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May 17, 2021

**-VIA ELECTRONIC FILING-**

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

**RE: Docket No. 20210000-OT  
Florida Power & Light Company and Gulf Power Company's 2021-2030 Ten  
Year Power Plant Site Plan**

Dear Mr. Teitzman:

Please find attached Florida Power & Light Company and Gulf Power Company's responses to Staff's First Data Request (Nos. 3-83).

If there are any questions, please contact me at (561) 304-5662.

Sincerely,

/s/ William P. Cox  
William P. Cox  
Senior Attorney  
Fla. Bar No. 00093531

Enclosures

cc: Donald Phillips, Division of Engineering  
Damien Kistner, Division of Engineering

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QUESTION:

Please refer to the Microsoft Excel document accompanying this data request titled "Data Request #1 – Excel Tables," (Excel Tables Spreadsheet). Please provide, in Microsoft Excel format, all data requested in the Excel Tables Spreadsheet for those sheets/tabs identified as associated with this question. If any of the requested data is already included in the Company's current planning period TYSP, state so on the appropriate form.

RESPONSE:

Please see responsive document provided.

QUESTION:

Please explain if the Company assumes CO<sub>2</sub> compliance costs in the resource planning process used to generate the resource plan presented in the Company's current planning period TYSP. If the response is affirmative:

- a. Please identify the year during the current planning period in which CO<sub>2</sub> compliance costs are first assumed to have a non-zero value.
- b. [Investor-Owned Utilities Only] Please explain if the exclusion of CO<sub>2</sub> compliance costs would result in a different resource plan than that presented in the Company's current planning period TYSP.
- c. [Investor-Owned Utilities Only] Please provide a revised resource plan assuming no CO<sub>2</sub> compliance costs.

RESPONSE:

Yes. Projected CO<sub>2</sub> compliance costs were utilized in the analyses that led to the resource plan presented in the 2021 FPL & Gulf Ten Year Site Plan. FPL notes that it believes utilizing CO<sub>2</sub> compliance costs is the correct method of analyzing future resource options.

- a. The first year in which there is a projected non-zero compliance cost value is 2026.
- b. If projected CO<sub>2</sub> compliance costs had been excluded from the analyses that led to the resource plan presented in the 2021 FPL & Gulf Ten Year Site Plan, then the resource plan would have been different.
- c. In response to this request, FPL performed an analysis to determine a resource plan assuming projected CO<sub>2</sub> compliance costs are zero. The resulting resource plan is presented in the table below. Note that the resource plan shown (that results from a scenario in which projected CO<sub>2</sub> compliance costs are zero) does not add any resource additions for which there is inadequate time to construct the addition, including any resources which would need to follow Florida's Bid Rule and/or require a determination of need filing.

<b>2021 TYSP Sensitivity: No CO2 Compliance Costs</b>			
<b>Retirements / Additions</b>	<b>Year</b>	<b>No CO2 Compliance Costs</b>	<b>RM%</b>
OUC PPA (100 MW), 1,043 MW Solar Indiantown PPA (330 MW)	2021	--	24.2
Manatee Battery (469 MW) +54 MW GE Upgrades Manatee 1&2 (1,618 MW), Scherer 4 (634 MW) 850 MW NFRC Line, Crist 4x0 CT (938 MW), 149 MW Solar	2022	--	24.6
Shell PPA (885 MW), +92 MW GE Upgrades	2023	298 MW Solar	20.1
Daniel 1&2 (502 MW), +196 MW GE Upgrades	2024	3x0 CT (704 MW) 522 MW Solar	20.7
+77 MW GE Upgrades Crist 4 (75 MW), Pea Ridge (12 MW)	2025	522 MW Solar	20.1
+6 MW GE Upgrades	2026	3x1 Martin CC (1,991 MW)	26.0
Crist 5 (75 MW)	2027	149 MW Solar	24.7
Lansing Smith A (32 MW)	2028	373 MW Solar	23.7
--	2029	373 MW Solar 2 x 100 MW Battery	22.9
Perdido 1&2 (3 MW)	2030	373 MW Solar 4 x 100 MW Battery	22.5

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QUESTION:

Please explain the Company's planning process for flood mitigation for current and proposed power plant sites and transmission/distribution substations.

RESPONSE:

FPL designs and constructs new infrastructure to comply with applicable codes, including flood protection requirements. The Company continuously monitors existing infrastructure – which was previously built to applicable codes – and makes necessary adjustments to ensure reliable generation and delivery of electricity to its customers.

QUESTION:

[Investor-Owned Utilities Only] Please complete and return, in Microsoft Excel format, the table associated with this question found in the Excel Tables Spreadsheet by providing, on a system-wide basis, the hourly system load in megawatts (MW) for the period January 1 through December 31 of the year prior to the current planning period. For leap years, please include load values for February 29. Otherwise, leave that row blank. Please also describe how loads are calculated for those hours just prior to and following Daylight Savings Time.

RESPONSE:

Please see responsive documents provided for FPL and Gulf Power. Gulf Power's hourly loads have been shifted forward to represent Eastern Standard Time. In general, for Daylight Savings Time, hour two is reported as zero, and for Standard Time (*i.e.*, Winter Time), hour one is divided by 2.

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QUESTION:

Please complete and return, in Microsoft Excel format, the table associated with this question found in the Excel Tables Spreadsheet by providing information on the monthly peak demand experienced during the three-year period prior to the current planning period, including the actual peak demand experienced, the amount of demand response activated during the peak, and the estimated total peak if demand response had not been activated. Please also provide the day, hour, and system-average temperature at the time of each monthly peak.

RESPONSE:

Please see responsive documents provided for FPL (Attachment No. 1) and Gulf Power (Attachment No. 2).

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QUESTION:

Please identify the weather station(s) used for calculation of the system-wide temperature for the Company's service territory. If more than one weather station is utilized, please describe how a system-wide average is calculated.

RESPONSE:

For FPL, the system-wide hourly temperature is the weighted average of regional retail energy sales and temperature from a regional weather station. The regional weather stations are Miami, Ft. Myers, Daytona Beach, and West Palm Beach.

For Gulf Power, system-wide temperatures are based on hourly temperatures from the Pensacola weather station.



QUESTION:

Please explain, to the extent not addressed in the Company's current planning period TYSP, how the reported forecasts of the number of customers, demand, and total retail energy sales were developed. In your response, please include the following information: methodology, assumptions, data sources, third-party consultant(s) involved, anticipated forecast accuracy, and any difference/improvement made compared with those forecasts used in the Company's most recent prior TYSP.

RESPONSE:

**Customer Forecast**

FPL's forecasts of customers by revenue class for residential, commercial, industrial, other public authority, and railroads & railways are based on a combination of regression models and exponential smoothing models. The forecast for the number of lighting customers is based on inputs from FPL's lighting team while the forecast for the number of wholesale customers is based on known wholesale contracts. The total customer forecast is the sum of the revenue class forecasts. Economic variables, such as numbers of households and employment, are from IHS Markit. The accuracy of the current customer forecast is expected to be consistent with or better than that of prior forecasts, which was 0.4% for the 2020 TYSP customer forecast. Except for routine updates to incorporate more recent information and minor changes to model specifications, the current customer forecast methodology is consistent with the prior forecast methodology.

Gulf's forecasts of customers by revenue class for residential, commercial, and industrial are based on a combination of regression models and exponential smoothing models. The forecast for the number of lighting customers is based on inputs from FPL's lighting team while the forecast for the number of wholesale customers is based on known wholesale contracts. Economic variables, such as numbers of households and retail activity, are from IHS Markit. The accuracy of the current customer forecast is expected to be consistent with or better than prior forecasts, which was 0.3% for the 2020 TYSP customer forecast. The current customer forecasts incorporate routine updates to include more recent information. Additionally, the residential, commercial, and industrial forecast are now based on a combination of regression and exponential smoothing models. Previously, Gulf's residential customer forecast for the first two forecast years was based on input from Gulf's field marketing manager and subsequent forecast years were based on household growth projections from IHS Markit. Gulf's commercial customer forecast for the first forecast year was based on input from Gulf's field marketing manager. Subsequent forecast years were based on residential customer growth and industrial customer growth derived from historical trends. Gulf's updated customer forecast methodology is now consistent with that used for FPL's customer forecasts.

The customer forecast for the planned combined system is derived by summing the FPL and Gulf revenue class customer forecasts.

### **Peak Demand**

FPL's seasonal peak demand forecasts are developed using two regression models, one for summer peak and one for winter peak. The summer peak demand model is based on the peak day maximum and minimum temperatures, employment, an energy efficiency variable, an autoregressive term, and a binary variable for 2019. The winter peak demand model is based on peak day minimum temperature, prior day's heating degree hours, employment, and binary variables for 2008, 2020, and years after 2011. The accuracies of the current peak demand forecasts are expected to be consistent with or better than that of prior forecasts, which were 1.2% and 11.2% for the 2020 TYSP forecasts for summer and winter peaks, respectively. Except for routine updates to incorporate more recent information and minor changes to model specifications, FPL's seasonal peak demand forecasting methodologies are generally consistent with the methodologies used for the prior seasonal peak demand forecasts.

Gulf's seasonal peak demand forecasts are developed using two regression models, one for summer peak and one for winter peak. The summer peak demand model is based on peak day temperature, income per capita, an efficiency variable, income, and a moving average. The winter peak demand model is based on peak day temperature, an efficiency variable, number of customers, a binary variable for year 2017, and two moving average terms. The accuracies of the current peak demand forecasts are expected to be consistent with or better than that of prior forecasts, which were 0.3% and 9.3% for the 2020 TYSP forecasts for summer and winter peaks, respectively. Except for routing updates to incorporate more recent information and minor changes to model specifications, Gulf's seasonal peak demand forecasting methodologies are generally consistent with the methodologies used for the prior seasonal peak demand forecasts.

The peak demand forecast for the planned combined system is derived by summing the forecasted hourly load shapes for both FPL and Gulf.

### **Total Retail Energy Sales**

FPL's total retail energy sales forecast is the sum of the revenue class energy sales forecasts. The residential, commercial, and industrial class energy sales forecasts are based on projected use per customer per billing day multiplied by the projected number of customers and billing days. Additional details for the individual models are provided below. The accuracy of the current retail energy sales forecast is expected to be consistent with or better than that of prior forecasts, which was 1.3% for the 2020 TYSP energy sales forecast. Except for routine updates to incorporate more recent information and minor changes to model specifications, FPL's retail energy sales methodology is generally consistent with that used for the prior energy sales forecast.

FPL's residential use per customer forecast is based on a regression model which includes normal weather, a price term to reflect increases in the real price of electricity, real disposable income per household, an energy efficiency variable, an autoregressive term, a binary variable for Hurricane Irma, and a binary variable for April 2020.

FPL's commercial use per customer forecasts are based on two regression models, one for commercial customers on demand rates 500 kW and above (large commercial) and one for commercial on energy only rates and demand rates less than 500 kW (small/medium commercial). The large commercial model includes normal weather, a price term to reflect increases in the real price of electricity, income, an autoregressive term, a binary variable for March-May 2020, and monthly binary variables. The small/medium commercial model includes normal weather, a price term to reflect increases in the real price of electricity, employment, an energy efficiency variable, a binary variable for Hurricane Irma, a monthly binary variable, and an autoregressive term. The regression model for small commercial use per customer includes normal weather, a price term to reflect increases in the real price of electricity, employment, an energy efficiency variable, a binary variable for November 2005, a binary variable for Hurricane Irma, binary variables for months April through July 2020, and an autoregressive term.

FPL's industrial use per customer forecasts are based on two exponential smoothing models for large ( $\geq 500$  kW) and medium (21-499 kW) industrial customers and one econometric model for small ( $\leq 20$  kW) industrial customers. The small industrial use per customer model includes normal weather, a binary variable for Hurricane Irma, and an autoregressive term.

FPL's railroads & railways energy sales forecast is based on a regression model which includes monthly binary variables and an autoregressive term.

