) LINE LENGTH:	0.1 miles
(5) VOLTAGE:	230 kV
(6) ANTICIPATED CONSTRUCTION TIMING:	4/26/2024
(7) ANTICIPATED CAPITAL INVESTMENT:	$16,018,213
(8) SUBSTATIONS:	Birch Switching Station
(9) PARTICIPATION WITH OTHER UTILITIES:	N/A

DUKE ENERGY FLORIDA

SCHEDULE 10

STATUS REPORT AND SPECIFICATIONS OF PROPOSED DIRECTLY ASSOCIATED TRANSMISSION LINES

FALMOUTH SOLAR

(1) POINT OF ORIGIN AND TERMINATION:	Suwannee Substation
(2) NUMBER OF LINES:	1
(3) RIGHT-OF-WAY:	New transmission line right-of-way
(4) LINE LENGTH:	0.2 miles
(5) VOLTAGE:	115 kV
(6) ANTICIPATED CONSTRUCTION TIMING:	4/26/2024
(7) ANTICIPATED CAPITAL INVESTMENT:	$5,190,000
(8) SUBSTATIONS:	Suwannee Substation
(9) PARTICIPATION WITH OTHER UTILITIES:	N/A

DUKE ENERGY FLORIDA

SCHEDULE 10

STATUS REPORT AND SPECIFICATIONS OF PROPOSED DIRECTLY ASSOCIATED TRANSMISSION LINES

COUNTY LINE SOLAR

(1) POINT OF ORIGIN AND TERMINATION:	Ginnie Substation
(2) NUMBER OF LINES:	1
(3) RIGHT-OF-WAY:	Existing transmission line right-of-way
(4) LINE LENGTH:	0.1 miles
(5) VOLTAGE:	230 kV
(6) ANTICIPATED CONSTRUCTION TIMING:	12/31/2024
(7) ANTICIPATED CAPITAL INVESTMENT:	$3,532,625
(8) SUBSTATIONS:	Ginnie Substation
(9) PARTICIPATION WITH OTHER UTILITIES:	N/A

DUKE ENERGY FLORIDA

SCHEDULE 10

STATUS REPORT AND SPECIFICATIONS OF PROPOSED DIRECTLY ASSOCIATED TRANSMISSION LINES

OSPREY

(1) POINT OF ORIGIN AND TERMINATION:	Kathleen - Osprey
(2) NUMBER OF LINES:	1
(3) RIGHT-OF-WAY:	New transmission line right-of-way
(4) LINE LENGTH:	26.5 miles
(5) VOLTAGE:	230 kV
(6) ANTICIPATED CONSTRUCTION TIMING:	11/1/2024
(7) ANTICIPATED CAPITAL INVESTMENT:	$150,000,000
(8) SUBSTATIONS:	Kathleen, Osprey
(9) PARTICIPATION WITH OTHER UTILITIES:	N/A

INTEGRATED RESOURCE PLANNING OVERVIEW

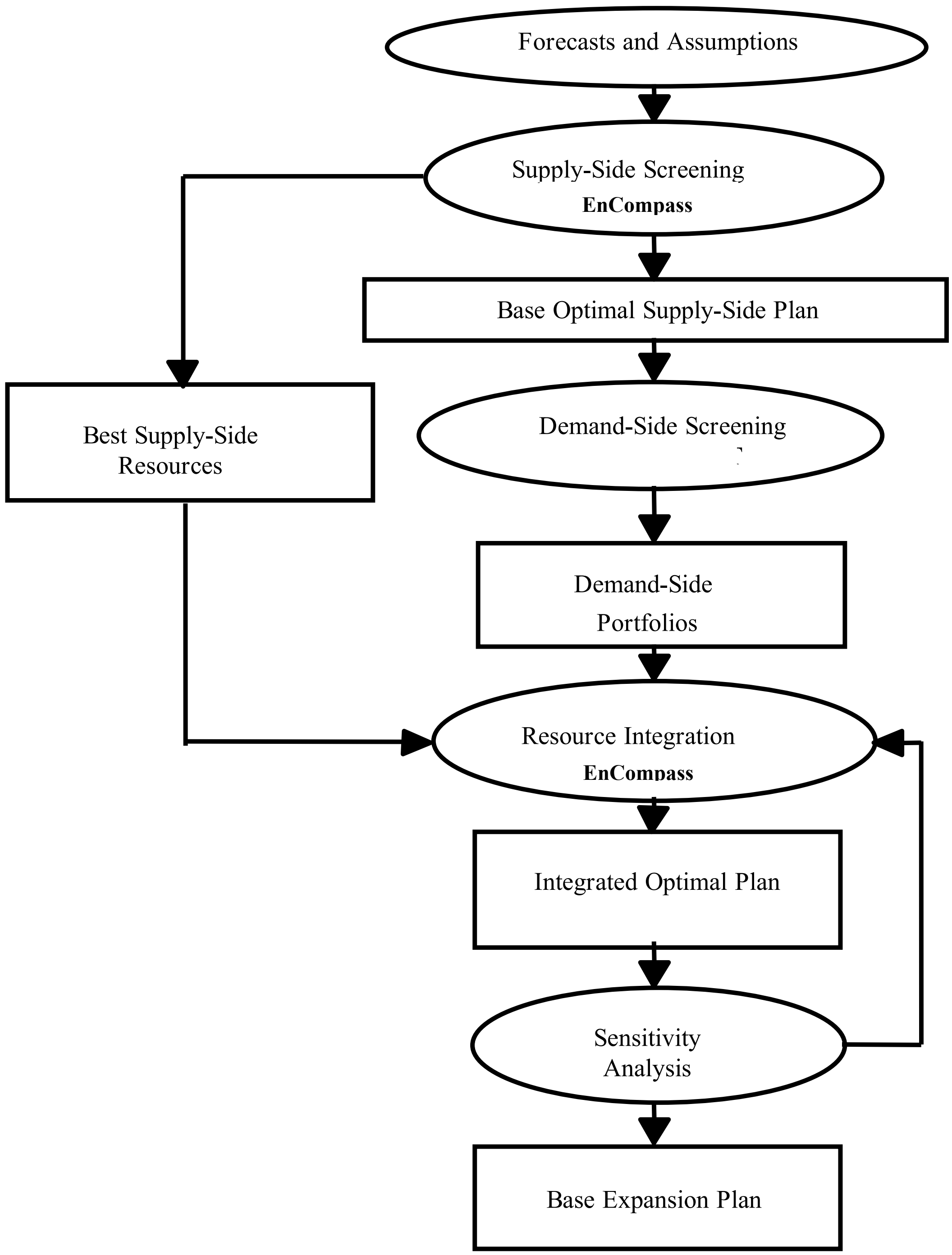
DEF employs an Integrated Resource Planning (IRP) process to determine the most cost-effective mix of supply- and demand-side alternatives that will reliably satisfy our customers' future demand and energy needs. DEF's IRP process incorporates state-of-the-art computer models used to evaluate a wide range of future generation alternatives and cost-effective conservation and dispatchable demand-side management programs on a consistent and integrated basis.

