

GAINESVILLE REGIONAL UTILITIES

2026 TEN-YEAR SITE PLAN



Submitted to:

The Florida Public Service Commission

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Table of Contents

INTRODUCTION	1
1. DESCRIPTION OF EXISTING FACILITIES	2
1.1 GENERATION	2
1.1.1 Generating Units	3
1.1.2 Generating Plant Sites	4
1.2 TRANSMISSION	5
1.2.1 The Transmission Network	5
1.2.2 Transmission Lines	6
1.2.3 State Interconnections	6
1.3 DISTRIBUTION	7
1.4 DISTRIBUTED GENERATION	8
Figure 1.1 GRU Electric Facilities	9
Schedule 1 Existing Generating Facilities	10
2. FORECAST OF ELECTRIC ENERGY AND DEMAND REQUIREMENTS	11
2.1 FORECAST ASSUMPTIONS AND DATA SOURCES	11
2.2 FORECASTS OF NUMBER OF CUSTOMERS, ENERGY SALES AND SEASONAL PEAK DEMANDS	13
2.2.1 Residential Sector	13
2.2.2 General Service Non-Demand Sector	15
2.2.3 General Service Demand Sector	16
2.2.4 General Service Large Demand Sector	17
2.2.5 Outdoor Lighting Sector	18
2.2.6 Total System Sales, Net Energy for Load, Seasonal Peak Demands and Conservation Impacts	18
2.3 ENERGY SOURCES AND FUEL REQUIREMENTS	20
2.3.1 Fuels Used by the System	20
2.3.2 Purchased Power Agreements	20
2.4 DEMAND-SIDE MANAGEMENT	20
2.4.1 Demand-Side Management Programs	20
2.4.2 Demand-Side Management Methodology and Results	21
2.4.3 Supply Side Programs	22
2.5 FUEL PRICE FORECAST ASSUMPTIONS	23
2.5.1 Coal	23
2.5.2 Natural Gas	24
2.5.3 Biomass	25

History and Forecast of Energy Consumption and Number of Customers by Customer Class	
Schedule 2.1	26
Schedule 2.2	27
Schedule 2.3	28
History and Forecast of Peak Demand - MW	
Schedule 3.1 Summer.....	29
Schedule 3.2 Winter	30
History and Forecast of Net Energy for Load - GWH	
Schedule 3.3	31
Previous Year and 2-Year Forecast of Peak Demand and Net Energy for Load	
Schedule 4	32
Fuel Requirements	
Schedule 5	33
Energy Sources (GWH)	
Schedule 6.1	34
Energy Sources (%)	
Schedule 6.2	35
3. FORECAST OF FACILITIES REQUIREMENTS	36
3.1 GENERATION RETIREMENTS	36
3.2 RESERVE MARGIN AND SCHEDULED MAINTENANCE	36
3.3 GENERATION ADDITIONS	37
3.4 DISTRIBUTION SYSTEM ADDITIONS.....	37
Forecast of Capacity, Demand, and Scheduled Maintenance at Time of Peak	
Schedule 7.1 Summer.....	38
Schedule 7.2 Winter	39
Planned and Prospective Generating Facility Additions and Changes	
Schedule 8	40
4. ENVIRONMENTAL AND LAND USE INFORMATION	41
4.1. DESCRIPTION OF POTENTIAL SITES FOR NEW GENERATING FACILITIES	41
4.2 DESCRIPTION OF PREFERRED SITES FOR NEW GENERATING FACILITIES	41
4.2.1 Land Use and Environmental Features	41
4.2.2 Air Emissions.....	42
Deerhaven Generating Site Location Map	43

INTRODUCTION

The 2026 Ten-Year Site Plan for Gainesville Regional Utilities (GRU) is submitted to the Florida Public Service Commission pursuant to Section 186.801, Florida Statutes. The contents of this report conform to information requirements listed in Form PSC/RAD 043-E, as specified by Rule 25-22.072, Florida Administrative Code. The four sections of the 2026 Ten-Year Site Plan are:

- Description of Existing Facilities
- Forecast of Electric Energy and Demand Requirements
- Forecast of Facilities Requirements
- Environmental and Land Use Information

Gainesville Regional Utilities (GRU) is a municipal electric, natural gas, water, wastewater, and telecommunications utility system, owned and operated by the City of Gainesville, Florida. The GRU retail electric system service area includes the City of Gainesville and the surrounding urban area. The highest net integrated peak demand recorded to date on GRU's electrical system was 481 Megawatts on August 8, 2007.

1. DESCRIPTION OF EXISTING FACILITIES

Gainesville Regional Utilities (GRU) operates a fully vertically integrated electric power production, transmission, and distribution system (herein referred to as "the System"), and is wholly owned by the City of Gainesville. In addition to retail electric service, GRU also provides transmission service to the City of Alachua (Alachua) and Seminole Electric Cooperative (Seminole). In 2025, GRU's distribution system served an average of 104,730 customers within its approximately 124 square mile retail territory. The general locations of GRU electric facilities and the electric system service area are shown in Figure 1.1.

1.1 GENERATION

The existing generating facilities operated by GRU are tabulated in Schedule 1 at the end of this section. The present Summer Net Continuous Capacity is 642.2 MW, and the Winter Net Continuous Capacity is 674.9 MW. Currently, the System's energy is produced by three fossil fuel steam turbines¹, one of which is part of a combined cycle unit; a biomass-fueled steam turbine; five combustion turbines, three of which are simple cycle, one which can generate in either simple or combined cycle mode, and one which provides distributed generation; and an internal combustion engine which also provides distributed generation.

The System has three primary generating plant sites: Deerhaven (DH), Deerhaven Renewable (DHR), and John R. Kelly (JRK). These sites are shown on Figure 1.1.

1 One steam turbine, JRK steam turbine FS08.2, operates only in combined cycle with JRK combustion turbine GT044. As GT04 is fossil fueled, the steam created by the heat recovery steam generator into which it exhausts when in combined cycle mode is produced by fossil fuel. Therefore FS08.2 is indirectly driven by fossil fuel. No capability exists to directly burn fossil fuel to produce steam for FS08.2.

1.1.1 Generating Units²

1.1.1.1 Conventional Cycle Steam and Combined Cycle Units. The System has two conventional cycle steam turbines and one combined cycle steam turbine powered by fossil fuels³. The System also consists of a biomass-fueled conventional cycle steam turbine. The two conventional cycle fossil-fueled steam turbines comprise 48% of the System's Net Summer Continuous Capacity and produced 36% of the electric energy supplied by the System in 2025. The combined cycle unit, which includes a heat recovery steam generator (HRSG), a steam turbine/generator, and combustion turbine/generator, comprises 17% of the System's Net Summer Continuous Capacity and produced 36% of the electric energy supplied by the System in 2025. Deerhaven FS02 (232 MW), JRK CC1 (112 MW), and DHR (105 MW) are used for base load purposes, while Deerhaven FS01 (76 MW) is used for spinning reserves and contingencies. DHR comprises 16% of the System's Net Summer Continuous Capacity and produced 24% of the electric energy supplied by the System in 2025.

1.1.1.2 Simple Cycle Combustion Gas Turbines. The System's four industrial combustion turbines that operate only in simple cycle comprise 17% of the System's Summer Net generating capacity and produced 2% of the electric energy supplied by the System in 2025. Three of these simple cycle combustion turbines are utilized for peaking purposes only as their energy conversion efficiencies are considerably lower than steam or combined cycle units. However, simple cycle combustion turbines are advantageous in that they can be started and placed online quickly. The fourth combustion turbine operates to serve load as part of a combined heat and power facility at the South Energy Center, further described in Section 1.4.

2 All MW ratings are Summer Net continuous capacity unless otherwise stated.

3 One steam turbine, JRK steam turbine FS08.2, operates only in combined cycle with JRK combustion turbine GT044. As GT04 is fossil fueled, the steam created by the heat recovery steam generator into which it exhausts when in combined cycle mode is produced by fossil fuel. Therefore FS08.2 is indirectly driven by fossil fuel. No capability exists to directly burn fossil fuel to produce steam for FS08.2.

The combustion turbine mentioned in 1.1.1.1 that is used the majority of the time in combined cycle can also be operated in simple cycle to provide for peaking power.

1.1.1.3 Reciprocating Internal Combustion Engine. The System operates a 7.4 MW natural gas-fired internal combustion engine at the South Energy Center. The engine is used in a combined heat and power application, where the engine's waste heat is captured to make steam and hot water for an academic medical campus.