FPL's energy sales forecast for the other public authority class is based on an exponential smoothing model.

Gulf's total retail energy sales forecast is the sum of the revenue class energy sales forecasts. The residential and commercial class energy sales forecasts are based on projected use per customer per billing day multiplied by the projected number of customers and billing days; additional details for the individual models are provided below. The industrial sales forecast is based on projected use per customer multiplied by the number of customers. The street & highway energy sales forecast is based on inputs from FPL's lighting team. The accuracy of the current retail energy sales forecast is expected to be consistent with or better than that of prior forecasts, which was 1.2% for the 2020 TYSP energy sales forecast. Except for routine updates to incorporate more recent information and minor changes to model specifications, Gulf's residential and commercial energy sales forecasting methodology is generally consistent with the methodology used for prior forecasts. Previously, Gulf's industrial energy sales forecast for the first two

forecast years were based on a combination of surveys of major industrial customers and historical average use per customer. Gulf's new industrial sales forecast methodology is consistent with that used for FPL's industrial customers.

Gulf's residential use per customer forecast is based on a regression model which includes normal weather, a price term to reflect increases in the real price of electricity, an energy efficiency variable, historical binary variables, monthly binary variables, and an autoregressive term.

Gulf's commercial use per customer forecasts are based on two regression models, one for small commercial customers (Gulf rate schedules GS and FLAT-1 GS) and one for large commercial customers (commercial customers on all other non-OS rate schedules). The regression model for small commercial use per customer includes normal weather, a price term to reflect the real price of electricity, an energy efficiency variable, historical binary variables, monthly binary variables, and an autoregressive term. The regression model used for large commercial use per customer includes normal weather, a price term to reflect increases in the real price of electricity, an energy efficiency variable, historical binary variables, monthly binary variables, and an autoregressive term.

Gulf's industrial use per customer forecast is based on an exponential smoothing model. Gulf's street & highway forecast is based on inputs from FPL's lighting team.

The total retail energy sales forecast for the planned combined system is derived by summing the forecasted energy sales for both FPL and Gulf.

QUESTION:

Please identify all closed and open Florida Public Service Commission (FPSC) dockets and all non-docketed FPSC matters which were/are based on the same load forecast used in the Company's current planning period TYSP.

RESPONSE:

The following open FPSC dockets are based on the same load forecast used in FPL and Gulf's current planning period TYSP:

- 20210001-EI – Fuel and purchased power cost recovery clause with generating performance incentive factor.
- 20210015-EI – Petition for rate increase by Florida Power & Light Company
- 20210067-EQ – Petition for approval of renewable energy tariff and standard offer contract, by Florida Power & Light Company.
- 20210066-EQ – Petition for approval of new standard offer for purchase of firm capacity and energy from renewable energy facilities or small qualifying facilities and rate schedule QS-2, by Gulf Power Company.

There are no closed FPSC dockets or non-docketed FPSC matters that used the same load forecast.

QUESTION:

Please explain if your Company evaluates the accuracy of its forecasts of customer growth and annual retail energy sales presented in its past TYSPs by comparing the actual data for a given year to the data forecasted one, two, three, four, five, or six years prior.

- a. If your response is affirmative, please explain the method used in your evaluation, and provide the corresponding results, including work papers, in Microsoft Excel format for the analysis of each forecast presented in the TYSPs filed with the Commission during the 20-year period prior to the current planning period. If your Company limits its analysis to a period shorter than 20 years prior to the current planning period, please provide what analysis you have and a narrative explaining why your Company limits its analysis period.
- b. If your response is negative, please explain why.

RESPONSE:

- a. Yes, accuracy is evaluated for both FPL and Gulf Power. The formula used to calculate the forecast accuracy of customer and retail energy forecasts is shown below. The forecast variance is calculated as the weather normalized actual value divided by the forecast value minus 1. For customers, actuals are used as there are no weather normalized actuals. Variances are calculated over a one to ten year forecast horizon for FPL and one to six year forecast horizon for Gulf.

$$\text{Forecast Variance (\%)} = \left[ \left( \frac{\text{Weather Normalized Actual}}{\text{Forecast}} \right) - 1 \right]$$

Please see Attachment Nos. 1 and No. 2 to this response for the customer and retail energy forecast variances for FPL and Gulf Power, respectively.

- b. Not applicable for either FPL or Gulf Power.

QUESTION:

Please explain if your Company evaluates the accuracy of its forecasts of Summer/Winter Peak Energy Demand presented in its past TYSPs by comparing the actual data for a given year to the data forecasted one, two, three, four, five, or six years prior.

- a. If your response is affirmative, please explain the method used in your evaluation, and provide the corresponding results, including work papers, in Microsoft Excel format for the analysis of each forecast presented in the TYSPs filed with the Commission during the 20-year period prior to the current planning period. If your Company limits its analysis to a period shorter than 20 years prior to the current planning period, please provide what analysis you have and a narrative explaining why your Company limits its analysis period.
- b. If your response is negative, please explain why.

RESPONSE:

- a. Yes, accuracy is evaluated for both FPL and Gulf Power. The formula used to calculate the forecast accuracy of the respective Summer/Winter Peak Energy Demand forecasts is shown below. The forecast variance is calculated as the weather normalized actual value divided by the forecast value minus 1. Variances are calculated over a one to ten year forecast horizon.

$$\text{Forecast Variance (\%)} = \left[ \left( \frac{\text{Weather Normalized Actual}}{\text{Forecast}} \right) - 1 \right]$$

A positive forecast variance represents an under-forecast, while a negative forecast variance represents an over-forecast.

Please see Attachment Nos. 1 and 2 to this response for the Summer/Winter Peak Energy Demand forecast variances for FPL and Gulf Power, respectively.

- b. Not applicable for either FPL or Gulf Power.

QUESTION:

Please explain any historic and forecasted trends in:

- a. **Growth of customers**, by customer type (residential, commercial, industrial) as well as Total Customers, and identify the major factors (historically, currently, and in the forecasted period) that contribute to the growth/decline of the trends.
- b. **Average KWh consumption per customer**, by customer type (residential, commercial, industrial), and identify the major factors (historically, currently, and in the forecasted period) that contribute to the growth/decline of the trends.
- c. **Total Billed Retail Energy Sales (GWh) [for FPL], or Net Energy for Load (GWh) [for other companies]**, identify the major factors (historically, currently, and in the forecasted period) that contribute to the growth/decline of the trends. Please include a detailed discussion of how the Company's demand management program(s) and conservation/energy-efficiency program(s) impact the growth/decline of the trends.

RESPONSE:

a. **Growth of customers**

FPL's total customers grew 1.5% in 2020, compared to the growth of 2.0% in 2019. The 2020 growth is more indicative of normal growth rates because the 2019 growth rate was higher due to the acquisition of Vero Beach at the end of 2018. The total customer growth was driven primarily by residential customer growth, which grew 1.5% in 2020. Commercial customers grew by 1.1% in 2020 due to the growth of small and medium commercial customers; the number of large commercial customers decreased. Industrial customer grew by 1.7% in 2020 due to the growth of small industrial customers.

Gulf's total customers grew by 1.2% in 2020, compared to flat growth in 2019. The flat customer growth in 2019 was due to the impacts of Hurricane Michael, which occurred in October 2018. The total customer growth was driven primarily by growth in residential and commercial customers. Industrial customers decreased by 2.0% in 2020; however, this decrease is not indicative of overall class-level trends because the 2.0% decline was due to a decrease of 5 customers from a total customer base of 250.

Customers for the combined FPL and Gulf system are forecasted to grow by 1.0 to 1.2% per year, with total customer growth being driven primarily by residential customer growth.



**b. Average kWh consumption per customer**

FPL's weather-normalized use per customer for residential and commercial customers were significantly affected by the COVID-19 pandemic and the shelter-in-place orders that were implemented to mitigate the spread of the virus. The results were an increase in residential usage of more than 3.8% due to people staying at home more but a decrease in commercial usage of more than 6.4% due to business shutdowns. FPL's industrial use per customer increased in 2020; however, this increase is not attributable to impacts from the pandemic.

Gulf's weather-normalized use per customer for residential and commercial customers were also significantly affected by the pandemic. Gulf's 2020 residential usage increased 1.2% while commercial usage decreased 6.8%. Industrial usage decreased 5.3% in 2020 due to lower usage by a small number of large industrial customers.

For the combined system, use per customer for both the residential and commercial classes are forecast to decline due to continued improvements to equipment efficiencies. Residential usage is forecast to decline by 0.5 to 1% per year over the next few years while commercial usage is forecast to decline by 0.2 to 0.5% per year over the same time period. As previously discussed, industrial use per customer is not as reliable a measure of overall class-level trends.

**c. Total retail energy sales**

FPL's weather-normalized retail energy sales increased 0.6% in 2020 primarily from growth in the residential class, partially offset by declines in the commercial class. Residential energy sales grew due to higher usage and customer growth while commercial energy sales declined due to lower usage, partially offset by customer growth.

Gulf's weather-normalized retail energy sales decreased by 1.9% in 2020 due to lower commercial and industrial energy sales, partially offset by higher residential sales. The commercial sales decline was due to lower usage and the industrial sales decline was driven by lower usage by a small number of large industrial customers. Residential sales growth was driven by higher usage combined with customer growth. Although FPL and Gulf experienced similar changes in class-level sales, Gulf's retail sales declined because the commercial and industrial classes, which decreased in 2020, make up a higher proportion of retail sales compared to FPL. Additionally, Gulf had lower residential sales growth compared to FPL.

For the combined system, retail sales are forecast to grow by 0.3 to 1.3% per year over the TYSP forecast horizon. The retail sales growth is driven by growth in residential and commercial class sales and these class-level energy sales are driven by customer growth, partially offset usage declines. The declines in usage are primarily due to improvements in equipment efficiencies.

QUESTION:

Please explain any historic and forecasted trends in each of the following components of Summer/Winter Peak Demand:

- a. **Demand Reduction due to Conservation and Self Service**, by customer type (residential, commercial, industrial) as well as Total Customers, and identify the major factors (historically, currently, and in the forecasted period) that contribute to the growth/decline in the trends.
- b. **Demand Reduction due to Demand Response**, by customer type (residential, commercial, industrial), and identify the major factors (historically, currently, and in the forecasted period) that contribute to the growth/decline of the trends.
- c. **Total Demand**, and identify the major factors (historically, currently, and in the forecasted period) that contribute to the growth/decline in the trends.
- d. **Net Firm Demand**, by the sources of peak demand appearing in Schedule 3.1 and Schedule 3.2 of the current planning period TYSP, and identify the major factors (historically, currently, and in the forecasted period) that contribute to the growth/decline in the trends.

RESPONSE:

- a. **Demand reduction due to Conservation and Self Service**  
For the combined FPL and Gulf Power system, the residential and commercial/industrial conservation at the time of the summer and winter peaks has increased over the last 10 years and is forecast to continue to increase through 2025.
- b. **Demand reduction due to demand response**  
Neither FPL nor Gulf Power has implemented any demand response in the past 3 years. No demand response is incorporated in the peak demand forecasts.
- c. **Total Demand**  
FPL's weather-normalized summer peak demand has trended upward over the past 10 years primarily due to growth in the number of customers along with the addition of new wholesale requirements sales.

Gulf's weather-normalized summer peak demand has been generally flat over the past 10 years primarily due to efficiency improvements which offset customer growth. For the combined system, summer peak demand is forecast to grow over the TYSP forecast horizon primarily driven by customer growth, partially offset by efficiency improvements.

d. **Net Firm Demand**

Net Firm Demand follows the same pattern as Total Demand and is influenced the same factors driving Total Demand. Net Firm Demand is simply Total Demand after adjusting for Demand Response and Conservation.

QUESTION:

Please explain any anomalies caused by non-weather events with regard to annual historical data points for the period 10 years prior to the current planning period that have contributed to the Company's Summer/Winter Peak Energy Demand.