An overview of DEF's IRP Process is shown in Figure 3.1. The process begins with the development of various forecasts, including demand and energy, fuel prices, and economic assumptions. Future supply- and demand-side resource alternatives are identified, and extensive cost and operating data are collected to enable these to be modeled in detail. These alternatives are optimized together to determine the most cost-effective plan for DEF to pursue over the next ten years that meets the reliability criteria for our customers. The resulting ten-year plan, the Integrated Optimal Plan, is then tested under different relevant sensitivity scenarios to identify variances, if any, which would warrant reconsideration of any of the base plan assumptions. If the plan is judged robust and works within the corporate framework, it evolves as the Base Expansion Plan. This process is discussed in more detail in the following section titled "The Integrated Resource Planning (IRP) Process".

The IRP provides DEF with substantial guidance in assessing and optimizing the Company's overall resource mix on both the supply side and the demand side. When a decision supporting a significant resource commitment is being developed (e.g., plant construction, power purchase, DSM program implementation), the Company will move forward with directional guidance from the IRP and delve much further into the specific levels of examination required. This more detailed assessment will typically address very specific technical requirements and cost estimates, detailed corporate financial considerations, and the most current dynamics of the business and regulatory environments.

FIGURE 3.1

Integrated Resource Planning (IRP) Process Overview



THE INTEGRATED RESOURCE PLANNING (IRP) PROCESS

Forecasts and Assumptions

The evaluation of possible supply- and demand-side alternatives, and development of the optimal plan, is an integral part of the IRP process. These steps together comprise the integration process that begins with the development of forecasts and collection of input data. Base forecasts that reflect DEF's view of the most likely future scenario are developed. Additional future scenarios along with high and low forecasts may also be developed. Computer models used in the process are brought up to date to reflect this data, along with the latest operating parameters and maintenance schedules for DEF's existing generating units. This establishes a consistent starting point for all further analysis.

Reliability Criteria

Utilities require a margin of generating capacity above the firm demands of their customers in order to provide reliable service. Periodic scheduled outages are required to perform maintenance and inspections of generating plant equipment. At any given time during the year, some capacity may be out of service due to unanticipated equipment failures resulting in forced outages of generation units. Adequate reserve capacity must be available to accommodate these outages and to compensate for higher than projected peak demand due to forecast uncertainty and abnormal weather. In addition, some capacity must be available for operating reserves to maintain the balance between supply and demand on a moment-to-moment basis.

DEF plans its resources in a manner consistent with utility industry planning practices and employs both deterministic and probabilistic reliability criteria in the resource planning process. A Reserve Margin criterion is used as a deterministic measure of DEF's ability to meet its forecasted seasonal peak load with firm capacity. DEF plans its resources to satisfy a minimum 20% Reserve Margin criterion.

Loss of Load Probability (LOLP) is a probabilistic criterion that measures the probability that a company will be unable to meet its load throughout the year. While Reserve Margin considers the peak load and amount of installed resources, LOLP considers generating unit sizes, capacity mix, maintenance scheduling, unit availabilities, and capacity assistance available from other utilities. A standard probabilistic reliability threshold commonly used in the electric utility industry, and the criterion employed by DEF, is a maximum of one day in ten years loss of load probability.

DEF has based its resource planning on the use of dual reliability criteria since the early 1990s, a practice that has been accepted by the FPSC. DEF's resource portfolio is designed to satisfy the 20% Reserve Margin requirement and probabilistic analyses are periodically conducted to ensure that the one day in ten years LOLP criterion is also satisfied. By using both the Reserve Margin and LOLP planning criteria, DEF's resource portfolio is designed to have sufficient capacity available to meet customer peak demand, and to provide reliable generation service under expected load conditions. DEF has found that resource additions are typically triggered to meet the 20% Reserve Margin thresholds before LOLP becomes a factor.

Supply-Side Screening

Potential supply-side resources are screened to determine those that are the most cost-effective. Data used for the screening analysis is compiled from various industry sources and DEF's experiences. The wide range of resource options is pre-screened to set aside those that do not warrant a detailed cost-effectiveness analysis. Typical screening criteria are costs, fuel source, technology maturity, environmental parameters (e.g., emissions, possible climate impact), and overall resource feasibility.

Economic evaluation of generation alternatives is performed using the Capacity Expansion module of the EnCompass Power Planning Software. This optimization tool evaluates revenue requirements for specific resource plans generated from multiple combinations of future resource additions that meet system reliability criteria and other system constraints. All resource plans are then ranked by system revenue requirements.

Demand-Side Screening

Like supply-side resources, the impacts of potential demand-side resources are also factored into the integrated resource plan. The projected MW and MWH impacts for demand-side management resources are based on the energy efficiency measures and load management programs included in DEF's 2015 DSM Plan and meet the goals established by the FPSC in December 2019 (Docket 20190018-EG).

Resource Integration and the Integrated Optimal Plan

The cost-effective generation alternatives can then be optimized together with the demand-side portfolios developed in the screening process to formulate integrated optimal plans. The optimization program considers all possible future combinations of supply- and demand-side alternatives that meet the Company's reliability criteria in each year of the ten-year study period and reports those that provide both flexibility and reasonable revenue requirements (rates) for DEF's customers. Candidate base plans are then evaluated using the Portfolio Optimization module of EnCompass. This provides hourly modeling of the portfolio dispatch and provides insights into the detailed energy production cost of a given portfolio, the emissions profile and helps to identify potential issues with unit operation and reliability.