1.1.1.4 Environmental Considerations. Deerhaven FS02 has low NO_x burners to reduce NO_x and an Air Quality Control System consisting of a dry recirculating flue gas desulfurization unit to reduce acid gases, sulfur dioxide (SO₂) and mercury, and a fabric filter baghouse to reduce particulates. The Deerhaven Renewable (biomass) unit uses a fabric filter baghouse to reduce particulates; and an SCR to reduce NO_x. Both the Deerhaven and Deerhaven Renewable Plant Sites operate with zero liquid discharge to surface waters.

1.1.2 Generating Plant Sites

The locations of the System's primary generating plant sites are shown on Figure 1.1.

1.1.2.1 John R. Kelly Plant. The Kelly Station is located in southeast Gainesville near the downtown business district and consists of one combined cycle unit and the associated cooling facilities, transmission, and distribution equipment.

1.1.2.2 Deerhaven Plant. The Deerhaven Station is located six miles northwest of Gainesville. The facility consists of two steam turbines, three combustion turbines, associated cooling facilities, fuel storage, pumping equipment, transmission equipment, coal unloading facilities, and coal storage facilities.

1.1.2.3 Deerhaven Renewable Plant. The Deerhaven Renewable biomass-fueled generation facility is located northwest of the Deerhaven Generating Station. The facility consists of one steam turbine, boiler, the associated cooling facilities, and biomass unloading and storage facilities.

1.2 TRANSMISSION

1.2.1 The Transmission Network

GRU's bulk electric power transmission network (System) consists of a 230 kV radial and a 138 kV loop connecting the following:

- 1) GRU's three primary generating stations,
- 2) GRU's eleven distribution substations,
- 3) One 230 kV and one 69 kV intertie with Duke Energy Florida (DEF),
- 4) A 138 kV intertie with Florida Power and Light Company (FPL),
- 5) A radial interconnection with Clay at Farnsworth Substation, and
- 6) A loop-fed interconnection with the City of Alachua at Alachua No. 1 Substation.

Refer to Figure 1.1 for geographical locations of the System's transmission lines.

1.2.2 Transmission Lines

The present transmission network consists of the following:

<u>Line</u>	<u>Circuit Miles</u>	<u>Conductor</u>
138 kV double circuit	80.08	795 MCM ACSR 26/7
138 kV single circuit	16.86	1192 MCM ACSR 45/7
138 kV single circuit	20.61	795 MCM ACSR 26/7
230 kV single circuit	<u>2.53</u>	795 MCM ACSR 26/7
Total	120.08	

GRU participates in Florida Reliability Coordinating Council, Inc. (FRCC) studies that analyze multi-level contingencies. Contingencies are occurrences that depend on changes or uncertain conditions and, as used here, represent various equipment failures or fault conditions that may occur.

1.2.3 State Interconnections

The System is currently interconnected with DEF and FPL at three separate locations. The System interconnects with DEF's Archer Substation via a 230 kV transmission line to the System's Parker Road Substation with 224 MVA of transformation capacity from 230 kV to 138 kV. The System also interconnects with DEF's Idylwild Substation with two separate lines via their 168 MVA 138/69 kV transformer. The System interconnects with FPL via a 138 kV tie between FPL's Hampton Substation and the System's Deerhaven Substation. This interconnection has a transformation capacity at Bradford Substation of 224 MVA. All listed capacities are based on normal (Rating A) capacities. The System is also evaluating increasing transmission capacity with DEF and/or FPL. The timing, cost, and feasibility of this transmission upgrade is currently being assessed.

The System is planned, operated, and maintained to be in compliance with all FERC, NERC, and FRCC requirements to assure the integrity and reliability of Florida's Bulk Electric System (BES).

1.3 DISTRIBUTION

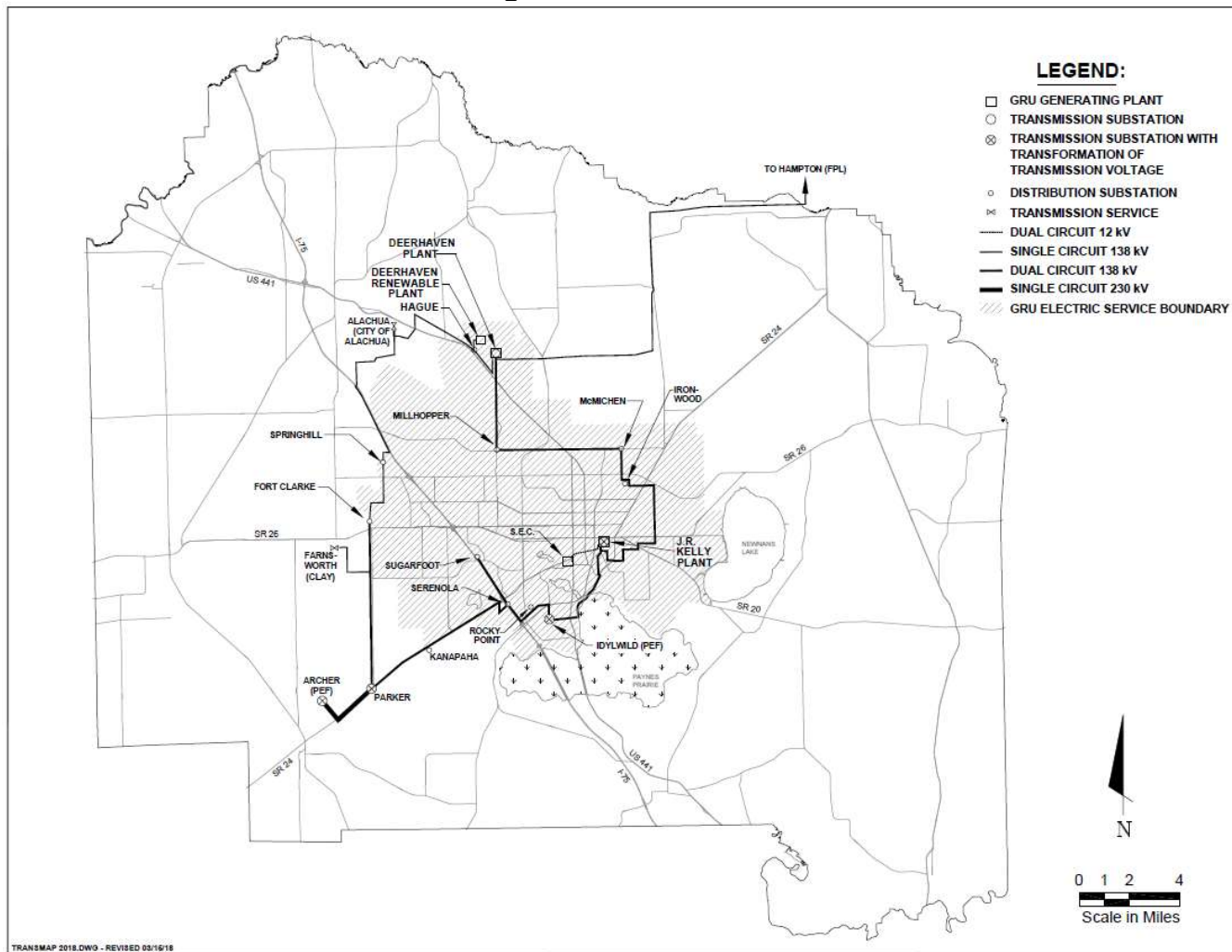
The System has seven loop-fed and four radial distribution substations connected to the transmission network: Ft. Clarke, Kelly, Kelly West, McMichen, Millhopper, Serenola, Sugarfoot, Ironwood, Kanapaha, Rocky Point, and Springhill substations, respectively. Parker Road is GRU's only 230 kV transmission voltage substation. The locations of these substations are shown on Figure 1.1.

The seven loop-fed distribution substations are connected to the 138 kV bulk power transmission network with feeds that prevent the outage of a single transmission line from causing any outages in the distribution system. Ironwood, Kanapaha, Rocky Point, and Springhill are served by a single tap to the 138 kV network which would require distribution switching to restore customer power if the single transmission line tapped experienced an outage. GRU serves its retail customers through a 12.47 kV distribution network. The System has three Power Delivery Substations (PDS) with single 33.6 MVA transformers that are directly radial tapped to the looped 138 kV system. The Springhill Substation consists of one 33.3 MVA transformer served by a loop-fed SEECO pole-mounted switch. Ft. Clarke substation has a 22.4 MVA and a 28 MVA transformer. Kelly West Substation has a 56 MVA and a 33.6 MVA transformer. Millhopper Substation has two 33.6 MVA transformers and one 44MVA transformer. Sugarfoot Substation has three 44 MVA transformers. Serenola has two 44MVA transformers. Finally, the McMichen Substation has two transformers at 44MVA. Under normal peak conditions, the system's substation transformers are loaded in the range of 50% to 75% of their capacity.