RESPONSE:

The Company is not aware of any non-weather anomalies that have contributed to the historical Summer/Winter Peak Energy Demands beyond those factors already identified as drivers of peak demand, such as customer growth, economic conditions, wholesale requirements sales, private solar, plug-in electric vehicles, impacts of economic development rates, Company-sponsored DSM programs, and demand response.

QUESTION:

**[Investor-Owned Utilities Only]** If not included in the Company's current planning period TYSP, please provide load forecast sensitivities (high band, low band) to account for the uncertainty inherent in the base case forecasts in the following TYSP schedules, as well as the methodology used to prepare each forecast:

- a. Schedule 2.1 – History and Forecast of Energy Consumption and Number of Customers by Customer Class.
- b. Schedule 2.2 - History and Forecast of Energy Consumption and Number of Customers by Customer Class.
- c. Schedule 2.3 - History and Forecast of Energy Consumption and Number of Customers by Customer Class.
- d. Schedule 3.1 - History and Forecast of Summer Peak Demand.
- e. Schedule 3.2 - History and Forecast of Winter Peak Demand.
- f. Schedule 3.3 - History and Forecast of Annual Net Energy for Load.
- g. Schedule 4 - Previous Year and 2-Year Forecast of Peak Demand and Net Energy for Load by Month.

RESPONSE:

For both FPL and Gulf Power, load forecast sensitivities are developed for Net Energy for Load (NEL) and Summer Peak. These sensitivities relate to the following schedules/columns below. Please see Attachment No. 1 and Attachment No. 2 to this response for the NEL and Summer Peak sensitivities for FPL and Gulf, respectively.

Net Energy for Load: Schedule 2.3 column (19), Schedule 3.3 column (2), and  
Schedule 4 columns (5) and (7), Annual Values  
Summer Peak: Schedule 3.1 column (2), Schedule 4 columns (4) and (6), AUG

Sensitivities are not developed for the other Schedules or for other columns of the Schedules listed above.

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Sensitivities were developed as follows. Using TYSPs back to 1989, forecast errors one to ten years ahead are computed for both NEL and Summer Peak for each TYSP. Based on these historical forecast error distributions, 75% confidence intervals of forecast errors are computed.

These one to ten year P75 forecast errors are applied to the forecasts of NEL and Summer Peak to derive the high and low forecast sensitivities.

QUESTION:

Please discuss whether the Company included plug-in electric vehicle (PEV) loads in its demand and energy forecasts for its current planning period TYSP. If so, how were these impacts accounted for in the modeling and forecasting process?

RESPONSE:

Yes, the contribution of plug-in electric vehicles to FPL and Gulf's peak demands and energy forecasts are included in the 2021 Ten-Year Site Plan. A description of the methodology used to develop the plug-in electric vehicle energy and demand forecasts can be found in the company's response to Staff's First Data Request No. 18. The impact of plug-in electric vehicles is accounted for in the forecasting process as line item adjustments to FPL's NEL, summer, and winter coincident peak demands for the 2021 through 2030 period. These contributions are incremental to totals for each from the end of 2020.

QUESTION:

Please discuss the methodology and the assumptions (or, if applicable, the source(s) of the data) used to estimate the number of PEVs operating in the Company's service territory and the methodology used to estimate the cumulative impact on system demand and energy consumption.

RESPONSE:

FPL and Gulf (the Company) estimate penetration based on the same process, using registration data purchased from the Florida Department of Motor Vehicles (DMV). The Company performs its estimation using a two-step process.

First, the Company reviews its PEV forecast for Florida annually, and updates as necessary, using the following methodology:

- The Company starts by forecasting the number of PEVs by vehicle type expected to be in use in the United States using a number of third party resources (*e.g.*, Bloomberg New Energy Finance, Wood Mackenzie, and U.S. Energy Information Administration) and discussions with knowledgeable professionals in the automotive industry.
- The Company then takes the number of registered PEVs in Florida and divides it by the number of vehicles in use nationally to derive Florida's current share of the U.S. market.
- This percentage share (~4.3%) is then multiplied by the Company's national forecast to get the Florida PEV forecast by year.

Second, the Company updates its PEV forecast for its service territory annually using the following methodology:

- FPL takes the number of registered PEVs in its service territory (DMV registrations) and divides it by the number of PEVs in use in Florida to derive FPL's current share of the Florida market.
- This percentage share (~60.9% for FPL and 2.5% for Gulf) is then multiplied by the Florida PEV forecast (as described above) to get the annual PEV service territory forecast.

The contribution to net energy for load from PEVs was derived from the Company's light duty vehicle (passenger car or "LDV") and truck and bus forecasts using estimates of vehicle efficiency (in miles per kWh) and the expected average annual driving distance per vehicle. Vehicle efficiency data is sourced from [Fueleconomy.gov](http://Fueleconomy.gov). The Company then sources average annual miles driven by vehicle type (*e.g.* passenger vehicles, trucks and buses) from the U.S. Department of Energy Alternative Fuels Data Center and U.S. Department of Transportation Federal Highway Administration. For each vehicle type, annual driving distance (mi.) is divided



by vehicle efficiency (mi./kWh) to determine the average annual kWh usage per vehicle. These values are then multiplied by the forecasted number of vehicles to determine aggregate energy load. Energy values are at the generator and have been adjusted for system losses.

For summer and winter peak demand, the Company estimated the most likely charging schedule for LDVs, trucks, and buses. The percent of each vehicle type expected to be charging during the summer and winter peak periods was then estimated in relation to the forecasted summer and winter peak demands. To create the summer and winter coincident peak demand impacts, the estimated number of vehicles (as previously described) was multiplied by the percentage of each vehicle type charging during FPL's peak hour and multiplied by the kW charging rate per vehicle type.

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QUESTION:

Please complete and return, in Microsoft Excel format, the table associated with this question found in the Excel Tables Spreadsheet by providing estimates of the requested information within the Company's service territory for the current planning period. Direct current fast charger (DCFC) PEV charging stations are those that require a service drop greater than 240 volts and/or use three-phase power.

RESPONSE:

Please see Attachment No. 1 for FPL's response and Attachment No. 2 for Gulf Power's response.

QUESTION:

Please describe any Company programs or tariffs currently offered to customers relating to PEVs, and describe whether any new or additional programs or tariffs relating to PEVs will be offered to customers within the current planning period.

- a. Of these programs or tariffs, are any designed for or do they include educating customers on electricity as a transportation fuel?
- b. Does the Company have any programs where customers can express their interest or expectations for electric vehicle infrastructure as provided for by the Utility, and if so, please describe in detail.

RESPONSE:

FPL currently offers three EV pilot tariffs that took effect in January 2021 and will last for a period of five years:

- 1) The Utility-owned public charging for electric vehicles (UEV) tariff, enables FPL to charge drivers directly at select FPL-owned EVolution fast chargers at an established rate of \$0.30/kWh.
- 2) The other two tariffs, Electric Vehicle Charging Infrastructure Riders for General Service Demand (GSD-1EV) and General Service Large Demand (GSLD-1EV), apply to commercial customers on demand rates that offer publicly accessible fast charge stations on their premises. These tariffs help mitigate the impact of demand charges for charging stations that have low use.

Gulf currently offers two rate schedules for residential customers that relate to plug-in electric vehicles:

- 1.) A pilot rate schedule RSTOU "Residential Service – Time-of-Use" is offered as an alternative to Rate Schedule RS for service used for domestic purposes and electric vehicle charging at an individually metered dwelling unit suitable for year-round family occupancy containing full kitchen facilities.
- 2.) Rate Schedule RSVP, "Residential Service Variable Pricing – Limited Availability Rate – Electric Vehicle Charging." Gulf implemented a pilot program through the DSM plan approved by the FPSC in Order No. PSC-11-0114-PAA-EG that encouraged residential customers to automatically charge electric vehicles overnight during the off-peak periods. This approach is consistent with the assumption that plug-in electric vehicles will not materially affect the peak demand forecast. Although this pilot program concluded in

2014, customers can still utilize the applicable Rate Schedule RSVP for off-peak electric vehicle charging.

- a. FPL and Gulf customers can find information about electric vehicles (EVs) on the respective FPL and Gulf websites; FPL and Gulf will also provide information to customers that reach out with questions about EVs. In addition, FPL conducts education and outreach activities by participating in EV events (participation in 2020 events was minimal due to COVID-19)
- b. As detailed in Chapter III of Florida Power & Light Company and Gulf Power Company's 2021-2030 Ten Year Power Plant Site Plan, FPL launched the FPL Evolution pilot program in 2019 to support EV growth in Florida. The pilot will install more than 1,000 charging handles at stations across Florida, increasing the availability of universal public charging stations in Florida by approximately 50%.

The primary objective of this pilot program for FPL is to gather data and learnings ahead of mass EV adoption to ensure future EV investments enhance service and reduce costs. The pilot focuses on three key areas: a) influences of infrastructure build-out on adoption; b) rate structures and demand models; and c) grid impacts of fast-charging.

Installations under the pilot encompass different EV charging technologies and market segments, including level 2 workplace and fleet charging at public and/or private workplaces; destination charging at well-attended locations; residential charging at customers' homes; and DC fast charging in high-traffic areas like bus depots and strategically-located sites along highway corridors and evacuation routes. This pilot program is conducted in partnership with interested host sites. As of March 31, 2021, FPL has installed 432 ports at 82 locations.

In April 2017, Gulf received FPSC approval to pursue a 5-year pilot program to assist customers by providing electric vehicle supply equipment (EVSE) and installations on customer property on a revenue neutral basis. There have been no installations under the program to date.

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QUESTION:

Please describe how the Company monitors the installation of PEV public charging stations in its service area.

RESPONSE:

FPL and Gulf monitor the number of public charging station installations for plug-in electric vehicles (PEVs) in their service areas using the U.S. Department of Energy's Alternative Fueling Station Locator. On a periodic basis, the Companies extract data from the Alternative Fueling Station Locator for Florida. Pertinent data fields include but are not limited to number of ports, category of port (*e.g.*, level 2 or DCFC), and location of port.

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QUESTION:

Please describe any instances since January 1 of the year prior to the current planning period in which upgrades to the distribution system were made where PEVs were a contributing factor.

RESPONSE:

Neither FPL nor Gulf track home and/or business locations associated with ownership of electric vehicles. Therefore, the companies are not aware of any specific upgrades to the distribution system where electric vehicles were a contributing factor.

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QUESTION:

Has the Company conducted or contracted any research to determine demographic and regional factors that influence the adoption of PEVs applicable to its service territory? If so, please describe in detail the methodology and findings.

RESPONSE:

No, neither FPL nor Gulf has conducted or contracted any research to determine demographic and regional factors that influence the adoption of electric vehicles applicable to their service areas.

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QUESTION:

What processes or technologies, if any, are in place that allow the Company to be notified when a customer has installed a PEV charging station in their home?

RESPONSE:

Neither FPL nor Gulf have any processes or technology in place to track individual EV charger installations at a customer's home.



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QUESTION:

**[FEECA Utilities Only]** For each source of demand response, please complete and return, in Microsoft Excel format, the table associated with this question found in the Excel Tables Spreadsheet by providing annual customer participation information for 10 years prior to the current planning period. Please also provide a summary of all sources of demand response using the table.

RESPONSE:

Please see responsive documents provided for FPL and Gulf Power.

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QUESTION:

**[FEECA Utilities Only]** For each source of demand response, please complete and return, in Microsoft Excel format, the table associated with this question found in the Excel Tables Spreadsheet by providing annual usage information for 10 years prior to the current planning period. Please also provide a summary of all demand response using the table.

RESPONSE:

Please see responsive documents provided for FPL and Gulf Power.

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QUESTION:

**[FEECA Utilities Only]** For each source of demand response, please complete and return, in Microsoft Excel format, the table associated with this question found in the Excel Tables Spreadsheet by providing annual seasonal peak activation information for 10 years prior to the current planning period. Please also provide a summary of all demand response using the table.

RESPONSE:

Please see responsive documents provided for FPL and Gulf Power.