Developing the Base Expansion Plan

The integrated optimized plan that provides the lowest revenue requirements may then be further tested using sensitivity analysis, including High and Low Demand and Energy Forecasts (see Schedules 2 and 3). The economics of the plan may be evaluated under high and low forecast scenarios for fuel, load and financial assumptions, or any other sensitivities which the planner deems relevant. From the sensitivity assessment, the plan that is identified as achieving the best balance of flexibility and cost is then reviewed within the corporate framework to determine how the plan potentially impacts or is impacted by many other factors. If the plan is judged robust under this review, it would then be considered the Base Expansion Plan.

KEY CORPORATE FORECASTS

Load Forecast

The assumptions and methodology used to develop the base case load and energy forecast are described in Chapter 2 of this TYSP. The High and Low forecasts of load and energy were provided to Resource Planning to test the robustness of the base plan.

Fuel Price Forecast

The base case fuel price forecast was developed using short-term and long-term spot market price projections from industry-recognized sources. The base cost for coal is based on the existing contracts and spot market coal prices and transportation arrangements between DEF and its various suppliers. For the longer term, the prices are based on spot market forecasts reflective of expected market conditions. Oil and natural gas prices are estimated based on current and expected contracts and spot purchase arrangements as well as near-term and long-term market forecasts. Oil and natural gas commodity prices are driven primarily by open market forces of supply and demand. Natural gas firm transportation cost is determined primarily by pipeline tariff rates.

Financial Forecast

The key financial assumptions used in DEF's most recent planning studies were 47% debt and 53% equity capital structure, projected cost of debt of 4.20%, and an equity return of 10.1%. The assumptions resulted in a weighted average cost of capital of 7.33% and an after-tax discount rate of 6.83%.

TEN-YEAR SITE PLAN (TYSP) RESOURCE ADDITIONS

DEF's planned supply resource additions and changes are shown in Schedule 8 and are referred to as DEF's Base Expansion Plan. This plan includes a net addition of over 3,700 MW of solar PV generation with an expected equivalent summer firm capacity contribution of approximately 800 MW, 90 MW of firm storage added in 2027 and 135 MW of firm storage added in 2032. The incorporation of the full firm capacity of the Osprey Energy Center takes place at the end of 2024. Between 2022 and 2027, DEF will add close to 400 MW of combined cycle capacity that results from projects focusing on increasing the fuel efficiency of the combined cycle generating units. The incorporation of the IRA tax credits has helped offset projected cost increases for solar, batteries, and solar plus storage units. In DEF's most recent approved rate settlement (FPSC Docket No. 20210016-EI), DEF anticipates the retirement of the two remaining coal units at Crystal River (Crystal River units 4 and 5) in 2034. Solar PV and batteries will be the cost-effective generation to replace most of that energy in the 2034 timeframe. DEF's plan to construct 450 MW in 2025, and 300 MW in each year from 2026 through 2028 with additional annual amounts from 2029 through 2032 provides a path to meeting this goal through a measured and paced approach to bringing the solar onto the system which recognizes the challenges of building and interconnecting solar projects, helps maintain reliability as solar penetration increases and maintains affordability in customer rates. As with other elements of the plan, DEF will update these projections as decision dates approach.

DEF continues to consider market supply-side resource alternatives to enhance DEF's resource plan. DEF recognizes that, as solar penetration increases, including both DEF and customer-owned PV, the total dependable solar resource capability is influencing or shifting DEF's reserve planning focus later beyond the on-peak period. DEF is accounting for this planning shift by deriving reduced summer capacity values of planned PV installations starting in 2025. Refer to Page 3-2 for additional solar resource capacity values that are accounting for this change.

DEF's Base Expansion Plan projects the need for additional capacity with estimated in-service dates during the ten-year period from 2023 through 2032. The planned capacity additions, together with purchases from QFs, IOUs, and IPPs help the DEF system meet the energy requirements of its customer base. The capacity needs identified in this plan may be impacted by DEF's ability to extend or replace existing purchase power and QF contracts and to secure new renewable purchased power resources in their respective projected timeframes. The additions in the Base Expansion Plan depend, in part, on projected load growth, and obtaining all necessary state and federal permits under current schedules. Changes in these or other factors could impact DEF's Base Expansion Plan.

Through its ongoing planning process, DEF will continue to evaluate the timetables for all projected resource additions and assess alternatives for the future considering, among other things, projected load growth, fuel prices, lead times in the construction marketplace, project development timelines for new fuels and technologies, and environmental compliance considerations. The Company will continue to examine the merits of new generation alternatives and adjust its resource plans accordingly to ensure optimal selection of resource additions based on the best information available.

RENEWABLE ENERGY

DEF continues to secure renewable energy from the following facilities listed by fuel type:

Purchases from Municipal Solid Waste Facilities:

Pasco County Resource Recovery (23 MW)

Pinellas County Resource Recovery (54.8 MW)

Dade County Resource Recovery (As Available)

Lake County Resource Recovery (As Available)

Lee County Resource Recovery (As Available)

Purchases from Waste Heat from Exothermic Processes:

PCS Phosphate (As Available)

Citrus World (As Available)

Solar Photovoltaic Facilities

DEF-owned Solar Generation (886.15 MW)

- Osceola Solar Facility 3.8 MW
- Perry Solar Facility 5.1 MW
- Suwannee Solar Facility 8.8 MW
- Hamilton Solar Power Plant 74.9 MW
- Trenton Solar Power Plant 74.9 MW
- Lake Placid Solar Power Plant 45.0 MW
- St Petersburg Pier Solar Power Plant 0.35 MW
- DeBary Solar Power Plant 74.5 MW
- Columbia Solar Power Plant 74.9 MW
- Twin Rivers Solar Power Plant 74.9 MW
- Santa Fe Solar Power Plant 74.9 MW
- Duette Solar Power Plant 74.5 MW
- Sandy Creek Solar Power Plant 74.9 MW
- Fort Green Solar Power Plant 74.9 MW
- Charlie Creek Solar Power Plant 74.9 MW
- Bay Trail Solar Power Plant 74.9 MW