1.4 DISTRIBUTED GENERATION

The South Energy Center (SEC), a combined heat and power plant, has served the UF Health South Campus since February 2009. The SEC houses a 3.8 MW natural gas-fired turbine and a 7.4 MW natural gas-fired reciprocating internal combustion engine which are capable of supplying 100% of the UF Health Cancer, Heart and Vascular, and Neuromedicine hospitals' electric and thermal needs. The SEC provides electricity, chilled water, steam, heating hot water, and the storage and delivery of medical gases to the hospitals. The unique design is at least 65% efficient at primary fuel conversion to useful energy and greatly reduces emissions compared to traditional generation. The facility is designed to provide electric power into the GRU distribution system when its energy output is not totally utilized by the UF Health South Campus.

Figure 1.1
Gainesville Regional Utilities Electric Facilities



Schedule 1
EXISTING GENERATING FACILITIES (as of January 1, 2026)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Plant Name	Unit No.	Location	Unit Type	Primary Fuel		Alternate Fuel		Alt. Fuel Storage (Days)	Commercial In-Service Month/Year	Expected Retirement* Month/Year	Gross Capability		Net Capability		Status
				Type	Trans.	Type	Trans.				Summer MW	Winter MW	Summer MW	Winter MW	
J. R. Kelly		Alachua County									114.0	127.4	112.0	125.4	
	FS08.2	Sec. 4, T10S, R20E	CA	WH	PL				5/21	12/2051	41.5	41.5	41.0	41.0	OP
	GT04	(GRU)	CT	NG	PL				5/01	12/2051	72.5	85.9	71.0	84.4	OP
Deerhaven		Alachua County									439.5	460.0	414.0	433.0	
	FS02	Secs. 26,27,35	ST	NG	PL	BIT	RR		10/81	12/2036*	251.0	251.0	232.0	232.0	OP
	FS01	T8S, R19E	ST	NG	PL	RFO**	TK		8/72	12/2032*	81.0	81.0	76.0	76.0	OP
	GT03	(GRU)	GT	NG	PL				1/96	12/2046	71.5	82.0	71.0	81.0	OP
	GT02		GT	NG	PL	DFO	TK		8/76	12/2031*	18.0	23.0	17.5	22.0	OP
	GT01		GT	NG	PL	DFO	TK		7/76	12/2031*	18.0	23.0	17.5	22.0	OP
South Energy Center		Alachua County									11.2	11.5	11.2	11.5	
	GT01 (*)	Sec. 10, T10S, R20E	GT	NG	PL				5/09	12/2039	3.8	4.1	3.8	4.1	OP
	IC02 (*)	(GRU)	IC	NG	PL				12/17	12/2047	7.4	7.4	7.4	7.4	OP
Deerhaven Renewable		Alachua County													
	DHR	Sec. 26, T08, R19 (GRU)	ST	WDS	TK				12/13	12/2043	114.0	114.0	105.0	105.0	OP
System Total													642.2	674.9	

Unit Type

CA = Combined Cycle - Steam Part
CT = Combined Cycle - CT Part
GT = Gas Turbine
ST = Steam Turbine
IC = Internal Combustion Engine

Fuel Type

BIT = Bituminous Coal
DFO = Distillate Fuel Oil
NG = Natural Gas
RFO = Residual Fuel Oil
WH = Waste Heat
WDS = Wood Waste Solids

Transportation Method

PL = Pipe Line
RR = Railroad
TK = Truck

Status

OP = Operational

*These units will be assessed for their remaining useful life and for refurbishment, and their tentative retirement dates may be deferred

**This unit is in the process of transitioning its alternate fuel from RFO to DFO

2. FORECAST OF ELECTRIC ENERGY AND DEMAND REQUIREMENTS

Section 2 includes documentation of GRU's forecast of number of customers, energy sales and seasonal peak demands; a forecast of energy sources and fuel requirements; and an overview of GRU's involvement in demand-side management programs.

The accompanying tables provide historical and forecast information for calendar years 2016-2035. Energy sales and number of customers are tabulated in Schedules 2.1, 2.2, and 2.3. Schedule 3.1 gives the summer peak demand forecast by reporting category. Schedule 3.2 presents the winter peak demand forecast by reporting category. Schedule 3.3 presents net energy for load by reporting category. Short-term monthly load data is presented in Schedule 4. Projected sources of energy for the System, by method of generation, are shown in Schedule 6.1. The percentage breakdowns of energy sources shown in Schedule 6.1 are given in Schedule 6.2. The quantities of fuel expected to be used to generate the energy requirements shown in Schedule 6.1 are given by fuel type in Schedule 5.

2.1 FORECAST ASSUMPTIONS AND DATA SOURCES

- (1) All regression analyses were based on annual data. Historical data was compiled for calendar years 1970 through 2025. System data, such as net energy for load, seasonal peak demands, customer counts and energy sales, was obtained from GRU records and sources.
- (2) Estimates and projections of Alachua County population were based on population data published by The Bureau of Economic and Business Research at the University of Florida. Historical estimates used in this forecast were taken from Florida Estimates of Population 2025. Population projections used in this forecast were based on projections included in BEBR Bulletin 201 and BEBR Bulletin 198.
- (3) Historical weather data was used to fit regression models. The forecast assumes normal weather conditions. Heating degree days and cooling degree days as reported to NOAA by the Gainesville Municipal Airport

station were compiled from 1984-2025. The median values from 2016-2025 were used in this forecast.

- (4) All income and price figures were adjusted for inflation, and indexed to a base year of 2017, using the Personal Consumption Expenditures Price Index, published by the U.S. Bureau of Economic Analysis. Inflation is assumed to average approximately 2.25% per year for each year of the forecast.
- (5) The U.S. Department of Commerce, Bureau of Economic Analysis, provided historical estimates of total personal income. Forecast values of total personal income were obtained from Woods & Poole Economics, Inc.
- (6) Historical estimates of household size were obtained from BEBR Bulletin 202 (December 2025), and projections were held constant at the 2025 level through the forecast horizon.
- (7) The U.S. Department of Labor, Bureau of Labor Statistics, provided historical estimates of non-farm employment. Forecast values of non-farm employment were obtained from Woods & Poole Economics, Inc.
- (8) Retail electric prices for each billing rate category were assumed to increase at a nominal rate of approximately 2.5% per year. Prices are expressed in dollars per 1,000 kWh.
- (9) Estimates of energy and demand reductions resulting from planned demand-side management programs (DSM) were subtracted from all retail forecasts. GRU has been involved in formal conservation efforts since 1980. The forecast reduces energy sales and seasonal demands by the projected conservation impacts, net of cumulative impacts from 1980-2025. GRU's involvement with DSM is described in more detail later in this section.
- (10) Separate forecasts of solar net metering impacts and electric vehicle charging impacts were incorporated into this forecast for each customer rate classification. The overall impacts of these uses, net of impacts through 2025, results in progressively increasing energy usage in the later years of the forecast.
- (11) GRU does not have any firm wholesale agreements with other utilities. All customer, sales and load projections included in this forecast represent retail activity only.

2.2 FORECASTS OF NUMBER OF CUSTOMERS, ENERGY SALES AND SEASONAL PEAK DEMANDS

Number of customers, energy sales and seasonal peak demands were forecast from 2026 through 2035. Separate energy sales forecasts were developed for each of the following customer segments: residential, general service non-demand, general service demand, general service large demand, and outdoor lighting. Separate forecasts for the number of customers were developed for residential, general service non-demand, general service demand and general service large demand retail rate classifications. The basis for these independent forecasts originated with the development of least-squares regression models. All modeling was performed in-house using the Statistical Analysis System (SAS)⁴. The following text describes the regression equations utilized to forecast energy sales and number of customers.