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QUESTION:

Please complete and return, in Microsoft Excel format, the table associated with this question found in the Excel Tables Spreadsheet by providing information on each utility-owned traditional generation resource in service as of December 31 of the year prior to the current planning period. For multiple small (<250 kW per installation) distributed resources of the same type and fuel source, please include a single combined entry. For capacity factor, use the net capacity as a basis.

RESPONSE:

Please see responsive document provided.

QUESTION:

Please complete and return, in Microsoft Excel format, the table associated with this question found in the Excel Tables Spreadsheet by providing information on each utility-owned traditional generation resource planned for in-service within the current planning period. For multiple small (<250 kW per installation) distributed resources of the same type and fuel source, please include a single combined entry. For projected capacity factor, use the net capacity as a basis.

- a. For each planned utility-owned traditional generation resource in the table, provide a narrative response discussing the current status of the project.

RESPONSE:

Please see responsive document provided.

- a. For the 4x0 Gulf Clean Energy Center (formerly Crist) CTs, construction is underway, and the project is on track to support commercial operation in December 2021.

For the Dania Beach Clean Energy Center Unit, construction of Unit 7 is underway and on track to support commercial operation in June 2022.

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QUESTION:

Please complete and return, in Microsoft Excel format, the table associated with this question found in the Excel Tables Spreadsheet by providing information on each utility-owned renewable generation resource in service as of December 31 of the year prior to the current planning period. For multiple small (<250 kW per installation) distributed resources of the same type and fuel source, please include a single combined entry. For capacity factor, use the net capacity as a basis.

RESPONSE:

Please see responsive document provided.

QUESTION:

Please complete and return, in Microsoft Excel format, the table associated with this question found in the Excel Tables Spreadsheet by providing information on each utility-owned renewable generation resource planned for in-service within the current planning period. For multiple small (<250 kW per installation) distributed resources of the same type and fuel source, please include a single combined entry. For projected capacity factor, use the net capacity as a basis.

- a. For each planned utility-owned renewable resource in the table, provide a narrative response discussing the current status of the project.

RESPONSE:

Please see responsive document provided.

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QUESTION:

Please list and discuss any planned utility-owned renewable resources that have, within the past year, been cancelled, delayed, or reduced in scope. What was the primary reason for the changes? What, if any, were the secondary reasons?

RESPONSE:

No renewable resources were cancelled, delayed, or reduced in scope within the past year.



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QUESTION:

Please complete and return, in Microsoft Excel format, the table associated with this question found in the Excel Tables Spreadsheet by providing information on each purchased power agreement with a traditional generator still in effect by December 31 of the year prior to the current planning period pursuant to which energy was delivered to the Company during said year.

RESPONSE:

Please see responsive document provided.

QUESTION:

Please complete and return, in Microsoft Excel format, the table associated with this question found in the Excel Tables Spreadsheet by providing information on each purchased power agreement with a traditional generator pursuant to which energy will begin to be delivered to the Company during the current planning period.

- a. For each purchased power agreement in the table, provide a narrative response discussing the current status of the project.

RESPONSE:

Please see responsive document provided.

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QUESTION:

Please complete and return, in Microsoft Excel format, the table associated with this question found in the Excel Tables Spreadsheet by providing information on each purchased power agreement with a renewable generator still in effect by December 31 of the year prior to the current planning period pursuant to which energy was delivered to the Company during said year.

RESPONSE:

Please see responsive document provided.

QUESTION:

Please complete and return, in Microsoft Excel format, the table associated with this question found in the Excel Tables Spreadsheet by providing information on each purchased power agreement with a renewable generator pursuant to which energy will begin to be delivered to the Company during the current planning period.

- a. For each purchased power agreement in the table, provide a narrative response discussing the current status of the project.

RESPONSE:

Please see responsive document provided.

QUESTION:

Please list and discuss any purchased power agreements with a renewable generator that have, within the past year, been cancelled, delayed, or reduced in scope. What was the primary reason for the change? What, if any, were the secondary reasons?

RESPONSE:

The 11 MW PPA with the Bay County Solid Waste Authority was terminated as of January 31, 2021. The PPA was terminated based on a decision by the Bay County Board of County Commissioners to shut down the facility, for economic reasons, and began its dismantlement on or before January 31, 2021.

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QUESTION:

Please complete and return, in Microsoft Excel format, the table associated with this question found in the Excel Tables Spreadsheet by providing information on each power sale agreement still in effect by December 31 of the year prior to the current planning period pursuant to which energy was delivered from the Company to a third-party during said year.

RESPONSE:

Please see responsive document provided.

QUESTION:

Please complete and return, in Microsoft Excel format, the table associated with this question found in the Excel Tables Spreadsheet by providing information on each power sale agreement pursuant to which energy will begin to be delivered from the Company to a third-party during the current planning period.

- a. For each power sale agreement in the table, provide a narrative response discussing the current status of the agreement.

RESPONSE:

Please see responsive document provided.

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QUESTION:

Please list and discuss any long-term power sale agreements within the past year that were cancelled, expired, or modified.

RESPONSE:

No long-term power sales agreements were cancelled, expired, or modified during the past year.



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QUESTION:

Please complete and return, in Microsoft Excel format, the table associated with this question found in the Excel Tables Spreadsheet by providing the actual and projected annual energy output of all renewable resources on the Company's system, by source, for the 11-year period beginning one year prior to the current planning period

RESPONSE:

Please see responsive document provided.

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QUESTION:

**[Investor-Owned Utilities Only]** Please complete and return, in Microsoft Excel format, the table associated with this question found in the Excel Tables Spreadsheet by providing information on all of the Company's plant sites that are potential candidates for utility-scale (>2 MW) solar installations.

RESPONSE:

Please see responsive document provided.

**QUESTION:**

Please describe any actions the Company engages in to encourage production of renewable energy within its service territory.

**RESPONSE:**

FPL and Gulf's long history of evaluating and supporting the production of renewable energy is discussed comprehensively in Section III.F. of FPL and Gulf's 2021-2030 Ten-Year Site Plan. A summary of FPL and Gulf's recent actions to encourage use of renewable energy is provided in the paragraphs that follow.

**Overview:**

FPL began implementation of two DG PV pilot programs in 2015. The first DG PV program is a voluntary, community-based, solar partnership pilot to install new solar powered generating facilities. The program is at least partially funded by contributions from customers who volunteer to participate in the pilot and does not rely on subsidies from nonparticipating customers. The second program will result in approximately 5 MW of DG PV. The objective of this second program is to collect grid integration data for DG PV and develop operational best practices for addressing potential problems that may be identified. In addition, on March 3, 2020, the FPSC approved FPL's SolarTogether program and tariff, which will add a significant amount of new PV facilities under that new program. Lastly, Gulf has been actively involved in renewable energy resource research and development.

A brief description of these programs follows:

a. Voluntary, Community-Based Solar Partnership Pilot Program ("SolarNow"):

The Voluntary Solar Pilot Program, named FPL SolarNow, provides FPL customers with an additional and flexible opportunity to support development of solar power in Florida. The FPSC approved FPL's request for this three-year pilot program in Order No. PSC-14-0468-TRF-EI on August 29, 2014. The pilot program's tariff became effective in January 2015. The pilot was recently approved for a third extension for an additional year by the FPSC in Order No. PSC- 2019-0544-TRF-EI on December 20, 2019.

This pilot program provides all customers the opportunity to support the use of solar energy at a community scale and is designed to be especially attractive for customers who do not wish, or are not able, to place solar equipment on their roof. Customers can participate in the program through voluntary contributions of \$9/month.

In December 2020, FPL received approval from the FPSC in Order No. PSC-2020-0508-TRF-EI to extend the program until December 31, 2025, while ceasing construction of additional assets after 2021. As the construction of new assets ends, the program will continue to focus on the maintenance and enhancement of the solar facilities and educational and community activities.

At the end of 2020, SolarNow enrollment had grown to 51,916 participants. This program has installed 77 projects located in 36 different locations within the FPL service territory. These projects represent approximately 2,528 kW-DC of PV generation.

b. C&I Solar Partnership Pilot Program:

This pilot program is conducted in partnership with interested commercial and industrial (C&I) customers over an approximate 5-year period. Limited investments will be made in PV facilities located at customer sites on selected distribution circuits within FPL's service territory.

c. SolarTogether – An FPL Shared Solar Program (FPL SolarTogether):

On March 3, 2020, the FPSC approved the FPL SolarTogether program and tariff, which approval includes the installation of 1,490 MW of new solar generation between 2020 and 2021 (FPSC Docket No. 20190061-EI). FPL has developed FPL SolarTogether as a cost-effective opportunity for customers to directly support the expansion of solar power without the need to install solar on their rooftop. Through FPL SolarTogether, customers have the option to subscribe to kilowatts ("kW") of solar capacity from dedicated cost-effective 74.5 MW solar power plants built for this program. Participating customers' monthly bills will include the cost of their subscribed capacity and credits that reflect the system savings generated by their subscribed capacity. At the end of 2020, 11 sites were operational under the SolarTogether program with remaining sites expected to be operational by mid-2021. Commercial Industrial and Government (C&I-G) portion of the program has been sold out as a result of the 2018-2019 pre-registration efforts. The residential and small business portion is anticipated to be sold out as of spring 2021. The low-income portion of SolarTogether, marketed as FPL SunAssist opened for enrollment on January 14, 2021, and will continue to enroll until fully subscribed.

d. Gulf's Research & Development Efforts

Gulf has evaluated the potential for wind as a renewable energy resource in Northwest Florida through meteorological research along the coastal area and has also participated in joint efforts with Southern Company to research various PV technology evaluations. In addition, in 2015, Gulf conducted market research indicating customer interest in a renewable energy alternative to rooftop PV, and after further research into various offerings across the industry, Gulf developed a subscription-based community solar program. Gulf received FPSC approval in 2016 for a 1 MW facility in Northwest Florida, intended to facilitate construction once adequate subscriptions were secure. Customer interest to date has not been adequate to justify construction of the project.

QUESTION:

**[Investor-Owned Utilities Only]** Please discuss whether the Company has been approached by renewable energy generators during the year prior to the current planning period regarding constructing new renewable energy resources. If so, please provide the number and a description of the type of renewable generation represented.

RESPONSE:

FPL and Gulf were approached multiple times in 2020 by renewable energy developers with a wide range of potential projects in various stages of research or development. While most of these projects were solar photovoltaic, developers have also suggested possible landfill gas generation and small waste to energy facilities. However, to FPL's and Gulf's knowledge, none have proceeded to construction.

QUESTION:

Does the Company consider solar PV to contribute to one or both seasonal peaks for reliability purposes? If so, please provide the percentage contribution and explain how the Company developed the value.

RESPONSE:

Yes. FPL (and Gulf) considers universal (utility-scale) solar PV to contribute firm capacity towards FPL's and Gulf's Summer peak, which typically occurs at/near the 4 to 5 p.m. hour in the Summer, but individual solar facilities do not make any significant contribution of firm capacity towards FPL's or Gulf's Winter peak, which typically occurs at/near the 7 to 8 a.m. hour. Consequently, universal solar is assumed to have a non-zero firm capacity value in regard to Summer peak but have a zero firm capacity value in regard to Winter peak. In FPL's resource planning work for the FPL, Gulf, and Integrated system, the firm capacity value of solar is typically discussed as a percentage of the MW nameplate-AC rating of the solar facility.

The percentage of a universal solar PV facility's nameplate rating that is assumed to be firm capacity can vary from one PV facility to the next due to various factors including, but not limited to, the following: the facility's geographic location, orientation of the PV panels, whether the PV panels are fixed tilt or tracking, the DC/AC ratio of solar equipment, the PV equipment used at the facility, and the amount of total solar installed on the system.

FPL develops the projected Summer firm capacity value for a new universal solar PV facility based, in part, on calculations that account for forecasts of the hourly solar insolation at the site and the resulting hourly output of the universal solar PV facility. These projections for similar future solar facilities may vary in the latter years of the 10-year reporting period due to previous solar additions shifting the hour of the peak load that remains after the impacts of the previous solar facilities are accounted for.