Customer-owned renewable generation under DEF's Net Metering Tariff (about 600 MW as of 12/31/22)

At this time, DEF is reviewing the potential for as-available purchased power contracts with third-party solar companies. In-service dates, however, are generally projected to be beyond 2023. As of December 31, 2022, DEF had over 5,100 MW of FERC jurisdictional solar projects in the DEF grid interconnection queue, representing over 70 active projects and 14 of those projects included DEF as the noted developer. DEF anticipates that additional projects developed by DEF as well as third parties will be added through the decade. Some of those third-party projects anticipate selling to utilities other than DEF, therefore, DEF is reasonably projecting over 3,700 MW of solar PV projects to be installed in the DEF territory over that period. However, DEF continues to study and refine this projection. Project ownership proportions may change over time based on specific project economics, development details, renewable energy incentives and other factors.

DEF continues to field inquiries from potential renewable suppliers and explore whether these potential QFs can provide project commitments and reliable capacity or energy consistent with FERC Rules and the FPSC Rules, 25-17.080 through 25-17.310. DEF will continue to submit renewable contracts in compliance with all policies as appropriate.

Depending upon the mix of generators operating at any given time, the purchase of renewable energy may reduce DEF's use of fossil fuels. Renewable energy sources making firm commitments to the company can also defer or eliminate the need to construct more conventional generators. As part of DEF's integrated resource planning process, we are continually evaluating cost-effective alternatives to meet our customer's needs. DEF knows that renewable and distributed energy resources are an important part of Florida's energy future and we are committed to advancing these resources in an affordable and sustainable way. Although price declines have slowed in recent years, DEF is encouraged by the expectation of continuing solar PV price reductions. Projected future solar generation values are also enhanced by the expectation of tax credits resulting from implementation of the IRA. As a result of the forecasts around solar PV technology, DEF has incorporated this clean energy source as an increasing supply-side resource in both DEF's near-term and long-term generation plans.

The development, construction, commissioning and initial operation of the solar projects at Perry, Osceola, Suwannee, Hamilton, Lake Placid, Trenton, DeBary, Columbia, Twin Rivers, Santa Fe, Duette, the now commercial Bay Trail, Sandy Creek, Fort Green, and Charlie Creek plants and under construction Bay Ranch, Hildreth, Hardeetown, and High Springs have provided DEF with valuable experience in siting, community engagement, contracting, constructing, operating, and integrating solar photovoltaic technology facilities on the power grid. DEF has worked with our communities on renewable and solar energy technology education, and our contractors to establish necessary standards for the construction and upkeep of utility grade facilities and to develop standards necessary to ensure the reliability of local distribution systems. DEF is integrating voltage control in the transmission connected solar projects to enhance operational reliability and local transmission resiliency. In addition, DEF is incorporating the ability to place the solar facilities on Automatic Generation Control (AGC). This capability is preparing DEF for future scenarios where there is an excess of generation on the system and a need to utilize the solar resources to balance generation with demand. DEF is utilizing its operational experience and historic data from these solar resources to optimize the daily economic system dispatch, to quantify additional system flexibility needs to counteract the variability of solar generation and investigate potential fuel diversity contributions. The arrays for the solar plants that went in-service in 2022, Sandy Creek, Fort Green, Charlie Creek, and Bay Trail, are shown in Figures 3.2, 3.3, 3.4, and 3.5 below.

FIGURE 3.2
Sandy Creek Solar Power Plant

FIGURE 3.3
Fort Green Solar Power Plant

FIGURE 3.4
Charlie Creek Solar Power Plant

FIGURE 3.5
Bay Trail Solar Power Plant

DEF's current forecast, supporting the Base Expansion Plan includes over 1,340 MW of DEF-owned solar PV to be under development over the next four years and approximately 3,700 MW over the ten-year planning horizon. As with all forecasts included here, the forecast relies heavily on the forward-looking price for this technology, the value rendered by this technology, and considerations to other emerging and conventional cost-effective alternatives, including the use of emerging battery storage technology.

BATTERY ENERGY STORAGE SYSTEMS

Cape San Blas, Micanopy, and Jennings energy storage systems from DEF's 50 MW battery storage pilot program (Battery Storage Pilot) were placed in-service in 2022 with the remaining John Hopkins Middle School battery energy storage systems under construction and expected to be placed in-service in 2023. These projects join the Lake Placid and Trenton energy storage systems that were placed in service in 2021. These projects may serve a variety of purposes including, but not limited to substation upgrade deferral, distribution line reconducting deferral, power reliability improvement, frequency regulation, Volt/VAR support, backup power, energy capture, and peak load shaving. The projects, max power output, and guaranteed energy storage for a minimum of ten years are provided in Table 3.3. Going forward, DEF will use the data gathered from the operation of these Pilot Program sites to evaluate the opportunities and uses of future DEF battery development.

Table 3.3
DEF Battery Energy Storage Pilot Program Projects Summary

Name	Max Power Output (MW)	Guaranteed Energy Storage (MWh)
Cape San Blas	5.5	14.3
Trenton	11.0	10.1
Micanopy	8.25	11.7
Jennings	5.5	5.5
John Hopkins Middle School	2.475	18.0
Lake Placid	17.275	34.0

DEF is also performing early siting work on a 100 MW / 200 MWH battery energy storage system with an in-service date in 2027. The project will utilize lithium-ion energy storage and be located to maximize the Standalone Storage Investment Tax Credit (ITC) passed into law by the current administration. The increase of solar energy generation on the system provides a unique opportunity for energy storage assets to assist in integration of these intermittent resources and shift energy from lower system value periods to times with higher system value.

TECHNOLOGY AND INNOVATION

Duke Energy continues to evaluate new technology and innovations for potential application both in and beyond the ten-year plan window. Technologies under evaluation, but not yet included in the base expansion plan may be commercially or economically unproven, but Duke Energy and DEF are active in investigation and development of these technologies. At the Duke Energy enterprise level, engineers and specialists are involved in cooperative work with vendors and industry groups on supply-side technologies including wind generation, advanced battery development, hydrogen generation and combustion, and advanced nuclear. On the demand side, technologies including advanced demand response technologies such as commercial building pre-cooling, two-way water heater control, and smart appliance applications are being explored and evaluated. In addition, the company continues to explore intersections of grid and system operations with alternative generating technologies including distributed solar and storage and microgrid applications.