2.2.1 Residential Sector

The equation of the model developed to project residential average annual energy use (kilowatt-hours per year) specifies average use as a function of residential price of electricity, an index measuring building envelope efficiency, heating degree days, and cooling degree days. The form of this equation is as follows:

$$RESAVUSE = -15985 - 18.9 (RESPR17) + 27740 (COOL_INDX) + 1.07 (HDD) + 0.34 (CDD)$$

Where:

RESAVUSE	=	Average Annual Residential Energy Use per Customer
RESPR17	=	Residential Price, Dollars per 1000 kWh
COOL_INDXX	=	Building Shell Cooling Efficiency Index
HDD	=	Annual Heating Degree Days
CDD	=	Annual Cooling Degree Days

⁴ SAS is the registered trademark of SAS Institute, Inc., Cary, NC.

Adjusted R^2 = 0.8561
 DF (error) = 24 (period of study, 1997-2025)
 t - statistics:
 Intercept = -2.77
 RESPR17 = -3.43
 COOL_INDX = 5.52
 HDD = 3.23
 CDD = 1.02

Projections of the average annual number of residential customers were developed from a linear regression model stating the number of customers as a function of Alachua County population. The residential customer model specifications are as follows:

$$RESCUS = 21612 + 239.8 (POP)$$

Where:

RESCUS = Number of Residential Customers
 POP = Alachua County Population (thousands)
 Adjusted R^2 = 0.9784
 DF (error) = 8 (period of study, 2016-2025)
 t - statistics:
 Intercept = 6.47
 POP = 20.21

The product of forecasted values of average usage per customer and number of customers yielded the projected energy sales for the residential sector.

2.2.2 General Service Non-Demand Sector

The general service non-demand (GSN) customer class includes non-residential customers with maximum billing demands less than 50 kilowatts (kW). In 1990, GRU began offering GSN customers the option to elect the General Service Demand (GSD) rate classification. This option offers potential benefit to GSN customers that use high amounts of energy relative to their billing demands. As a result, a significant proportion of current GSD customers have voluntarily elected this rate category. The forecast assumes that additional GSN customers will opt into the GSD classification, but at a more modest pace than has been observed historically. A regression model was developed to project average annual energy use by GSN customers. The model includes as independent variables, the cumulative number of optional demand customers and the price of electricity. The specifications of this model are as follows:

$$GSNAVUSE = 35.51 - 0.0065 (OPTDCUS) - 0.0894 (GSNPR17)$$

Where:

GSNAVUSE = Average Annual Energy Usage per GSN Customer

OPTDCUS = Optional GSD Customers

GSNPR17 = Delivered Electricity Price

Adjusted R^2 = 0.9198

DF (error) = 26 (period of study, 1997-2025)

t - statistics:

Intercept = 25.75

OPTDCUS = -6.67

GSNPR17 = -8.12

The number of general service non-demand customers was projected using an equation specifying customers as a function of Alachua County population. The specifications of the general service non-demand customer model are as follows:

$$GSNCUS = 4719.2 + 19.1 (POP)$$

Where:

GSNCUS = Number of General Service Non-Demand Customers

POP = Alachua County Population (thousands)

Adjusted R^2 = 0.8765

DF (error) = 8 (period of study, 2016-2025)

t - statistics:

Intercept = 7.06

POP = 8.05

Forecasted energy sales to general service non-demand customers were derived from the product of projected number of customers and the projected average annual usage per customer.

2.2.3 General Service Demand Sector

The general service demand customer class includes non-residential customers with average billing demands generally of at least 50 kW but less than 1,000 kW. Average annual energy use per customer was projected using an equation specifying average use as a function of the cumulative number of optional demand customers, electric price, and an indicator variable representing a change in eligibility criteria for the general service large demand rate category beginning in 2013. Average energy use projections for general service demand customers result from the following model:

$$GSDAVUSE = 682.3 - 0.035 (OPTDCUS) - 1.34 (GSNPR17) + 39.3 (POLICY)$$

Where:

GSDAVUSE = Average Annual Energy Use by GSD Customers

OPTDCUS = Optional GSD Customers

GSNPR17 = Delivered Electricity Price

POLICY = Eligibility Indicator Variable

Adjusted R^2 = 0.6541

DF (error) = 27 (period of study, 1995-2025)

t - statistics:

Intercept = 27.96

OPTDCUS = -1.14

GSNPR17 = -6.89

POLICY = 2.60

The annual average number of customers was projected using a linear trend analysis of historical data from 2006 – 2025. The forecast adds approximately four new GSD customers per year.

The forecast of energy sales to general service demand customers was the resultant product of projected number of customers and projected average annual usage per customer.

2.2.4 General Service Large Demand Sector

The general service large demand customer class currently includes fourteen customers that maintain an average monthly billing demand of at least 1,000 kW. Because of this requirement to maintain a minimum average billing demand, there is occasional rate migration between the large power and general service demand classes. The forecast of general service large demand energy sales was developed via analysis of each individual account. Recent historical energy sales were examined for the presence of any trends in usage patterns. This methodology has been

described as an heuristic approach. The forecast of usage per customer was held constant through the forecast horizon.

The number of customers in the general service large demand sector is expected to increase by approximately one customer every ten years. Since the timing of any prospective customer addition is not known, fractional increases were included each year providing for a smooth transition of modest load growth. Future forecasts will incorporate known, specific changes within this sector when and if they are identified.

2.2.5 Outdoor Lighting Sector

The outdoor lighting sector consists of public streetlights and rental lighting accounts. Outdoor lighting energy sales account for less than one percent of retail energy sales. Outdoor lighting energy sales were forecast to remain constant at current levels through the forecast horizon.

2.2.6 Total System Sales, Net Energy for Load, Seasonal Peak Demands and Conservation Impacts

The forecast of total system energy sales was derived by summing energy sales projections for each customer class; residential, general service non-demand, general service demand, general service large demand, and outdoor lighting. Net energy for load (NEL) was then forecast by applying a delivered efficiency factor for the System to total energy sales. The projected delivered efficiency factor used in this forecast was 0.9715. Historically delivered efficiencies from 2001 through 2025 were examined to make this determination. The impact of energy savings from conservation programs, solar net metering, and electric vehicle charging was accounted for in energy sales to each customer class, prior to calculating NEL.

The forecasts of seasonal peak demands were developed using a two-part methodology. The methodology traditionally utilized by GRU derives seasonal demand projections from forecasts of annual NEL. Winter peak demands are expected to occur in January of each year, and summer peak demands are expected to occur in August. The average ratio of the most recent 25 years' monthly NEL for January and August, as a portion of annual NEL, was applied to projected annual NEL to obtain estimates of January and August NEL over the forecast horizon. The medians of the past 25 years' load factors for January and August were applied to January and August NEL projections, yielding seasonal peak demand projections. A second methodology that has been included in recent forecasts involves the development of separate regression equations for winter peak demand and summer peak demand. These regression equations include retail net energy for load and minimum temperature (winter) and maximum temperature (summer) as their explanatory variables. The results from this methodology were combined in a manner such that results from the load factor methodology and results from the regression methodology were equally weighted to yield final projections of seasonal peak demands included in this TYSP forecast.

2.3 ENERGY SOURCES AND FUEL REQUIREMENTS

2.3.1 Fuels Used by the System

Presently, the System is capable of using coal, woody biomass, natural gas, residual oil, and distillate oil to satisfy its fuel requirements. The System has historically relied upon coal to fulfill much of its fuel requirements. However, with lower natural gas prices, and subsequent fuel switching, natural gas has become the largest portion of generation fuel. Because the System participates in interchange sales and purchases, and because fuel prices constantly change, actual consumption of these fuels will likely differ from the requirements indicated in Schedule 5.

2.3.2 Power Purchase Agreements

2.3.2.1 Solar Feed-In Tariff. In March of 2009, GRU became the first utility in the United States to offer a European-style solar feed-in tariff (FIT). Under this program, GRU is purchasing solar energy from approximately 250 privately-owned systems distributed throughout GRU's service territory. Each FIT system has an individual contract with a 20-year term. Approximately 18.6 MW of solar generation were constructed under the Solar FIT program.

2.4 DEMAND-SIDE MANAGEMENT

2.4.1 Demand-Side Management Programs

Demand and energy forecasts outlined in this Ten-Year Site Plan include impacts from GRU's Demand-Side Management (DSM) programs. The System

forecast reflects the incremental impacts of DSM measures, net of cumulative impacts from 1980 through 2025.

The effectiveness of historical measures is reflected in usage data. Over the past 10 years, residential usage per customer has declined 0.20% per year and non-residential usage per customer has declined 0.60% per year.