The firm capacity contribution (in MW) from each existing solar site is available in Schedule 1 while the firm capacity contribution from planned solar sites is available in Table ES-1 and Schedule 8.

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QUESTION:

Please identify whether a declining trend in costs of energy storage technologies has been observed by the Company.

RESPONSE:

FPL and Gulf have observed that energy storage technologies have decreased in cost, and battery energy storage is now an affordable option for consideration in some applications. The outlook for energy storage costs includes uncertainties, such as variable prices of constituent commodities and the demand for electric vehicles. FPL now includes battery energy storage systems as a resource option in its resource planning work.



QUESTION:

Briefly discuss any progress in the development and commercialization of non-lithium battery storage technology the Company has observed in recent years.

RESPONSE:

FPL and Gulf maintain awareness of progress in the development of alternative energy storage technologies including pumped hydro, thermal, flywheel, liquid air, and compressed air. The price of these alternatives continue to not be competitive with lithium battery storage technology, and the total value that these systems provide is generally limited due to relatively lower efficiency. FPL and Gulf have identified one emerging energy storage technology called electrolysis (the process of producing hydrogen from water using electricity) that may provide energy storage at a cost equal to or lower than lithium batteries for long-duration applications. Using electrolysis, excess solar energy could be used to produce green hydrogen fuel; in the future, burning this hydrogen in existing gas turbines may be a cost-effective mechanism to reduce carbon emissions during extended periods of low solar energy production. Please see pages 10 and 147-148 of FPL and Gulf's 2021 Ten Year Site Plan for further details on this pilot project at the Okeechobee Clean Energy Center.

QUESTION:

Briefly discuss any considerations reviewed in determining the optimal positioning of energy storage technology in the Company's system (e.g., Closer to/further from sources of load, generation, or transmission/distribution capabilities).

RESPONSE:

There are only three sited storage facilities presented in the 2021 FPL & Gulf Ten Year Site Plan. One is an approximate 409 MW battery storage facility that is projected to go into service in late 2021 or early 2022 in Manatee County near the existing Manatee Plant site. This battery and its location were selected based on plans to retire the existing Manatee Units 1 & 2 in that same time frame. With those generating units retired, there was a need for quick start capacity in that same area to account for potential high Winter peak loads. The 409 MW storage facility will utilize the existing transmission infrastructure at the Manatee Plant site. In addition, the battery will be located close to FPL's existing 74.5 MW solar facility at the Manatee Plant site. This helps enable the battery storage to be charged by solar resources. FPL's plan is to charge the new battery storage facility solely by solar for at least the first 5 years of the life of the battery storage, thus enabling the battery storage facility to qualify for the renewable investment tax credit (ITC). This helps lower the cost of the battery for the benefit of FPL's customers.

The 2021 FPL & Gulf Ten Year Site Plan also shows two additional 30 MW battery storage facilities being added in the same time period. One of these storage facilities is the Sunshine Gateway Energy Storage Center in Columbia County. The other storage facility is the Echo River Energy Storage Center in Suwanee County. The locations for these two storage facilities were selected for two primary reasons. First, universal solar facilities at/near the storage site will allow the storage facility to be fully charged by solar energy, thus enabling the storage facility to qualify for the renewable ITC. Second, the location of the quick start battery capacity will provide support for the FPL/Gulf transmission system in regard to potential Winter peak load conditions.

Although specific sites have not been identified for the 2029 and 2030 batteries, 300 MW is projected to be sited in Gulf's current service territory, and 400 MW is projected to be sited in FPL's current service territory. This general siting was based on overall system economics.

In addition, FPL is evaluating battery storage in both Small Scale and Large Scale (50 MW) pilot projects in order to analyze a variety of potential battery applications. Please see pages 140 through 144 of the 2021 FPL & Gulf Ten Year Site Plan for a discussion of these pilot projects.

QUESTION:

Please explain whether ratepayers have expressed interest in energy storage technologies. If so, how have their interests been addressed?

RESPONSE:

FPL and Gulf continue to receive occasional inquiries about energy storage technologies. To the extent requested by customers, the companies have provided technical and interconnection support. As of March 31, 2021, FPL is aware of 1,006 net-metering accounts that have installed battery storage systems. This data is self-reported by customers as part of the net-metering interconnection process; no compulsory mechanism exists for FPL or Gulf to track the installation of customers' behind the meter energy storage systems.

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QUESTION:

Please complete and return, in Microsoft Excel format, the table associated with this question found in the Excel Tables Spreadsheet by providing information on all energy storage technologies that are currently either part of the Company's system portfolio or are part of a pilot program sponsored by the Company.

RESPONSE:

Please see responsive document provided.

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QUESTION:

Please complete and return, in Microsoft Excel format, the table associated with this question found in the Excel Tables Spreadsheet by providing information on all energy storage technologies planned for in-service during the current planning period either as part of the Company's system portfolio or as part of a pilot program sponsored by the Company.

RESPONSE:

Please see responsive document provided.

**QUESTION:**

Please identify and describe the objectives and methodologies of all energy storage pilot programs currently running or in development with an anticipated launch date within the current planning period. If the Company is not currently participating in or developing energy storage pilot programs, has it considered doing so? If not, please explain.

- a. Please discuss any pilot program results, addressing all anticipated benefits, risks, and operational limitations when such energy storage technology is applied on a utility scale (> 2 MW) to provide for either firm or non-firm capacity and energy.
- b. Please provide a brief assessment of how these benefits, risks, and operational limitations may change over the current planning period.
- c. Please identify and describe any plans to periodically update the Commission on the status of your energy storage pilot programs.

**RESPONSE:**

As described in Section III.F. of FPL and Gulf's 2021 Ten-Year Site Plan, FPL has deployed energy storage pilot projects under two distinct pilot programs to date: 1) Small Scale Storage Pilot Projects; and 2) Large Scale (50 MW) Storage Pilot Project. The objectives of the two pilot projects are to identify the most promising applications for batteries on FPL's system and to gain experience with battery installation and operation.

**Small Scale Storage Pilot Projects:**

In 2016 and early 2017, FPL installed approximately 4 MW of battery storage systems, spread across six sites, with the general objective of demonstrating the operational capabilities of batteries and learning how to integrate them into FPL's system. These small storage projects were designed with a distinct set of high-priority battery storage grid applications in mind. These applications include: peak shaving; frequency response; and backup power. In addition, these initial projects were designed to provide FPL with an opportunity to determine how to best integrate storage into FPL's operational software systems and how best to dispatch and/or control the storage systems.

To this end, FPL installed multiple projects that have been in service for more than 3 years and have yielded valuable information regarding the applications listed above. These projects include: (i) a 1.5 MW battery in Miami-Dade County using second life automotive batteries for peak shaving and frequency response found that high in-house integration costs coupled with low remaining capacity in second life batteries do not support the business case, (ii) a 1.5 MW battery in Monroe County for backup power and voltage support

showcased the complexity of working with customer's equipment, (iii) a relocatable 0.75 MW uninterruptible power supply (UPS) battery at Trividia Health, Inc. in Broward County provides consistent support to mitigate customer's momentary disruptions and reliability issues but relocation is costly and requires high technical expertise, and (iv) smaller kilowatt-scale systems in several communities for distributed storage reliability applications successfully provide reliability support for residential customers during grid events, but FPL found front-of-the-meter deployment is more expensive than behind-the-meter installations.

**Large Scale (50 MW) Storage Pilot Project:**

The small-scale battery storage pilot projects described above are complemented by up to 50 MW of additional battery projects. These pilot projects were authorized under the Settlement Agreement in FPL's 2016 base rate case. The 50 MW of batteries that have been, and will continue to be deployed in this larger pilot project have expanded the number of storage applications and configurations that FPL will be able to test, as well as making the scale of deployment more meaningful, given the large size of FPL's system.

The first two storage projects under this pilot, placed in-service in the first Quarter of 2018, involve pairing battery storage with existing universal PV facilities. One of the projects is a 4 MW battery sited at FPL's Citrus Solar Energy Center. This project captures clipped (curtailed) solar energy from the solar panels during high solar insolation hours, then releases this energy in other hours. The second of these two projects is a 10 MW battery at FPL's Babcock Ranch Solar Energy Center. This project is designed to shift PV output from non-peak times to peak times and to provide "smoothing" of solar output and regulation services. These two projects are designed to enhance the operations of existing solar facilities that were installed in 2016. The data and lessons gathered from these two projects enable more optimized design configurations for solar-paired battery projects as well as improved operational parameters for economic dispatch.

In the fourth quarter of 2019 a 10 MW battery in Wynwood, a dense urban area close to downtown Miami, went into service. The project is designed to examine the use of batteries to support the distribution system with a focus on addressing grid, system, and customer challenges. Key learnings relate to the challenges of installing a battery in a dense urban area, including the decision to install in a building to allow for increased energy density, and integration into the distribution control system to allow for seamless integration into the Automated Feeder Switching system.

Two additional projects placed in-service in the third quarter of 2020 are designed to enhance reliability for FPL customers and the grid. One is an 11.5 MW battery that will augment the new Dania Beach Clean Energy Center Unit 7 now under construction. This battery will provide FPL an opportunity to test using battery storage to black start large generating units. The other is a 3 MW battery alongside an existing solar PV system to

create a microgrid. The microgrid will be used for local resiliency and to provide additional grid services, including mitigation of disruptions potentially caused by solar in the distribution system. The projects have thus far yielded valuable learnings about interconnection approach and properly sizing the battery to account for the inrush current needed to energize the load for these applications.

The remaining portion of the approved 50 MW of storage capacity is in development or construction. In the first quarter of 2021, FPL is adding 1 MW to the existing Babcock Ranch Battery Storage System to test the design and performance of various battery augmentation solutions to mitigate degradation. The last three projects explore battery storage opportunities associated with electric vehicles (EVs) and EV infrastructure. The first is 1.25 MW of Electric-Vehicle-to-Grid (EV2G) batteries using electric school buses that will be able to discharge electricity to the grid when needed. The project will explore the potential for utilizing electric vehicles as grid resources on FPL's system for the first time ever. The first bus was delivered in the third quarter of 2020, and four more buses will be delivered in 2021.

The second EV plus storage pilot adds 0.35 MW of storage to two FPL EVolution pilot sites in Columbia County and Nassau County for a total of 0.7 MW of storage. Pairing battery storage with EV fast charging stations is expected to provide grid benefits in the form of peak shaving and a reduction in distribution upgrades. The third and final pilot project, the "FPL EVolution Hub", has two parts: (i) 7.25 MW of storage paired with 5 MW solar PV to create a renewable microgrid, and (ii) two trailers each fitted with 0.65 MW (total 1.3 MW) of storage and 6 EV (12 total) fast chargers. The microgrid will be used to charge the trailers that will be deployed throughout FPL territory during grid outages to increase resiliency for EV charging. These final pilot projects are under development with in-service dates throughout 2021.

In addition to the battery pilot programs above, in 2020, FPL expanded the Living Lab to include residential sites around Palm Beach County to test battery storage in a residential setting. The test addresses both potential benefits of having a 5-to-8 kW storage system for home backup power and the ability of FPL to remotely control the storage systems to provide services to the electric grid. FPL plans to continue to expand the Living Lab as new technologies come to market, including plans to test solar PV paired with battery storage in a residential setting in 2021.



QUESTION:

Please identify and describe any programs the Company offers that allows its customers to contribute towards the funding of specific renewable projects, such as community solar programs.

- a. Please describe any such programs in development with an anticipated launch date within the current planning period.

RESPONSE:

FPL has two customer-focused solar programs – FPL SolarNow and SolarTogether. Future phases of the SolarTogether program may be evaluated for development and launch within the current planning period.

- (i) Voluntary Solar Pilot Program, named FPL SolarNow, launched in 2015;
- (ii) SolarTogether – An FPL Shared Solar Program, which the FPSC approved on March 3, 2020 (Docket No. 20190061-EI). Please see Section III.F. of FPL and Gulf Power's 2021 Ten-Year Site Plan for a detailed description of the programs.