PLAN CONSIDERATIONS

Load Forecast

In general, higher-than-projected load growth would shift the need for new capacity to an earlier year and lower-than-projected load growth would delay the need for new resources. The Company's resource plan provides the flexibility to shift certain resources to earlier or later in-service dates should a significant change in projected customer demand begin to materialize. A specific discussion of DEF's review of load growth forecasts higher and lower than the base forecast can be found in the previous sections.

TRANSMISSION PLANNING

DEF's transmission planning assessment practices are developed to test the ability of the planned system to meet the reliability criteria as outlined in the FERC Form No. 715 filing, and to assure the system meets DEF, Florida Reliability Coordinating Council, Inc. (FRCC), and North American Electric Reliability Corporation (NERC) criteria. This involves the use of load flow and transient stability programs to model various contingency situations that may occur, and in determining if the system response meets the reliability criteria. In general, this involves running simulations for the loss of any single line, generator, or transformer. DEF runs this analysis for contingencies that may occur at system peak and off-peak load levels, under both summer and winter conditions. Additional studies are performed to determine the system response to credible, but less probable criteria. These studies include the loss of multiple generators, transmission lines, or combinations of each (some load loss is permissible under the more severe disturbances). These credible, but less probable scenarios are also evaluated at various load levels since some of the more severe situations occur at average or minimum load conditions. In particular, critical fault clearing times are typically the shortest (most severe) at minimum load conditions, with just a few large base load units supplying the system needs. As noted in the DEF reliability criteria, some remedial actions are allowed to reduce system loadings; in particular, sectionalizing is allowed to reduce loading on lower voltage lines for bulk system contingencies, but the risk to load on the sectionalized system must be reasonable (it would not be considered prudent to operate for long periods with a sectionalized system). In addition, the number of remedial action steps and the overall complexity of the scheme are evaluated to determine overall acceptability.

DEF presently uses the following reference documents to calculate and manage Available Transfer Capability (ATC), Total Transfer Capability (TTC) and Transmission Reliability Margin (TRM) for required transmission path postings on the Florida Open Access Same Time Information System (OASIS):

- http://www.oatioasis.com/FPC/FPCdocs/ATCID_Posted_Rev4.pdf
- http://www.oatioasis.com/FPC/FPCdocs/TRMID_4.pdf

DEF uses the following reference document to calculate and manage Capacity Benefit Margin (CBM):

- http://www.oatioasis.com/FPC/FPCdocs/CBMID_rev3.pdf

CHAPTER 4

ENVIRONMENTAL AND
LAND USE INFORMATION

DUKE ENERGY
FLORIDA

CHAPTER 4

ENVIRONMENTAL AND LAND USE INFORMATION

PREFERRED SITES

DEF's 2023 TYSP Preferred Sites include eight solar generations sites: the Bay Ranch Solar Site, the Hildreth Solar Site, the Hardeetown Solar Site, the High Springs Solar Site, the Mule Creek Solar Site, the Winquepin Solar Site, the Falmouth Solar Site, and the County Line Solar Site. These Preferred Sites are discussed below.

BAY RANCH SOLAR SITE

DEF has identified the Bay Ranch Solar Project, a 74.9 MWac solar single-axis tracking PV project located in Bay County, Florida. The site is located on former cattle grazing and timber lands and is relatively flat with minimal sloping that will allow for the use of a tracking system. The point of interconnection will be a new 230 kV, three terminal, three breaker switching station and will be connected via a short generation tie-line. All environmental surveys are complete, and DEF has received the necessary conditional permits from Bay County. A Development Order approval was received from Bay County along with an Environmental Resource Permit (ERP) from the Florida Department of Environmental Protection (FDEP). The project started construction in the spring of 2022 with an expected in-service date of early 2023.