DSM direct services currently available to the System's residential customers include energy and water surveys, allowances for whole house energy efficiency improvements under the Low-income Energy Efficiency Program Plus (LEEP^{plus}), and natural gas rebates for new construction and conversions in existing homes for water heating, central heating, clothes drying and cooking appliances.

The System continues to offer standardized interconnection procedures for both residential and non-residential customers who install photovoltaic solar systems on their homes or businesses.

GRU has also produced numerous factsheets, publications, and videos which are available at no charge to customers, and which assist them in making informed decisions regarding their consumption.

2.4.2 Demand-Side Management Methodology and Results

Energy and demand savings resulting from DSM program implementation have been estimated using a combination of techniques, including engineering calculations, pre and post billing analysis, and measurement and verification for specific measures. Known interactions between measures and programs were accounted for where possible. From 1980 through 2025, GRU estimates that utility-sponsored DSM programs reduced energy sales by 222 GWh and lowered summer peak demand by 44 MW. In the forecast period, DSM-related savings are projected to be very small

relative to system load due to the scaling back of programs in this and future years' budgets.

2.4.3 Supply Side Programs

The System has undertaken several initiatives to improve the adequacy and reliability of the transmission and distribution systems. GRU purchases overhead and underground transformers that exceed the efficiency specified by the NEMA TP-1 Standard. GRU has improved the feeder system by reconductoring feeders from 4/0 Copper to 795 MCM aluminum overhead conductor. In specific areas, feeders have been installed underground using 1000 MCM underground cable and most if not all new distribution feeder installations must be underground. GRU adds capacitors on its distribution feeders where necessary to support a high system-wide power factor. GRU conducted a Cable Restoration Project, where direct-buried underground primary cables installed prior to 1985 were injected with a solution that restored the insulation of the cable and extends the cable's useful life. Efforts have been made to increase segmentation of feeders by adding more fusing stages, which reduces the number of customers behind any one device. GRU expends great effort in hardening its overhead distribution facilities, increasing basic insulation levels everywhere feasible, using thicker poles, installing animal guards and rebuilding circuits using vertical construction with greater phase spacing. Since 2022, GRU energized three new main feeders that improved reliability by increasing the ability to switch loads under contingency. Efforts in distribution automation have included adding reclosers and automated switches, which decrease outage times by enabling GRU's system operators to remotely switch customers to adjacent feeders when outages occur. GRU has a vegetation management program targeting feeders on a three-to-four-year rotational basis as well as a wood pole inspection program that follows an eight-year inspection cycle.

2.5 FUEL PRICE FORECAST ASSUMPTIONS

GRU relies on natural gas and biomass as primary fuels used to meet its generation needs. Both heavy and light fuel oils as well as coal are used as backup for natural gas-fired generation, although in practice they are rarely used, and heavy oil use is being phased out. GRU consults a number of reputable sources such as EIA, S&P Global Platts, Platts Gas Daily, Coaldesk, and the NYMEX futures market when assessing expected future fuel commodity prices. Costs associated with transporting coal and natural gas to GRU's generating stations are specific to arrangements with transportation entities. Coal is transported to GRU by CSX rail, and natural gas is transported over the Florida Gas Transmission (FGT) Company pipeline system.

2.5.1 Coal

Coal was used to generate approximately 0.7% of the energy produced by the system in 2025. Thus far, GRU has purchased low sulfur and medium sulfur, high BTU eastern coal for use in FS02. In 2009, FS02 was retrofitted with an air quality control system, which was added as a means of complying with new environmental regulations. Following this retrofit, FS02 can utilize coals with up to approximately 2.9% sulfur content. Given the impact of impending environmental regulations on coal generating units, reduced demand, and depressed prompt prices for Central Appalachian (CAPP) coal, GRU has continued to purchase relatively high-quality Eastern coal whenever it enters the market. GRU does not anticipate any near-term coal purchases due to the system only using coal for emergencies and natural gas having lower forecasted prices than coal for much of the foreseeable future.

In addition to the commodity price of coal and rail transport expense, GRU's all-in price of coal also incorporates the cost of environmental commodities (pebble lime) used during the combustion of coal to comply with environmental regulations as well as expenses associated with railcar maintenance, disposal of combustion products, and diesel for fuel pile maintenance.

In 2021, the System completed a dual-fuel upgrade on Deerhaven Unit 2 to allow the boiler to be able to operate on natural gas and/or coal. As natural gas prices are forecasted to remain relatively low compared to coal over most of the 10-year horizon, coal consumption is forecasted to be relatively small. However, if natural gas prices increase beyond coal prices, the unit may switch its fuel source back to coal if coal supply is readily available. Otherwise, coal will be the back-up/emergency fuel for the unit when natural gas is unavailable.

2.5.2 Natural Gas

GRU procures natural gas for power generation and for distribution by its Local Distribution Company (LDC). In 2025, GRU purchased approximately 17.6 million MMBTU for use by both systems. GRU power plants used 87% of the total purchased for GRU during 2025, while the LDC used the remaining 13%. Natural gas was used to produce approximately 74% of the energy produced by GRU's electric generating units during calendar year 2025.

GRU purchases natural gas via arrangements with producers and marketers connected with the FGT interstate pipeline. GRU's delivered cost of natural gas includes the commodity, FGT's fuel charge, FGT's usage (transportation) charge, FGT's reservation (capacity) charge, prepay agreements, and basis adjustments. Fuel commodity cost projections were based on closing NYMEX natural gas futures prices for Henry Hub.

GRU currently has three active natural gas prepay contracts that began in 2025. These long-term agreements secure natural gas at a discount to the traded index price and are structured with 30-year terms that include multiple off-ramp provisions, which allow GRU to exit the contracts under specified conditions. Collectively, these three prepay arrangements provide approximately 50% of GRU's forecasted natural gas volume. The purpose of these prepay agreements is to ensure GRU has access to lower-cost natural gas and to provide long-term price stability for GRU's customers.

2.5.3 Biomass

GRU procures woody biomass consisting mainly of forest residue from logging operations and urban wood waste from within a 75-100-mile radius of the plant. The forecast of biomass prices is based on contract prices escalated by forecasts of the Producer Price Index for diesel and the Consumer Price Index. Biomass was used to generate approximately 25% of the total energy produced by the system in calendar year 2025.

In addition to the delivered commodity price of woody biomass, GRU's all-in price of biomass fuel also incorporates the cost of environmental commodities (ammonia) required for combustion of biomass to comply with environmental regulations as well as expenses associated with disposal of combustion products and diesel for fuel pile maintenance.

Schedule 2.1
History and Forecast of Energy Consumption and
Number of Customers by Customer Class

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
<u>Year</u>	<u>Population</u>	<u>Persons per Household</u>	<u>RESIDENTIAL</u>			<u>COMMERCIAL *</u>		
			<u>GWh</u>	<u>Average Number of Customers</u>	<u>Average kWh per Customer</u>	<u>GWh</u>	<u>Average Number of Customers</u>	<u>Average kWh per Customer</u>
2016	194,867	2.31	822	84,358	9,747	784	10,790	72,684
2017	198,891	2.31	806	86,100	9,362	775	11,132	69,579
2018	199,833	2.31	834	86,508	9,640	796	11,161	71,307
2019	201,086	2.31	837	87,050	9,621	800	11,264	71,043
2020	204,183	2.31	850	88,391	9,620	752	11,313	66,490
2021	208,252	2.32	839	89,764	9,342	759	11,342	66,928
2022	208,222	2.32	840	89,751	9,358	762	11,289	67,475
2023	214,155	2.32	844	92,308	9,147	782	11,546	67,726
2024	215,686	2.32	870	92,968	9,354	773	11,530	67,022
2025	216,256	2.32	892	93,214	9,570	779	11,502	67,703
2026	217,973	2.32	886	93,954	9,429	781	11,573	67,480
2027	219,631	2.32	893	94,669	9,428	783	11,642	67,289
2028	221,231	2.32	899	95,358	9,431	786	11,708	67,113
2029	222,774	2.32	906	96,023	9,437	788	11,773	66,952
2030	224,259	2.32	913	96,663	9,446	791	11,834	66,805
2031	225,686	2.32	920	97,278	9,460	793	11,894	66,671
2032	227,054	2.32	927	97,868	9,475	795	11,951	66,551
2033	228,365	2.32	935	98,433	9,495	798	12,006	66,445
2034	229,619	2.32	942	98,974	9,519	800	12,058	66,352
2035	230,814	2.32	950	99,489	9,545	802	12,108	66,272

* Commercial includes General Service Non-Demand and General Service Demand Rate Classes