Also, please see FPL's response to Staff's First Data Request No. 43.

QUESTION:

Please identify and discuss the Company's role in the research and development of utility power technologies. As part of this response, please describe any plans to implement the results of research and development into the Company's system portfolio and discuss how any anticipated benefits will affect your customers.

RESPONSE:

FPL and Gulf understand the term "utility power technologies" to broadly mean the hardware, software, and communication technologies that either directly form part of generation and transmission systems or are used to operate them.

FPL and Gulf stay abreast of developments in those technologies in a variety of ways, including:

- Monitoring industry publications and journals, as well as news in the sector;
- Participating in industry trade groups and conferences;
- Communicating regularly with vendors on new offerings or system needs; and
- Where appropriate, testing out equipment on a limited basis to determine its capabilities and risks.

Pilot projects represent one of the ways to test out equipment under real operating conditions, while only committing limited resources to a particular technology path. As described in Section III.F. of FPL and Gulf's 2021 Ten-Year Site Plan, several generation-related pilot programs have been implemented over the years to learn about various technologies and potential program structures, including the Living Lab, the Voluntary Solar Pilot Program, the Commercial & Industrial Solar Partnership Program, the Small Scale Storage Pilot Projects, and the Large Scale (50 MW) Storage Pilot.

Once a technology reaches the point of being commercially viable and potentially economic for customers, FPL and Gulf will consider it in its resource planning activities

Florida Power & Light Company  
Gulf Power Company  
Docket No. 20210000-OT  
Ten-Year Site Plan  
Staff's First Data Request  
Request No. 56  
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QUESTION:

**[Investor-Owned Utilities Only]** Please complete and return, in Microsoft Excel format, the table associated with this question found in the Excel Tables Spreadsheet by providing, on a system-wide basis, the historical annual average as-available energy rate in the Company's service territory for the 10-year period prior to the current planning period. Also, provide the projected annual average as-available energy rate in the Company's service territory for the current planning period. If the Company uses multiple areas for as-available energy rates, please provide a system-average rate as well.

RESPONSE:

Please see responsive document provided.

Florida Power & Light Company  
Gulf Power Company  
Docket No. 20210000-OT  
Ten-Year Site Plan  
Staff's First Data Request  
Request No. 57  
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QUESTION:

Please complete and return, in Microsoft Excel format, the table associated with this question found in the Excel Tables Spreadsheet by providing information on all planned traditional units with an in-service date within the current planning period. For each planned unit, provide the date of the Commission's Determination of Need and Power Plant Siting Act certification, if applicable.

RESPONSE:

Please see responsive document provided.

Florida Power & Light Company  
Gulf Power Company  
Docket No. 20210000-OT  
Ten-Year Site Plan  
Staff's First Data Request  
Request No. 58  
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QUESTION:

For each of the planned generating units, both traditional and renewable, contained in the Company's current planning period TYSP, please discuss the "drop dead" date for a decision on whether or not to construct each unit. Provide a timeline for the construction of each unit, including regulatory approval, and final decision point.

RESPONSE:

FPL is interpreting this question to refer to planned generation units that have not yet begun construction. New generation units presented in the FPL/Gulf 2021 Ten-Year Site Plan that are not yet under construction include the 2022 through 2030 PV additions and the unsited energy storage additions in 2029 and 2030. The timelines for these generation additions are presented in Attachment No. 1 to this response. FPL currently has no future specific date or milestone that would constitute a "drop dead" date related to a decision to proceed with construction of these projects.

Florida Power & Light Company  
Gulf Power Company  
Docket No. 20210000-OT  
Ten-Year Site Plan  
Staff's First Data Request  
Request No. 59  
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QUESTION:

Please complete and return, in Microsoft Excel format, the table associated with this question found in the Excel Tables Spreadsheet by providing the actual and projected capacity factors for each existing and planned unit on the Company's system for the 11-year period beginning one year prior to the current planning period.

RESPONSE:

Please see responsive document provided.

QUESTION:

**Investor-Owned Utilities Only]** For each existing unit on the Company's system, please provide the planned retirement date. If the Company does not have a planned retirement date for a unit, please provide an estimated lifespan for units of that type and a non-binding estimate of the retirement date for the unit.

RESPONSE:

In regard to new non-nuclear units presented in the 2021 Ten-Year Site Plan, the estimated economic life is generally assumed to be 30 years for PV facilities and 40 years for new CC and CT facilities. These assumptions were used in the economic analyses that were performed that led to the 2021 Ten-Year Site Plan filing. For new nuclear units, FPL assumes a minimum operating life of 40 years and a more realistic 60-year operating life.

For FPL's existing nuclear units, the current dates for the end of the operating licenses for each unit are: July 19, 2052 for Turkey Point 3; April 10, 2053 for Turkey Point 4; March 1, 2036 for St. Lucie 1; and April 6, 2043 for St. Lucie 2. Therefore, a non-binding estimate of the retirement date for these existing nuclear units would normally be these end-of-operating-license dates. Please note that the operating license expiration dates for Turkey Point Units 3 & 4 reflects a 20-year Subsequent License Renewal (SLR) approved by the Nuclear Regulatory Commission (NRC) in December 2019.

FPL and Gulf Power do not have specific firm retirement dates for all of their units. FPL has an estimated retirement date for Manatee 1 and 2 and Scherer 4 of late 2021/early 2022. Gulf has estimated retirement dates, shown below, for only the following units:

- Crist 4                      Fourth quarter 2024
- Crist 5                      Fourth quarter 2026
- Daniel 1 and 2              First quarter 2024
- Lansing Smith A            Fourth quarter 2027
- Pea Ridge 1, 2 and 3      Second quarter 2024
- Perdido 1 and 2            Fourth quarter 2029

Florida Power & Light Company  
Gulf Power Company  
Docket No. 20210000-OT  
Ten-Year Site Plan  
Staff's First Data Request  
Request No. 61  
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QUESTION:

Please complete and return, in Microsoft Excel format, the table associated with this question found in the Excel Tables Spreadsheet by providing information on all of the Company's steam units that are potential candidates for repowering to operation as Combined Cycle units.

RESPONSE:

Please see responsive document provided.



Florida Power & Light Company  
Gulf Power Company  
Docket No. 20210000-OT  
Ten-Year Site Plan  
Staff's First Data Request  
Request No. 62  
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QUESTION:

Please complete and return, in Microsoft Excel format, the table associated with this question found in the Excel Tables Spreadsheet by providing information on all of the Company's steam units that are potential candidates for fuel-switching.

RESPONSE:

Please see responsive document provided.

Florida Power & Light Company  
Gulf Power Company  
Docket No. 20210000-OT  
Ten-Year Site Plan  
Staff's First Data Request  
Request No. 63  
Page 1 of 1

QUESTION:

Please complete and return, in Microsoft Excel format, the table associated with this question found in the Excel Tables Spreadsheet by providing a list of all proposed transmission lines for the current planning period that require certification under the Transmission Line Siting Act. Please also include in the table transmission lines that have already been approved, but are not yet in-service.

RESPONSE:

The Excel Table associated with this question identifies bulk transmission lines that must be certified under the Transmission Line Siting Act (TLSA) for the FPL and Gulf areas. There is one such line in FPL's area, but none in Gulf's area, for this 10-year reporting period.

QUESTION:

Provide a narrative explaining the impact of any existing environmental regulations relating to air emissions and water quality or waste issues on the Company's system during the previous year. As part of your narrative, please discuss the potential for existing environmental regulations to impact unit dispatch, curtailments, or retirements during the current planning period.

RESPONSE:

FPL operates its Electric Generating Units in compliance with all applicable federal, state, and local regulations that limit impacts to air and water quality. Compliance with permit requirements requires FPL to monitor and operate facilities within specific allowable limits at all times. Environmental restrictions relating to air or water quality and emissions from facility operations are incorporated within those permits, and operating procedures are implemented at FPL's facilities to ensure compliance. Regulatory changes, which impose environmental restrictions, are ultimately incorporated within the operating permits as changes to existing limits or new requirements. Compliance with existing permits and new requirements is continuous, on a unit and fleet-wide basis. Changes to operations of facilities to comply with existing and new requirements are included in both existing and planned operating costs and are reflected as unit generating performance impacts that are used for unit dispatch and production costing modeling. Impacts to operation of facilities include, but are not limited to, the installation of new pollution controls (which may impact unit efficiency, and generation output), purchase of emission allowances, changes to fuels that can be combusted, restrictions on water use and discharge, minimizing impacts on protected species, and use of alternative products where applicable.

FPL has evaluated the impact of all existing regulations on the operation of its generating units and has developed compliance plans to limit, or avoid, impacts to generating unit operation. During the 2020 period, impacts from air and water environmental restrictions to generating units included the following environmental requirements: 1) use of "environmental" natural gas during startup of FPL's oil/gas steam units; 2) compliance with Cross State Air Pollution Rule ("CSAPR") through the use of emission allowances and the operation of the Selective Catalytic Reduction ("SCR") and Flue Gas Desulphurization ("FGD") on controlled units; 3) compliance with the Mercury and Air Toxics Standards ("MATS") rule and the Georgia Multi-Pollutant Rule requirements at Plant Scherer through operation of sorbent injection/bag-house control for mercury and operation of SCR and FGD ("Scrubber"), and 4) operation of temporary heaters at Cape Canaveral plant, Lauderdale plant, and Fort Myers plant when needed to provide warm water for manatees in compliance with an agency-approved manatee protection plan.

During the 2021 through 2030 period, FPL is aware of several regulations which could potentially affect generating unit dispatch or retirement including: 1) the EPA rulemaking for replacing the Affordable Clean Energy (“ACE”) rule; 2) EPA’s proposed rule repealing the 2015 definition of Waters Of The United States (“WOTUS”); 3) EPA’s review of the Coal Ash Rule; and 4) the EPA promulgation of the Steam Effluent Limitation Guidelines rule. Some of these rules have been challenged and are currently in litigation. The D.C. Circuit vacated the ACE rule and Clean Power Plan repeal in 2021, but future rulemakings under the Clean Air Act Section 111(d) are still uncertain.

On April 29, 2014, the U.S. Supreme Court reversed the DC Circuit Court of Appeals decision on CSAPR and remanded the rule back to the lower court. In accordance with the December 23, 2008 Court decision, CAIR remained in effect until a replacement rule was finalized by the EPA. On November 21, 2014, EPA issued a ministerial rule that aligns the dates in the CSAPR rule text with the revised court-ordered schedule, including 2015 Phase 1 implementation and 2017 Phase 2 implementation. In a separate ministerial action, EPA issued a NODA, as required by CSAPR, which aligns the final CSAPR default allowance allocation years with the revised court-ordered schedule implementing revisions to CSAPR and tolling the compliance deadlines by three years. The annual allowance programs for CSAPR Phase 1 implementation began January 1, 2015, with Phase 2 beginning January 1, 2017. To comply with the previous and current Transport Rules, FPL implemented several projects as the most cost effective compliance strategy, which included: 1) the 800 MW Cycling Project at the Manatee 1 & 2 units to improve the ability of the units to be economically dispatched to meet system demand and allow the removal of "must run" status; 2) installation of SCR and Scrubber on Plant Scherer Unit 3 and Unit 4 (also required by the Georgia Multi-pollutant rule); 3) Installation of pollution controls on Gulf Clean Energy Center (formerly Plant Crist) Units 4,5,6 & 7; 4) Upgrades to transmission lines to allow for the early retirement of Plant Smith Units 1 & 2; 5) Installation of pollution controls on plant Daniel Units 1 & 2. FPL's construction of the West County Energy Center, Cape Canaveral Energy Center, Riviera Beach Energy Center, Port Everglades Energy Center, and the Okeechobee Clean Energy Center and the upgrades of FPL’s existing combined cycle fleet have reduced FPL system emissions. On November 16, 2015, EPA proposed the CSAPR – Update Rule to implement reductions that it deemed necessary to address the 2008 Ozone standard. In its evaluation of Florida’s impacts on downwind ozone nonattainment and maintenance areas, EPA determined that Florida electric generating units no longer have a significant impact to air quality in those areas and has removed Florida from the CSAPR program in 2017. FPL’s ownership share of Plant Scherer Unit 3 and 4 in the State of Georgia and Plant Daniel Units 1 & 2 however will remain affected under CSAPR for the annual and ozone season programs as applicable.