FIGURE 4.1

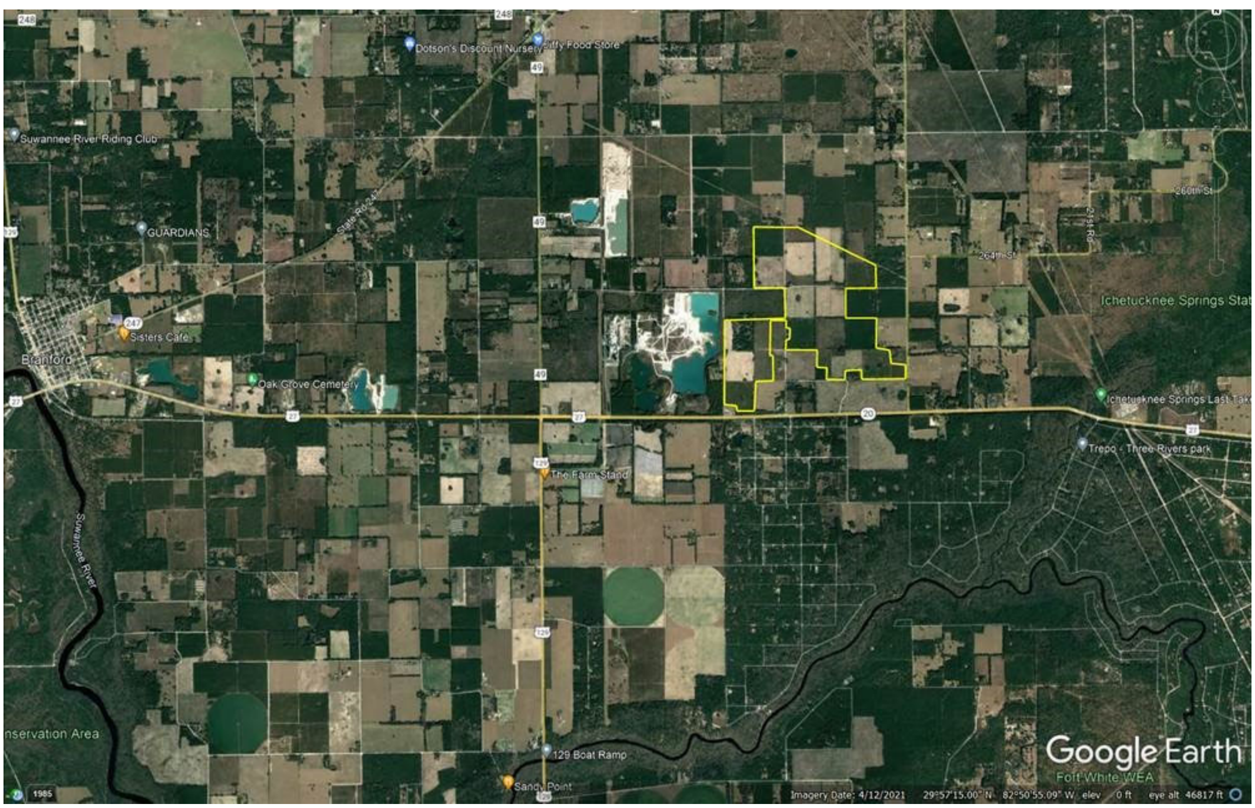
Bay Ranch Solar Project

HILDRETH SOLAR SITE

DEF has identified the Hildreth Solar Project, a 74.9 MWac solar single-axis tracking PV project located in Suwannee County, Florida. The site is located on former cattle grazing, farmlands and timber lands and is relatively flat with minimal sloping that will allow for the use of a tracking system. The point of interconnection will be a new 69 kV, three terminal, three breaker switching station and will be connected via a short generation tie-line. All environmental surveys are complete, and DEF has received the necessary approvals from Suwannee County. A Site and Development Plan approval was received from Suwannee County along with an ERP from the FDEP. The project started construction in summer 2022 with an expected in-service date of early 2023.

FIGURE 4.2

Hildreth Solar Project

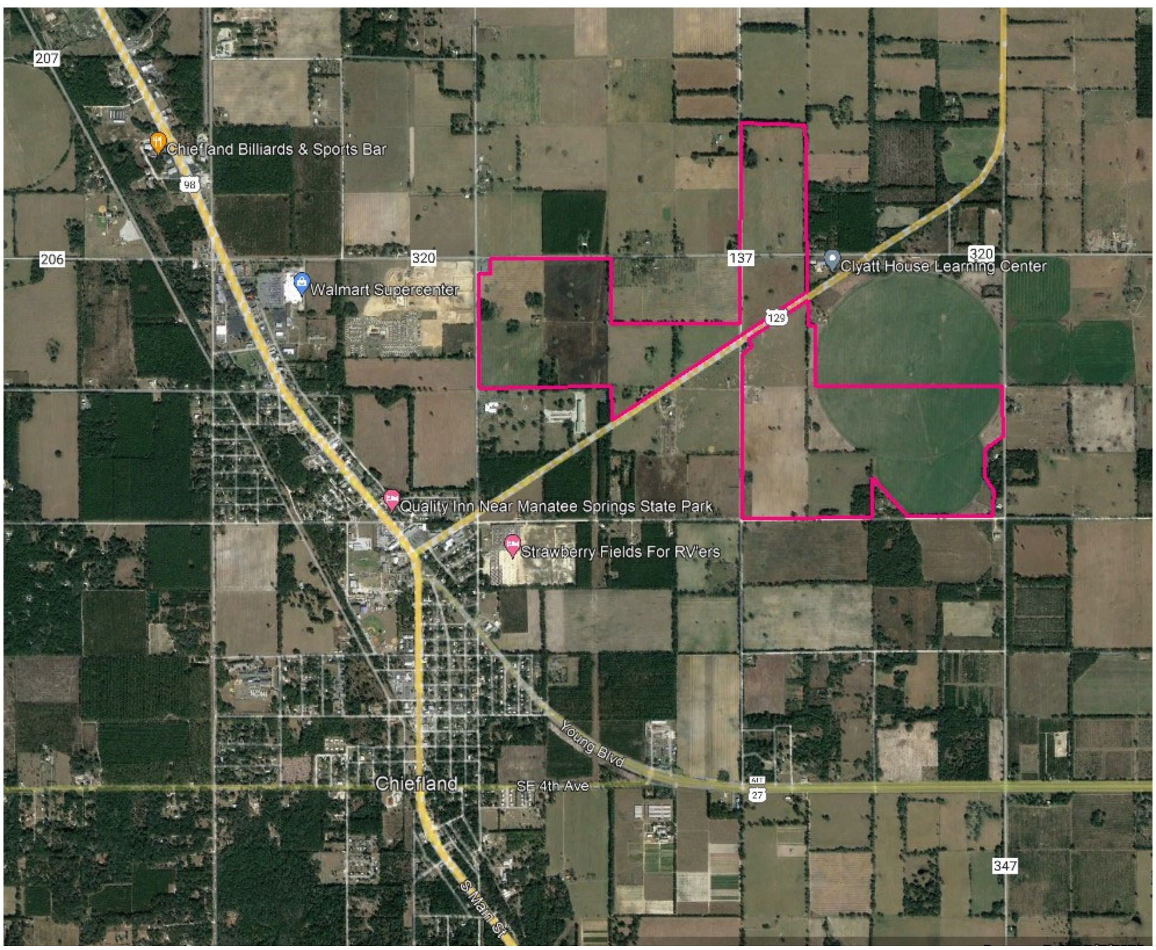


HARDEETOWN SOLAR SITE

DEF has identified the Hardeetown Solar Plant, a 74.9 MWac solar single-axis tracking PV project located in Levy County, Florida. The site is located on former agricultural and cattle grazing lands and is relatively flat with minimal sloping that will allow for the use of a tracking system. The point of interconnection will be a new 69 kV three ring breaker at the existing 69 kV Chiefland Substation and will be connected via a generation tie-line. All environmental surveys are complete, and DEF has received the necessary conditional use permit from Levy County. A Site Construction Plan approval was received from Levy County along with an ERP from the FDEP. The project started construction in the spring of 2022, with an expected in-service date of early 2023.