Schedule 2.2
History and Forecast of Energy Consumption and
Number of Customers by Customer Class

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<u>Year</u>	<u>INDUSTRIAL **</u>			<u>Railroads and Railways GWh</u>	<u>Street and Highway Lighting GWh</u>	<u>Other Sales to Public Authorities GWh</u>	<u>Total Sales to Ultimate Consumers GWh</u>
	<u>GWh</u>	<u>Average Number of Customers</u>	<u>Average MWh per Customer</u>				
2016	165	13	12,758	0	25	0	1,796
2017	168	13	12,738	0	25	0	1,774
2018	175	12	14,177	0	25	0	1,830
2019	170	10	16,450	0	23	0	1,830
2020	168	10	16,406	0	20	0	1,790
2021	175	11	15,875	0	18	0	1,791
2022	179	11	15,938	0	16	0	1,797
2023	169	11	15,756	0	16	0	1,811
2024	177	12	15,273	0	16	0	1,836
2025	189	14	13,470	0	17	0	1,877
2026	188	14	13,461	0	16	0	1,871
2027	190	14	13,468	0	16	0	1,882
2028	191	14	13,475	0	16	0	1,892
2029	193	14	13,483	0	16	0	1,903
2030	194	14	13,492	0	16	0	1,914
2031	196	15	13,501	0	16	0	1,925
2032	197	15	13,511	0	16	0	1,935
2033	199	15	13,522	0	16	0	1,948
2034	200	15	13,533	0	16	0	1,958
2035	202	15	13,545	0	16	0	1,970

** Industrial includes General Service Large Demand Rate Class

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

(1)	(2)	(3)	(4)	(5)	(6)
<u>Year</u>	Sales For Resale <u>GWh</u>	Utility Use and Losses <u>GWh</u>	Net Energy for Load <u>GWh</u>	Other Customers	Total Number of Customers
2016	221	37	2,054	0	95,161
2017	220	37	2,031	0	97,245
2018	222	27	2,079	0	97,681
2019	134	36	2,000	0	98,324
2020	134	53	1,977	0	99,714
2021	135	26	1,952	0	101,117
2022	31	67	1,895	0	101,051
2023	0	36	1,847	0	103,865
2024	0	67	1,903	0	104,510
2025	0	33	1,910	0	104,730
2026	0	55	1,926	0	105,541
2027	0	55	1,937	0	106,325
2028	0	56	1,948	0	107,080
2029	0	56	1,959	0	107,810
2030	0	56	1,970	0	108,511
2031	0	57	1,982	0	109,187
2032	0	58	1,993	0	109,834
2033	0	56	2,004	0	110,454
2034	0	58	2,016	0	111,047
2035	0	58	2,028	0	111,612

Schedule 3.1
History and Forecast of Summer Peak Demand - MW

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
<u>Year</u>	<u>Total</u>	<u>Wholesale</u>	<u>Retail</u>	<u>Interruptible</u>	Residential Load <u>Management</u>	Residential <u>Conservation</u>	Comm./Ind. Load <u>Management</u>	Comm./Ind. <u>Conservation</u>	<u>Net Firm Demand</u>
2016	471	38	390	0	0	27	0	16	428
2017	461	38	380	0	0	27	0	16	418
2018	452	37	371	0	0	28	0	16	408
2019	473	28	401	0	0	28	0	16	429
2020	469	28	397	0	0	28	0	16	425
2021	466	29	393	0	0	28	0	16	422
2022	452	0	408	0	0	28	0	16	408
2023	453	0	409	0	0	28	0	16	409
2024	449	0	405	0	0	28	0	16	405
2025	474	0	430	0	0	28	0	16	430
2026	459	0	415	0	0	28	0	16	415
2027	461	0	417	0	0	28	0	16	417
2028	464	0	420	0	0	28	0	16	420
2029	467	0	422	0	0	29	0	16	422
2030	469	0	424	0	0	29	0	16	424
2031	472	0	427	0	0	29	0	16	427
2032	474	0	429	0	0	29	0	16	429
2033	477	0	432	0	0	29	0	16	432
2034	479	0	434	0	0	29	0	16	434
2035	482	0	437	0	0	29	0	16	437

Schedule 3.2
History and Forecast of Winter Peak Demand - MW

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
						Residential Load Management	Residential Conservation	Comm./Ind. Load Management	Comm./Ind. Conservation	Net Firm Demand
	<u>Winter</u>	<u>Total</u>	<u>Wholesale</u>	<u>Retail</u>	<u>Interruptible</u>					
30	2016 / 2017	397	33	300	0	0	51	0	13	333
	2017 / 2018	475	38	372	0	0	52	0	13	410
	2018 / 2019	398	24	309	0	0	52	0	13	333
	2019 / 2020	403	23	315	0	0	52	0	13	338
	2020 / 2021	413	25	323	0	0	52	0	13	348
	2021 / 2022	420	25	330	0	0	52	0	13	355
	2022 / 2023	375	0	309	0	0	53	0	13	309
	2023 / 2024	362	0	296	0	0	53	0	13	296
	2024 / 2025	416	0	350	0	0	53	0	13	350
	2025 / 2026	412	0	346	0	0	53	0	13	346
	2026 / 2027	415	0	349	0	0	53	0	13	349
	2027 / 2028	417	0	351	0	0	53	0	13	351
	2028 / 2029	419	0	353	0	0	53	0	13	353
	2029 / 2030	422	0	355	0	0	54	0	13	355
	2030 / 2031	424	0	357	0	0	54	0	13	357
	2031 / 2032	426	0	359	0	0	54	0	13	359
	2032 / 2033	428	0	361	0	0	54	0	13	361
	2033 / 2034	430	0	363	0	0	54	0	13	363
	2034 / 2035	433	0	366	0	0	54	0	13	366
	2035 / 2036	435	0	368	0	0	54	0	13	368

Schedule 3.3
History and Forecast of Net Energy for Load - GWH

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
<u>Year</u>	<u>Total</u>	<u>Residential Conservation</u>	<u>Comm./Ind. Conservation</u>	<u>Retail</u>	<u>Wholesale</u>	<u>Utility Use & Losses</u>	<u>Net Energy for Load</u>	<u>Load Factor %</u>
2016	2,271	147	70	1,796	221	37	2,054	55%
2017	2,249	148	70	1,774	220	37	2,031	55%
2018	2,297	148	70	1,830	222	27	2,079	58%
2019	2,219	149	70	1,830	134	36	2,000	53%
2020	2,197	150	70	1,790	134	53	1,977	53%
2021	2,172	150	70	1,791	135	26	1,952	53%
2022	2,116	151	70	1,797	31	67	1,895	53%
2023	2,068	151	70	1,811	0	36	1,847	52%
2024	2,125	152	70	1,836	0	67	1,903	53%
2025	2,132	152	70	1,877	0	33	1,910	51%
2026	2,149	153	70	1,871	0	55	1,926	53%
2027	2,160	153	70	1,882	0	55	1,937	53%
2028	2,171	153	70	1,892	0	56	1,948	53%
2029	2,183	154	70	1,903	0	56	1,959	53%
2030	2,194	154	70	1,914	0	56	1,970	53%
2031	2,206	154	70	1,925	0	57	1,982	53%
2032	2,218	155	70	1,935	0	58	1,993	53%
2033	2,229	155	70	1,948	0	56	2,004	53%
2034	2,241	155	70	1,958	0	58	2,016	53%
2035	2,253	155	70	1,970	0	58	2,028	53%

Schedule 4
Previous Year and 2-Year Forecast of Peak Demand and Net Energy for Load

(1)	(2)	(3)	(4)	(5)	(6)	(7)
	ACTUAL		FORECAST			
	2025		2026		2027	
	Peak		Peak		Peak	
	Demand	NEL	Demand	NEL	Demand	NEL
<u>Month</u>	<u>(MW)</u>	<u>(GWh)</u>	<u>(MW)</u>	<u>(GWh)</u>	<u>(MW)</u>	<u>(GWh)</u>
JAN	350	160	346	151	349	152
FEB	275	123	305	130	308	131
MAR	249	124	277	137	280	137
APR	332	148	327	142	328	143
MAY	385	175	374	170	376	170
JUN	388	183	410	184	412	185
JUL	430	201	410	196	412	198
AUG	408	203	415	200	417	202
SEP	377	179	390	182	392	183
OCT	318	151	342	158	343	159
NOV	277	130	277	134	279	135
DEC	270	133	291	142	293	142