The other final air regulation for which FPL has compliance obligations is the MATS rule. The rule finalizes the coal and oil-fired Maximum Achievable Control Technology (“MACT”) standards that the EPA had proposed to reduce emissions of Hazardous Air Pollutants (“HAPs”). On April 15, 2014, the DC Circuit Court of Appeals upheld the final MATS rule denying petitioners challenges that EPA improperly promulgated the rule. FPL does not anticipate any adverse impacts to operation of its generating units to comply with the MATS rule at this time. FPL began its planned installation of ESPs on its 800 MW oil fired units at Manatee and Martin plants in 2011 to prepare for compliance within the required time period using existing planned outages and additional system capacity additions from the modernization projects. Installation of ESPs on the Manatee Units 1 and 2 and Martin Units 1 and 2, along with all associated acceptance tests, were completed by February 2015. FPL’s installation of controls at Plant Scherer on Units 3 & 4 for compliance with the Georgia Multi-Pollutant rule provided the necessary emission reductions that are needed for MATS compliance. Similarly, installation of controls on Gulf Clean Energy Center Units 4,5,6 & 7 and Plant Daniel Units 1 & 2 provided co-benefits removal of air toxics targeted by the rule. In addition to Continuous Mercury Emission Monitoring systems that have been installed for compliance with MATS at Plant Scherer, Gulf Clean Energy Center and Daniel, remaining affected units will require quarterly particulate matter emission tests instead of the previous annual requirement. As of April 16, 2016, Plant Scherer, Daniel and Gulf Clean Energy Center coal-fired generating units are subject to the rule’s emissions standards and are currently demonstrating compliance. In 2020, FPL pursued the modernization of Gulf Clean Energy Center Units 6 & 7 and in 2020 retired coal combustion capability for Units 4,5,6 & 7. FPL has recently retired several units including the co-owned JEA coal fired facility SJRPP in January 2018, Martin Units 1 and 2 in December 2018, the ICL facility in December 2020. Dismantlement and demolition of the facilities is underway, and these units are no longer subject to any of the MATS, CSAPR, or GHG regulations. Additionally, FPL has announced its intent to retire Scherer Unit 4 and Manatee Units 1&2 by 2022 and its ownership share of Plant Daniel Units 1 & 2 in early 2024.

On August 21, 2018, the Affordable Clean Energy (“ACE”) rule was proposed to replace the 2015 Clean Power Plan. The ACE rule applied only to coal fired electric generating units and does not include gas fired combustion units. FPL is currently following EPA discussions regarding changes that will be needed to comply with the DC Circuit’s vacatur and remand of the ACE rule following its January 19, 2021 decision on that rule. Following its decision to regulate GHG’s from new fossil-fuel fired power plants under EPA’s new source performance standards, EPA is obligated to promulgate GHG standards for existing fossil-fuel fired generating units. Under the Clean Air Act EPA is required to promulgate a rule which requires sources to implement the best system of emission reduction (“BSER”). FPL anticipates that the majority of its coal units that were subject to the ACE rule will be retired prior to implementation of the replacement rule.

The final 316(b) rule for Cooling Water Intake Structures at Existing Facilities (316(b) Rule) was published August 15, 2014 and became effective October 14, 2014. The final 316(b) Rule requires each affected facility to develop comprehensive studies and compliance plans to determine the appropriate compliance measures to achieve the Best Technology Available (“BTA”) to minimize adverse environmental impacts and meet entrainment and impingement mortality reduction requirements. The timeline to complete these studies and plans, along with ultimate agency review and approvals, is being completed during each facility’s next 5-year permit cycle following the Rule’s effective date. Thus, all studies for FPL plants will be completed and submitted by the end of 2023. Until these studies and compliance options are finalized and reviewed, it is not possible to determine what the exact compliance controls and costs will be for each power plant affected by the rule. Generally, the implementation of the 316(b) Rule must consider the site-specific characteristics of each generating facility, the water body types that supply the intake structure and the types of aquatic organisms in the vicinity.

The final 316(b) Rule states that a variety of technological and operational measures, including cooling towers, may qualify as BTA to reduce the adverse environmental impacts of cooling water intake structures. Although the addition of cooling towers could be considered as BTA at some facilities, they may not be feasible at many locations due to impacts to endangered species (such as manatees), spatial limitations, and disproportionate costs versus benefits; therefore cooling towers were not declared BTA by EPA for all facilities. FPL operates eleven (11) power plants in Florida to which the 316(b) Rule is applicable. Six (6) plants utilize once-through cooling water systems, four (4) utilize closed-cycle recirculating systems (*i.e.*, cooling towers or cooling ponds) and Gulf Clean Energy Center utilizes both. For the seven plants utilizing once through cooling water systems, the 316(b) Rule will require comprehensive studies to determine the appropriate BTA to meet the 316(b) Rule requirements. If any of the seven units is required to meet the BTA requirements by installing cooling towers, the cost would be very high; up to hundreds of millions of dollars per site. However, based on FPL’s review of the 316(b) Rule and data that has been collected, we anticipate that most FPL facilities will not be required to retrofit their cooling systems with cooling towers and will be able to meet the determinations of BTA by installing alternative controls. These alternative controls could include fine mesh intake cooling water screens to minimize entrainment and modified traveling screens with fish return systems to meet the impingement mortality reduction standard.

For the plants utilizing closed-cycle cooling, FPL does not anticipate that additional technologies or operational changes to minimize impingement mortality or entrainment will be required. Some studies are required for these facilities, but they are relatively inexpensive, and any capital improvements required at these facilities would be minimal.

FPL is also a co-owner of Scherer Units 3 & 4 and Plant Daniel Units 1 & 2. Both facilities use cooling towers to reduce the impacts of impingement mortality and entrainment mortality as required under the 316(b) Rule. Here, just as with the FPL operated plants that utilize closed-cycle cooling, we anticipate the impacts to be relatively small.

EPA published the final Coal Combustion Residuals (“CCR”) rule on April 17, 2015. This rule regulates the disposal of combustion byproducts. The WIIN Act that passed in 2016 provided for approval of State CCR regulatory programs. USEPA then issued revised regulations during the 2018 - 2020 timeframe which ultimately extended the deadline to initiate closure of certain CCR units to April 11, 2021. FPL’s CCR units at Gulf Clean Energy Center, Daniel, and Scherer are affected by this rule and now have disposal and closure requirement(s) for bottom ash, fly ash and gypsum, while FPL’s Indiantown Cogeneration coal-fired unit was not affected by the rule. FPL and the co-owners of its coal-fired generating units affected by this rule are conducting the required engineering evaluations, inspections, and monitoring and have developed closure plans as required. FPL does not anticipate any adverse impacts to operation of its generating units to comply with the CCR rule at this time.

The EPA and the U.S. Army Corps of Engineers (“USACE”) published the final Clean Water Rule on June 29, 2015, which redefines jurisdictional “Waters of the U.S.” (“WOTUS”). The final rule created new definitions which will constitute classifications of jurisdictional waters that previously did not exist, which may result in longer permitting timelines and increased mitigation costs for future FPL development projects dependent on the project area and site-specific siting. The EPA and USACE final rule significantly expanded the number of jurisdictional wetlands throughout the U.S. The final rule went into effect August 28, 2015, and the rule was challenged within multiple District Courts. On February 14, 2019, the EPA and the USACE published the proposed replacement WOTUS rule. The new rule’s proposed definitions are much more reasonable and functional compared to the 2015 rule. The final rule, referred to as the Navigable Waters Protection Rule, was published on April 21, 2020. The Navigable Waters Protection Rule became effective on June 22, 2020 and is the second step in a two-step process to review and revise the definition of WOTUS. The Navigable Waters Protection Rule streamlines the definition of WOTUS into four categories of jurisdictional waters, provides clear exclusions for many water features that traditionally have not been regulated, and defines terms in the regulatory text that were not previously defined. The Navigable Waters Protection Rule is currently being challenged by various states and environmental groups, but is in effect in all states, except Colorado.

The final Steam Electric Effluent Limitation Guidelines (“ELG”) rule was promulgated and became effective on December 14, 2020.

Title 40 Code of Federal Regulations Part 423, which was promulgated under the authority of the Federal Clean Water Act, limits the discharge of pollutants into navigable waters and into publicly owned treatment works by existing and new sources of steam electric power plants. The previous version of the ELG was published in the Federal Register on November 19, 1982. On September 15, 2009, the EPA announced that they would undertake rulemaking to revise the ELG rule because, "current regulations, which were issued in 1982, have not kept pace with changes that have occurred in the electric power industry over the last three decades."

The final ELG rule, while it is applicable to all facilities that utilize steam for electrical generation (*i.e.*, have a steam turbine) regardless of fuel type, mainly focuses on wastewater generated by coal-fired power plants. The ELG Rule sets limits on the amount of toxic metals and other harmful pollutants that steam electric power plants are allowed to discharge in several of their more significant sources of wastewater.

The new ELG rule is applicable to thirteen FPL owned or partially owned steam generation facilities. It is not applicable to any of the combustion turbine-only powered facilities. There will be virtually no impact on the steam generation facilities which are fueled by natural gas/light oil or nuclear. Manatee Plant Units 1 and 2 can burn heavy (#6) oil and would be subject to the rule for combustion of #6 oil. FPL's announced retirement of these units by 2022 will avoid requirements to make changes to the units to comply with rule requirements. Martin Plant Units 1 and 2 were retired in late 2018 and removed from applicability of the ELG rule.

The most significant impacts of the ELG Rule will be realized by coal burning facilities, including Plant Scherer Units 3 & 4. There will be no impact at ICL as the ELG Rule does not apply since ICL was retired effective December 31, 2020. The final ELG rule requires compliance to occur as soon as possible on or after one year from the date the final rule is published in the Federal Register, but that is no later than December 31, 2025. The Rule requires the permitting authority to consider the time it takes to expeditiously plan, design, procure, and install required equipment and other operational changes that will be required. Currently, Scherer Unit 3 is in the process of studying the rule and determining the best avenue for compliance. It is anticipated the costs for compliance will include capital and O&M costs and will be significant. FPL has announced the retirement of Scherer Unit 4, for January 2022.

The several environmental regulations which FPL anticipates becoming final in the 2021 through 2030 period include: 1) Greenhouse Gas Performance Standards for Existing Sources in response to the DC Circuit's remand of the Affordable Clean Energy rule; 2) Regional Haze Reasonable Further Progress requirements for visibility improvement; 3) SIP revisions for Startup/Shutdown/Malfunction ("SSM") excess emissions; and 4) new and future revisions to the National Ambient Air Quality Standard ("NAAQS") for the criteria pollutants. While FPL does not yet know what requirements would be included in each final rule, it has made a preliminary



determination using publicly available information that the anticipated compliance requirements for FPL would not impact any of the company's generating unit capability or reliability to meet projected system demand. However, the impact of the Greenhouse Gas Performance Standards for Existing Sources on the operation and dispatch of FPL's fossil fuel fired electric generating units is uncertain until a final rule is published.

QUESTION:

For the U.S. EPA's Standards of Performance for Greenhouse Gas Emissions for New Stationary Sources: Electric Utility Generating Units Rule:

- a. Will your Company be materially affected by the rule?
- b. What compliance strategy does the Company anticipate employing for the rule?
- c. If the strategy has not been completed, what is the Company's timeline for completing the compliance strategy?
- d. Will there be any regulatory approvals needed for implementing this compliance strategy? How will this affect the timeline?
- e. Does the Company anticipate asking for cost recovery for any expenses related to this rule? Please complete and return, in Microsoft Excel format, the table associated with this question found in the Excel Tables Spreadsheet by providing information on the costs for the current planning period.
- f. If the answer to any of the above questions is not available, please explain why.