FIGURE 4.3

Hardeetown Solar Project

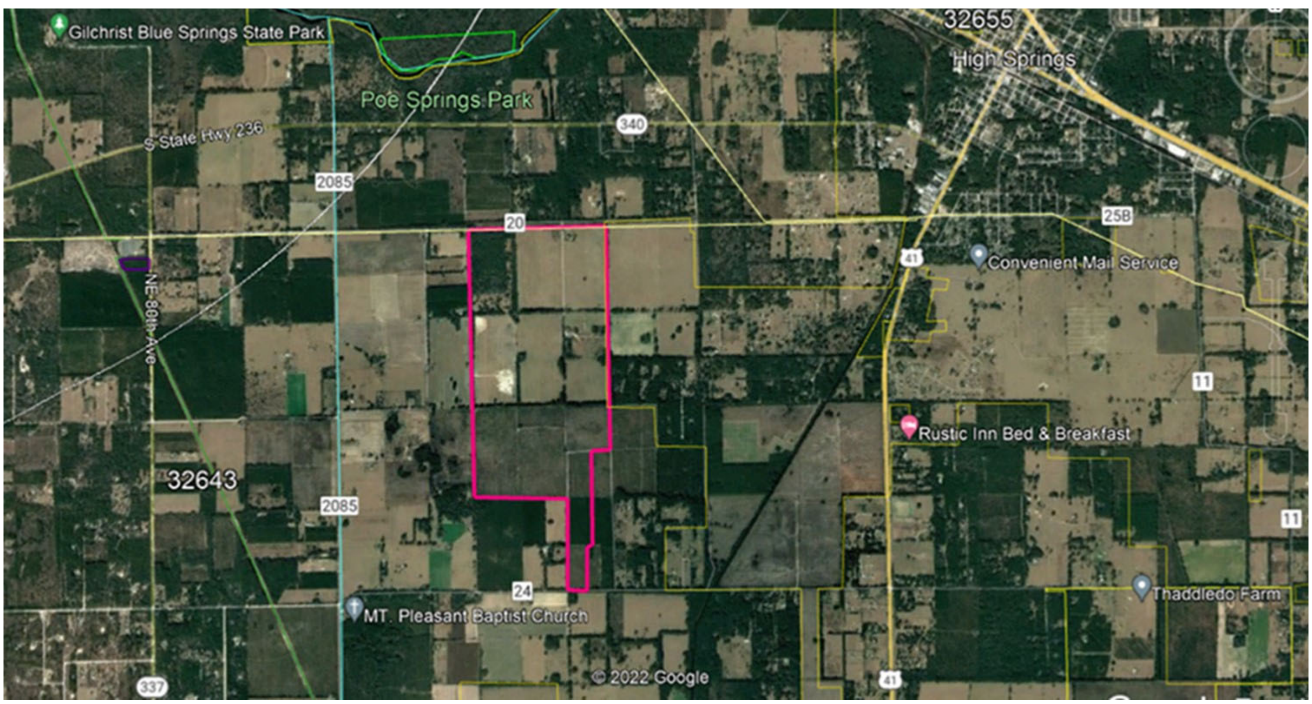


HIGH SPRINGS SOLAR SITE

DEF has identified the High Springs Solar Project, a 74.9 MWac solar single-axis tracking PV project located in Alachua County, Florida. The site is located on former cattle grazing and timber lands and is relatively flat with minimal sloping that will allow for the use of a tracking system. The point of interconnection will be a new line position on the 69 kV bus of the existing DEF Ginnie Substation and will be connected via a generation tie-line. All environmental surveys are complete, and DEF has received the necessary permits approvals from the City of High Springs. A Site and Development Plan approval was received from the Regional Planning Council and the City of High Springs along with an ERP from the FDEP. The project started construction in early summer 2022 with an expected in-service date of early 2023.

FIGURE 4.4

High Springs Solar Project



MULE CREEK SOLAR SITE

DEF has identified the Mule Creek Renewable Energy Center, a 74.9 MWac solar single-axis tracking PV project located in Bay County, Florida. Mule Creek will be the third project constructed in Bay County. The site is currently used for pasture lands and is relatively flat with minimal sloping that will allow for the use of a tracking system. The point of interconnection will be a new 230 kV breaker in DEF's existing Ladybug Switching Station and will be connected via a short generation tie-line. All environmental surveys are complete. Solar is a permitted use on agriculturally zoned land in a local government comprehensive plan in the State of Florida. Special or Conditional use permits are not required. However, a Development Order (final site plan approval) is required from Bay County. An ERP from the FDEP was received in November 2022. There are no wetland impacts on site and there are no impacts to listed species. The project is expected to start construction in the spring of 2023, with an expected in-service date of early 2024.