Schedule 5
FUEL REQUIREMENTS

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
				ACTUAL										
FUEL REQUIREMENTS				2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
			UNITS											
(1)	NUCLEAR		TRILLION BTU	0	0	0	0	0	0	0	0	0	0	0
(2)	COAL		1000 TON	7	46	0	0	0	0	0	0	0	0	0
RESIDUAL														
(3)	STEAM		1000 BBL	16	0	0	0	0	0	0	0	0	0	0
(4)	CC		1000 BBL	0	0	0	0	0	0	0	0	0	0	0
(5)	CT		1000 BBL	0	0	0	0	0	0	0	0	0	0	0
(6)	TOTAL:		1000 BBL	16	0	0	0	0	0	0	0	0	0	0
DISTILLATE														
(7)	STEAM		1000 BBL	0	0	0	0	0	0	0	0	0	0	0
(8)	CC		1000 BBL	0	0	0	0	0	0	0	0	0	0	0
(9)	CT		1000 BBL	0	0	0	0	0	0	0	0	0	0	0
(10)	TOTAL:		1000 BBL	0	0	0	0	0	0	0	0	0	0	0
NATURAL GAS														
(11)	STEAM		1000 MCF	8,128	6,336	6,418	4,973	8,440	8,575	8,084	8,190	7,125	6,386	7,906
(12)	CC		1000 MCF	5,903	3,963	6,562	7,421	6,681	6,590	7,192	7,560	7,094	7,111	6,956
(13)	CT		1000 MCF	505	544	540	547	527	540	536	528	551	571	539
(14)	TOTAL:		1000 MCF	14,536	10,843	13,520	12,941	15,648	15,705	15,812	16,278	14,770	14,068	15,401
(15)	OTHER (specify)		1000 Tons Biomass	656	790	605	639	394	371	368	358	482	535	443

**Schedule 6.1
ENERGY SOURCES (GWH)**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
	ENERGY SOURCES		UNITS	ACTUAL 2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
(1)	ANNUAL FIRM INTERCHANGE (INTER-REGION)		GWh	0	0	0	0	0	0	0	0	0	0	0
(2)	NUCLEAR Replacement Power		GWh	0	0	0	0	0	0	0	0	0	0	0
(3)	COAL		GWh	13	87	0	0	0	0	0	0	0	0	0
	RESIDUAL													
(4)		STEAM	GWh	9	0	0	0	0	0	0	0	0	0	0
(5)		CC	GWh	0	0	0	0	0	0	0	0	0	0	0
(6)		CT	GWh	0	0	0	0	0	0	0	0	0	0	0
(7)		TOTAL:	GWh	9	0	0	0	0	0	0	0	0	0	0
	DISTILLATE													
(8)		STEAM	GWh	0	0	0	0	0	0	0	0	0	0	0
(9)		CC	GWh	0	0	0	0	0	0	0	0	0	0	0
(10)		CT	GWh	0	0	0	0	0	0	0	0	0	0	0
(11)		TOTAL:	GWh	0	0	0	0	0	0	0	0	0	0	0
	NATURAL GAS													
(12)		STEAM	GWh	674	475	495	377	660	691	640	637	571	508	633
(13)		CC	GWh	680	486	808	918	829	817	893	938	881	884	864
(14)		CT	GWh	33	49	53	54	53	53	53	53	55	56	54
(15)		TOTAL:	GWh	1387	1010	1356	1349	1542	1561	1586	1628	1507	1448	1551
(16)	NUG		GWh	0	0	0	0	0	0	0	0	0	0	0
(17)	BIOFUELS		GWh	0	0	0	0	0	0	0	0	0	0	0
(18)	BIOMASS		GWh	453	650	484	491	301	266	270	271	370	410	350
(19)	GEOTHERMAL		GWh	0	0	0	0	0	0	0	0	0	0	0
(20)	HYDRO		GWh	0	0	0	0	0	0	0	0	0	0	0
(21)	LANDFILL GAS	PPA	GWh	0	0	0	0	0	0	0	0	0	0	0
(22)	MSW		GWh	0	0	0	0	0	0	0	0	0	0	0
(23)	SOLAR		GWh	0	0	0	0	0	0	0	0	0	0	0
(24)	WIND		GWh	0	0	0	0	0	0	0	0	0	0	0
(25)	OTHER RENEWABLE		GWh	0	0	0	0	0	0	0	0	0	0	0
(26)	Total Renewable		GWh	453	650	484	491	301	266	270	271	370	410	350
(27)	Market Purchases (Sales)		GWh	48	179	97	108	116	143	126	94	127	158	127
(28)	NET ENERGY FOR LOAD		GWh	1910	1926	1937	1948	1959	1970	1982	1993	2004	2016	2028

Schedule 6.2
ENERGY SOURCES (%)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
			ACTUAL											
ENERGY SOURCES			UNITS	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
(1)	ANNUAL FIRM INTERCHANGE (INTER-REGION)		GWh	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
(2)	NUCLEAR Replacement Power		GWh	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
(3)	COAL		GWh	0.7%	4.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
RESIDUAL														
(4)		STEAM	GWh	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
(5)		CC	GWh	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
(6)		CT	GWh	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
(7)		TOTAL:	GWh	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
DISTILLATE														
(8)		STEAM	GWh	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
(9)		CC	GWh	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
(10)		CT	GWh	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
(11)		TOTAL:	GWh	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
NATURAL GAS														
(12)		STEAM	GWh	35.3%	24.7%	25.6%	19.4%	33.7%	35.1%	32.3%	32.0%	28.5%	25.2%	31.2%
(13)		CC	GWh	35.6%	25.2%	41.7%	47.1%	42.3%	41.5%	45.1%	47.1%	44.0%	43.8%	42.6%
(14)		CT	GWh	1.7%	2.5%	2.7%	2.8%	2.7%	2.7%	2.7%	2.7%	2.7%	2.8%	2.7%
(15)		TOTAL:	GWh	72.6%	52.4%	70.0%	69.3%	78.7%	79.2%	80.0%	81.7%	75.2%	71.8%	76.5%
(16)	NUG		GWh	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
(17)	BIOFUELS		GWh	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
(18)	BIOMASS		GWh	23.7%	33.7%	25.0%	25.2%	15.4%	13.5%	13.6%	13.6%	18.5%	20.3%	17.3%
(19)	GEOTHERMAL		GWh	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
(20)	HYDRO		GWh	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
(21)	LANDFILL GAS		GWh	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
(22)	MSW		GWh	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
(23)	SOLAR		GWh	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
(24)	WIND		GWh	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
(25)	OTHER RENEWABLE		GWh	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
(26)	Total Renewable		GWh	23.7%	33.7%	25.0%	25.2%	15.4%	13.5%	13.6%	13.6%	18.5%	20.3%	17.3%
(27)	Market Purchases (Sales)		GWh	2.5%	9.3%	5.0%	5.5%	5.9%	7.3%	6.4%	4.7%	6.3%	7.8%	6.3%
(28)	NET ENERGY FOR LOAD		GWh	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

3. FORECAST OF FACILITIES REQUIREMENTS

3.1 GENERATION RETIREMENTS

Deerhaven combustion turbines #1 and #2 and fossil steam unit #1 and #2 are currently undergoing assessments to estimate their remaining useful life. These units will likely be refurbished to extend their operational life beyond the dates provided in Schedule 8, which were an outgrowth of accounting useful-life designations.

3.2 RESERVE MARGIN AND SCHEDULED MAINTENANCE

GRU uses a planning criterion of 15% capacity reserve margin (required for emergency power purposes by Florida Public Service Commission Rule 25-6.035). Available generating capacities are compared with System summer peak demands in Schedule 7.1 and System winter peak demands in Schedule 7.2. Higher peak demands in summer and lower unit operating capacities in summer result in lower reserve margins during the summer season than in winter. In consideration of existing resources, expected future purchases, and savings impacts from conservation programs, GRU expects to maintain a summer reserve margin in excess of 15% over the next ten years.

3.3 GENERATION ADDITIONS

GRU does not have firm plans to add new generating units. However, GRU has evaluated adding flexible natural gas-fueled generation at its Deerhaven site. GRU also periodically evaluates purchasing power from other utilities and independent power producers.

3.4 DISTRIBUTION SYSTEM ADDITIONS

GRU is undertaking several system improvement and planning initiatives to address feeder loading and support future growth. Currently under construction are a new circuit from the Sugarfoot Substation to relieve existing feeder loads, and a new feeder from the McMichen Substation to provide power to a vehicle-charging site for a major distribution facility.

Additional planned projects include developing multiple circuits near the Millhopper Substation to offload existing feeders, installing a new feeder from the Springhill Substation to support growth in the Springhill/Santa Fe College area, adding a new feeder from the Ft. Clarke Substation to serve increasing load in northwest Gainesville, and upgrading underground backbone conductor capacity to enhance feeder capability.

GRU also has ongoing and planned hardening efforts on overhead distribution feeders, including reconfiguring pole-top assemblies with upgraded insulators and brackets to improve basic insulation levels and strengthen overall system reliability.

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	Firm	Firm		Total	System Firm					
		Installed	Capacity	Capacity		Capacity	Summer Peak	Reserve Margin	Scheduled	Reserve Margin		
	Year	Capacity (2)	Import	Export	QF	Available	Demand (1)	before Maintenance	Maintenance	after Maintenance (1)		
		<u>MW</u>	<u>MW</u>	<u>MW</u>	<u>MW</u>	<u>MW</u>	<u>MW</u>	<u>MW</u> <u>% of Peak</u>	<u>MW</u>	<u>MW</u>	<u>% of Peak</u>	
38	2016	525	106	0	0	631	428	203 47.4%	0	203	47.4%	
	2017	521	106	0	0	627	418	209 49.9%	0	209	49.9%	
	2018	631	4	0	0	635	408	227 55.6%	0	227	55.6%	
	2019	631	4	0	0	635	429	206 48.0%	0	206	48.0%	
	2020	631	4	0	0	635	425	210 49.4%	0	210	49.4%	
	2021	631	4	0	0	635	422	213 50.4%	0	213	50.4%	
	2022	634	4	0	0	638	408	230 56.3%	0	230	56.3%	
	2023	640	4	0	0	644	409	235 57.4%	0	235	57.4%	
	2024	640	0	0	0	640	405	235 58.1%	0	235	58.1%	
	2025	640	0	0	0	640	430	210 48.9%	0	210	48.9%	
	2026	642	0	0	0	642	415	227 54.7%	0	227	54.7%	
	2027	642	0	0	0	642	417	225 54.0%	0	225	54.0%	
	2028	642	0	0	0	642	420	222 52.9%	0	222	52.9%	
	2029	642	0	0	0	642	422	220 52.2%	0	220	52.2%	
	2030	642	0	0	0	642	424	218 51.5%	0	218	51.5%	
	2031	642	0	0	0	642	427	215 50.4%	0	215	50.4%	
	2032	607	0	0	0	607	429	178 41.5%	0	178	41.5%	
	2033	531	0	0	0	531	432	99 23.0%	0	99	23.0%	
	2034	531	0	0	0	531	434	97 22.4%	0	97	22.4%	
	2035	531	0	0	0	531	437	94 21.6%	0	94	21.6%	

(1) Details of planned changes to installed capacity from 2026-2035 are reflected in Schedule 8.

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	Firm	Firm		Total	System Firm	Reserve Margin		Scheduled	Reserve Margin	
		Installed	Capacity	Capacity		Capacity	Winter Peak	before Maintenance		Maintenance	after Maintenance (1)	
	<u>Year</u>	<u>Capacity (2)</u>	<u>Import</u>	<u>Export</u>	<u>QF</u>	<u>Available</u>	<u>Demand (1)</u>	<u>MW</u>	<u>% of Peak</u>	<u>MW</u>	<u>MW</u>	<u>% of Peak</u>
39	2016/17	554	106	0	0	660	333	327	98.1%	0	327	98.1%
	2017/18	659	4	0	0	663	410	253	61.7%	0	253	61.7%
	2018/19	659	4	0	0	663	333	330	99.1%	0	330	99.1%
	2019/20	661	4	0	0	664	338	326	96.5%	0	326	96.5%
	2020/21	661	4	0	0	664	348	316	90.9%	0	316	90.9%
	2021/22	666	4	0	0	669	355	314	88.5%	0	314	88.5%
	2022/23	666	4	0	0	669	309	360	116.6%	0	360	116.6%
	2023/24	673	0	0	0	673	337	336	99.7%	0	336	99.7%
	2024/25	673	0	0	0	673	350	323	92.3%	0	323	92.3%
	2025/26	673	0	0	0	673	346	327	94.5%	0	327	94.5%
	2026/27	675	0	0	0	675	349	326	93.4%	0	326	93.4%
	2027/28	675	0	0	0	675	351	324	92.3%	0	324	92.3%
	2028/29	675	0	0	0	675	353	322	91.2%	0	322	91.2%
	2029/30	675	0	0	0	675	355	320	90.1%	0	320	90.1%
	2030/31	675	0	0	0	675	357	318	89.0%	0	318	89.0%
	2031/32	631	0	0	0	631	359	272	75.7%	0	272	75.7%
	2032/33	555	0	0	0	555	361	194	53.7%	0	194	53.7%
	2033/34	555	0	0	0	555	363	192	52.9%	0	192	52.9%
	2034/35	555	0	0	0	555	366	189	51.6%	0	189	51.6%
	2035/36	555	0	0	0	555	368	187	50.8%	0	187	50.8%

(1) Details of planned changes to installed capacity from 2026-2035 are reflected in Schedule 8.

Schedule 8
PLANNED AND PROSPECTIVE GENERATING FACILITY ADDITIONS AND CHANGES

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Plant Name	Unit	Location	Unit	Fuel		Fuel Transport		Const. Start	Comm. In-Service	Expected Retire	Gross Capability		Net Capability		Status
	No.		Type	Pri.	Alt.	Pri.	Alt.	Mo/Yr	Mo/Yr	Mo/Yr*	Summer (MW)	Winter (MW)	Summer (MW)	Winter (MW)	
Deerhaven	FS01	Alachua County	ST	NG	RFO	PL	TK		8/1972	12/2032*	-81.0	-81.0	-76.0	-76.0	RP*
	FS02	Secs. 26, 27, 35,	ST	NG	BIT	PL	RR		10/1981	12/2036*	-251.0	-251.0	-232.0	-232.0	RP*
	GT01	T8S, R19E	GT	NG	DFO	PL	TK		7/1976	12/2031*	-18.0	-23.0	-17.5	-22.0	RP*
	GT02	(GRU)	GT	NG	DFO	PL	TK		8/1976	12/2031*	-18.0	-23.0	-17.5	-22.0	RP*

Unit Type

ST = Steam Turbine

Fuel Type

NG = Natural Gas

RFO = Residual Fuel Oil

DFO = Distillate Fuel Oil

Transportation Method

PL = Pipeline

TK = Truck

Status

RP = Proposed for repowering or life extension

*These units will be assessed for their remaining useful life and for refurbishment, and their tentative retirement dates may be deferred

4. ENVIRONMENTAL AND LAND USE INFORMATION

4.1 DESCRIPTION OF POTENTIAL SITES FOR NEW GENERATING FACILITIES

While GRU does not have firm plans to add new generating units, GRU has evaluated adding flexible natural gas-fueled generation to its Deerhaven site.

4.2 DESCRIPTION OF PREFERRED SITES FOR NEW GENERATING FACILITIES

Any additional system generation is expected to be sited at the existing Deerhaven site. Evaluation of the need for future generation is in progress.

4.2.1 Land Use and Environmental Features

The location of Deerhaven Generating Station is indicated on Figures 1.1 (see Section 1) and 4.1. The existing land use of the certified portion of the Deerhaven site is industrial (i.e., electric power generation and transmission and ancillary uses such as fuel storage and conveyance, water withdrawal, combustion product handling and disposal, and forest management). The site is a PS, Public Services and Operations District, zoned property. Surrounding land uses are primarily rural or agricultural with some low-density residential development. The Deerhaven site, which includes the Deerhaven and Deerhaven Renewable plants, encompasses approximately 3,474 acres.

The Deerhaven Generating Station plant site is located in the Suwannee River Water Management District. Water for potable use is supplied via the City's potable water system. Groundwater is extracted from the Floridian aquifer. Process wastewater is currently collected, treated and reused on-site. The site has zero discharge of process wastewater to surface or ground waters. GRU uses a brine concentrator/spray dryer and off-site disposal of solid wastewater treatment by-products.

4.2.2 Air Emissions

Any generation technology installed at the Deerhaven site will meet all applicable standards for all pollutants regulated for the category of emissions unit.

Figure 4.1
Deerhaven Generating Site