FIGURE 4.5

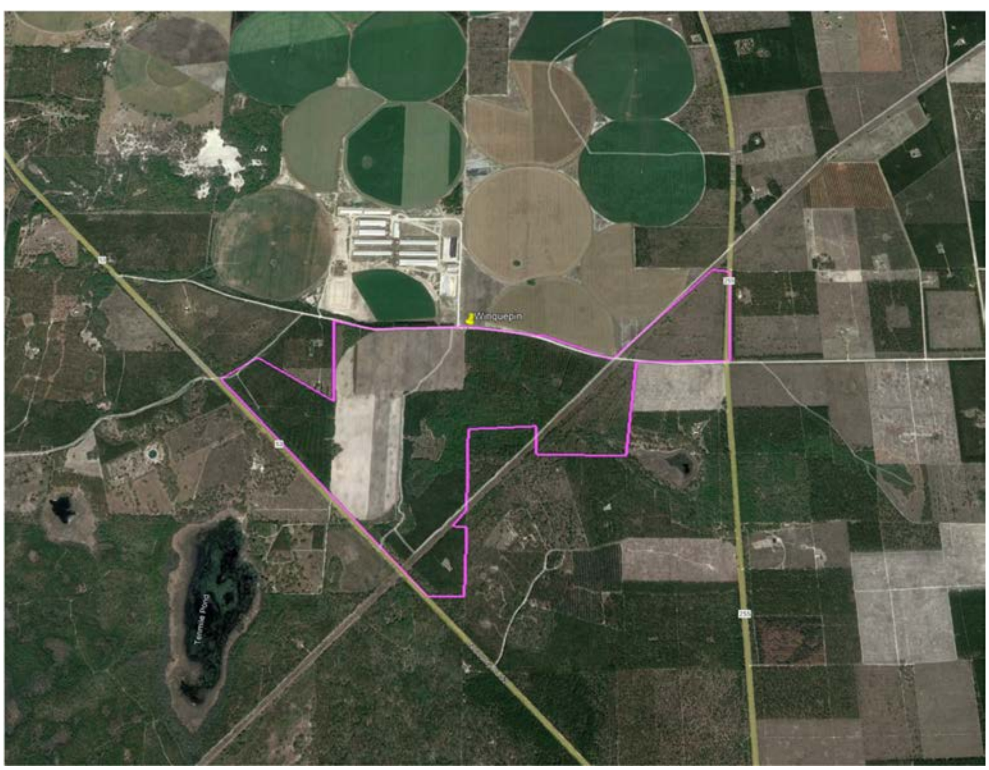
Mule Creek Solar Project

WINQUEPIN SOLAR SITE

DEF has identified the Winquepin Renewable Energy Center, a 74.9 MWac solar single-axis tracking PV project located in Madison County, Florida. The site is located on former agricultural and timber lands and is relatively flat with minimal sloping that will allow for the use of a tracking system. The point of interconnection will be a new 230 kV, three terminal, three breaker switching station and will be connected via a short generation tie-line. All environmental surveys are complete. Solar is a permitted use on agriculturally zoned land in a local government comprehensive plan in the State of Florida. Special or Conditional use permits are not required. However, a Site Plan approval is required from Madison County. An ERP from FDEP will also be required. DEF has applied for the ERP and expects to receive it early in spring 2023. There are no wetland impacts on site. State listed gopher tortoises were present onsite. The appropriate permit (Conservation/Relocation Permit) from the Florida Fish and Wildlife Conservation Commission (FWC) was secured. Tortoises have been relocated from the site. No additional listed species of concern were present. The project is expected to start construction in the spring of 2023, with an expected in-service date of early 2024.

FIGURE 4.6

Winquepin Solar Project

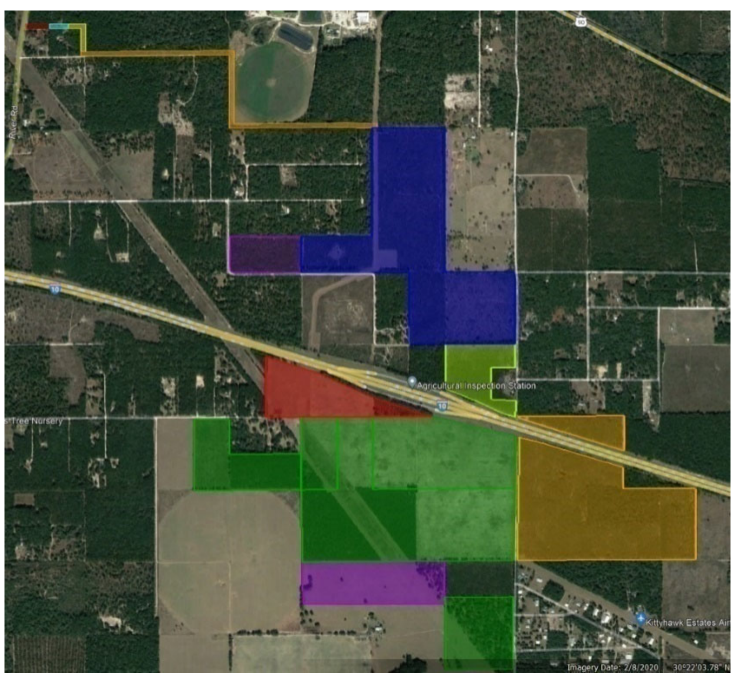


FALMOUTH SOLAR SITE

DEF has identified the Falmouth Renewable Energy Center, a 74.9 MWac solar single-axis tracking PV project located in Suwanee County, Florida. Falmouth will be the third project constructed in Suwannee County. The site is currently in pasture and timber lands and is relatively flat with minimal sloping that will allow for the use of a tracking system. The point of interconnection will be a new 115 kV breaker in DEF's existing Suwanee Switching Station and will be connected via a 1.5-mile generation tie-line. All environmental surveys are complete. Solar is a permitted use on agriculturally zoned land in a local government comprehensive plan in the State of Florida. However, a Site Plan approval is required from Suwannee County. An ERP application was submitted on February 1, 2023 and is expected to be received in June 2023. The two small wetlands on site, less than .5 acres total, will be avoided thus no wetland impacts are anticipated. The habitat assessment survey showed the state-listed Southeastern American kestrel is likely to be found on site and the 15% Gopher Tortoise survey discovered 57 burrows. Additional surveys will be conducted and a relocation permit will be secured prior to construction. The project is expected to start construction in Q3 of 2023, with an expected in-service date of Q2 2024.

FIGURE 4.7

Falmouth Solar Project



COUNTY LINE SOLAR SITE

DEF has identified the County Line Renewable Energy Center, a 74.9 MWac solar single-axis tracking PV project located in Gilchrist County, Florida. The site is currently used for timber and pasture land and is relatively flat with minimal sloping that will allow for the use of a tracking system. The point of interconnection will be a new 230 kV breaker in DEF's existing Ginnie Substation and will be connected via a short generation tie-line. Environmental surveys are ongoing. Solar is a permitted use on agriculturally zoned land in a local government comprehensive plan in the State of Florida. Special or Conditional use permits are not required. However, a Site Plan approval is required from Gilchrist County. An ERP from the FDEP will also be required. DEF anticipates submitting an ERP application in March 2023 and expects to receive the permit around July 2023. There are no wetland impacts on site and any gopher tortoises within the project area will be relocated. The state-listed Southeastern American kestrel has been documented on site and will require an Incidental Take Permit from the FWC. The project is expected to start construction in the summer of 2023, with an expected in-service date in mid-2024 or early 2025.

FIGURE 4.8

County Line Solar Project