RESPONSE:

- a. In October 2015, the EPA's final rule for New Source Performance Standards ("NSPS") governing carbon dioxide ("CO<sub>2</sub>") emissions from new fossil fuel-fired electric generating units became effective. This rule will have no impact on FPL facilities since (i) FPL's new combined-cycle gas facilities routinely have GHG emission rates below the NSPS limits, (ii) FPL's new simple-cycle gas-fired peakers will meet the NSPS limits for non-baseload generating units by using designated clean fuels, (iii) FPL's solar generating facilities do not emit GHGs and are unaffected by the rule, and (iv) FPL has no current plans to build new coal-fired facilities. On April 5, 2021, the D.C. Circuit vacated and remanded the significant contribution finding rule issued in January 2021. FPL will follow EPA discussions for any changes for new units.

In regard to existing units, on June 19, 2019, the Affordable Clean Energy ("ACE") rule was issued to replace the 2015 Clean Power Plan. The ACE rule applied only to coal fired electric generating units and did not include gas fired combustion units. On January 19, 2021, the DC Circuit Court vacated the ACE rule and remanded it to EPA to promulgate a replacement rule that addresses the flaws outlined in the decision. With the change in administration and EPA leadership, FPL expects that a replacement rule will be drafted later in 2021 with a final rule

being promulgated in 2022. FPL expects that a revised rule will include more sources and provide more flexibility for achieving compliance. Until a draft rule is promulgated, FPL cannot know what compliance requirements will be but believes its existing combined cycle fleet would comply with future requirements, and existing fossil steam units would likely not be affected during their remaining useful life.

b. – d. N/A

e. Please see responsive document provided.

f. FPL does not have sufficient information on the probability of any future proposed GHG NSPS which could cause adverse impacts to its generating fleet.

QUESTION:

Explain any expected reliability impacts resulting from each of the EPA rules listed below. As part of your explanation, please discuss the impacts of transmission constraints and changes to units not modified by the rule that may be required to maintain reliability.

- a. Mercury and Air Toxics Standards (MATS) Rule.
- b. Cross-State Air Pollution Rule (CSAPR).
- c. Cooling Water Intake Structures (CWIS) Rule.
- d. Coal Combustion Residuals (CCR) Rule.
- e. Standards of Performance for Greenhouse Gas Emissions for New Stationary Sources: Electric Utility Generating Units.
- f. Affordable Clean Energy Rule or its replacement.
- g. Effluent Limitations Guidelines and Standards (ELGS) from the Steam Electric Power Generating Point Source Category.

RESPONSE:

FPL does not anticipate any system reliability impacts associated with the compliance requirements of the MATS Rule, CSAPR Rule, CWIS Rule, CCR Rule, EPA's Standards of Performance for Greenhouse Gas Emissions for New Stationary Sources: Electric Utility Generating Units, ACE Rule or the ELGs, including generating unit reliability, transmission system constraints, and installation of controls on units not regulated by these rules, nor does FPL anticipate early retirement of units in response to these regulations. FPL evaluates the potential impacts to unit operation based on proposed and draft rule language that identifies compliance requirements for environmental regulations.

- a. For compliance with the MATS rule, FPL installed ESPs on the Martin and Manatee oil-fired steam 800 MW units, Sorbent Injection and baghouse on Scherer Unit 4, and used existing controls to comply with emission standards for the coal fired Indiantown Cogeneration facility. FPL retired the Cedar Bay coal fired generating unit in 2016 and has completed demolition of the unit. Additionally, SJRPP Units 1&2 and Martin Units 1&2 were retired in 2018, and Indiantown Cogeneration was retired in 2020, effectively removing them from the MATS compliance requirements at this time. In its 2021 Ten-Year Site Plan filing, FPL provided notice of its intent to retire Manatee Units 1 & 2 by

late 2021/early 2022 and retire Scherer Unit 4 on, or before, January 2022. In 2020, FPL pursued the modernization of Gulf Clean Energy Center (formerly Crist) Units 6&7 and in 2020 retired coal combustion capability for Units 4-7. FPL has not identified any potential impacts to the reliability or capability of its units, or transmission system, as a result of the MATS compliance plan.

- b. FPL's CSAPR compliance plan has not, and will not, impact generating unit or system reliability or capability. With EPA's promulgation of the CSAPR update rule, the FPL Florida based generating units are no longer subject to the rule requirements. FPL's ownership share of Scherer Units 3 and 4 and Daniel Units 1 and 2 will remain subject to the rule, but sufficient allowances to comply with the rule requirements are on hand or readily available. In addition, in its 2021 Ten Year Site Plan, FPL announced plans to retire FPL's ownership portion of the Scherer 4 unit by 2022 and to retire FPL's ownership portion of the Daniels Units 1 & 2 in January 2024. However, should future actual conditions vary significantly from projection assumptions, unit reliability impacts could occur though no transmission system impacts are projected to occur as a result.
- c. FPL has evaluated the requirements for the CWIS Rule and developed anticipated costs associated with the various compliance requirements. Impacts for the CWIS Rule, which became final on October 14, 2014, will vary based on the level of modifications required by conclusions based on subsequent studies and negotiations with Florida Department of Environmental Protection ("FDEP"), with possible input from the U.S. Fish and Wildlife Service, National Marine Fisheries Service (Services), and EPA. Should, as is currently expected, modified Ristroph-type traveling screens and fish return systems, along with the possibility of fine mesh screens, be required for most facilities (those without cooling ponds or cooling towers), the impacts of systems installed during scheduled maintenance outages are expected to be minimal. FPL has identified no system reliability impacts that would be anticipated to occur as a result of the expected rule requirements for CWIS.
- d. For the CCR rule, FPL has evaluated anticipated compliance requirements based on EPA and industry comments for the April 17, 2015 final rule. The rule did continue the regulation of CCRs as non-hazardous waste. However, the CCR rule established new location restrictions, disposal unit design standards, and numerous compliance plans, inspections, and certifications phased in over three years applicable to FPL's co-owned coal units. As a result of the new location and groundwater standards, Gulf Power, FPL, and their co-owners initiated preparations in 2018 for closure of the Scherer unlined Surface Impoundment (ash pond) and construction of a new landfill meeting the new design standards. FPL and its co-owners will initiate closure of the SJRPP landfill following removal of all CCR from impacted components during demolition, which began in the summer of 2019. The Indiantown Cogeneration facility, which was retired in 2020, managed CCR offsite and is therefore not subject to the rule. FPL is currently in

the process of closing the ash ponds at Smith and Scholz and closure of FPL's co-owned ash pond at Daniel began in the fall of 2020. Actions for compliance with these changes in the regulatory standards for management of CCRs for FPL's co-owned coal units and Gulf Power's units are not anticipated to create impacts to the reliability of any generating unit or FPL's system.

- e. FPL's Port Everglades Energy Center ("PEEC") received an air construction permit from DEP for the PSD pollutants and EPA for GHGs. EPA established a BACT limit for the PEEC facility at 830 lb CO<sub>2</sub> equivalent/MWh (net) while EPA's GHG limit performance standard for new gas fired units is 1000 lb/MWh (gross). Following the United States Supreme Court's decision on EPA's Tailoring rule, FPL submitted a request to rescind the GHG permit as not legally required since the Unit 5 netted emissions did not require a PSD permit. Subsequently, FPL submitted and received final Air Construction Permits for the construction of the Okeechobee Energy Center and Dania Beach Energy Center combined cycle units, which contain GHG limits of 850 lb CO<sub>2</sub> equivalent/MWh (net) that FPL will be able to comply with during normal operation of the units in addition to the EPA 1000 lb/MWh federal limit. Accordingly, FPL does not anticipate any unit reliability impacts or system transmission impacts associated with the GHG rule. In addition, FPL also does not anticipate any additional capital or O&M expenditures will be needed to comply with the GHG performance standard for future units.

Gulf Power submitted and received final Air Construction permits for the construction of the Gulf Clean Energy Center four simple cycle combustion turbines. The permit contain GHG limits that Gulf Power will be able to comply with during normal operation of the units.

- f. On January 19, 2021, the D.C. Circuit vacated the Affordable Clean Energy (ACE) rule and Clean Power Plan Repeal rule. The D.C. Circuit has also granted EPA's Motion to prevent the Clean Power Plan from taking effect. FPL is currently following EPA discussions regarding changes. Following its decision to regulate GHG's from new fossil-fuel fired power plants under EPA's new source performance standards, EPA is obligated to promulgate GHG standards for existing fossil-fuel fired generating units. Under the Clean Air Act EPA is required to promulgate a rule which requires sources to implement the best system of emission reduction (BSER). FPL anticipates that the majority of its coal units that were subject to the ACE rule will be retired prior to implementation of the replacement rule.

- g. For compliance with the ELGS, Scherer Units 3 and 4 have already installed dry ash handling systems for fly ash and bottom ash so no further action is required. Eventually a treatment system for the discharge of FGD (scrubber) wastewater from Scherer Units 3 and 4, which are partially owned by FPL, is expected. However, in the 2021 Ten-Year Site Plan, FPL announced its intent to retire its partial ownership of Scherer Unit 4 by 2022, so there will be no impact to FPL system reliability or capability. Gulf Power does not anticipate the need to install additional controls for ELG compliance at Gulf Clean Energy Center due to the conversion of the units to gas prior to the ELG compliance deadline for bottom ash transport water. Gulf Power has not projected ELG compliance costs for its ownership portion of Daniel because the Daniel bottom ash conversion projects needed for ELG compliance were installed in 2020 for compliance with the CCR rule. Neither of these modifications will impact generating unit or system reliability or capability.

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QUESTION:

Please complete and return, in Microsoft Excel format, the table associated with this question found in the Excel Tables Spreadsheet by identifying, for each unit affected by one or more of EPA's rules, what the impact is for each rule, including; unit retirement, curtailment, installation of additional emissions controls, fuel switching, or other impacts identified by the Company.

RESPONSE:

Please see responsive document provided.



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QUESTION:

Please complete and return, in Microsoft Excel format, the table associated with this question found in the Excel Tables Spreadsheet by identifying, for each unit impacted by one or more of the EPA's rules, what the estimated cost is for implementing each rule over the course of the planning period.

RESPONSE:

Please see responsive confidential document provided.

Florida Power & Light Company  
Gulf Power Company  
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QUESTION:

Please complete and return, in Microsoft Excel format, the table associated with this question found in the Excel Tables Spreadsheet by identifying, for each unit impacted by one or more of EPA's rules, when and for what duration units would be required to be offline due to retirements, curtailments, installation of additional controls, or additional maintenance related to emission controls. Include important dates relating to each rule.

RESPONSE:

Please see responsive document provided.

QUESTION:

If applicable, identify any currently approved costs for environmental compliance investments made by your Company, including but not limited to renewable energy or energy efficiency measures, which would mitigate the need for future investments to comply with recently finalized or proposed EPA regulations. Briefly describe the nature of these investments and identify which rule(s) they are intended to address.

RESPONSE:

- Compliance plans implemented for Clean Air Interstate Rule (CAIR) and approved for recovery are sufficient to meet Cross-State Air Pollution Rule (CSAPR) requirements. FPL believes their previous CAIR, and Clean Air Mercury Rules (CAMR) & Mercury and Air Toxics Standards (MATS) projects, and present CSAPR compliance plan, will meet the current SO<sub>2</sub>, NO<sub>2</sub>, fine particle, and ozone National Ambient Air Quality Standards (NAAQS) requirements.
- Installation of Sorbent Injection / Baghouse, Selective Catalytic Reduction (SCR), and Scrubber on Scherer Units 3 & 4 for compliance with the Georgia Multi-Pollutant Rule mitigated most of the potential costs for compliance with MATS and with requirements associated with both the Clean Air Interstate Rule and the Cross State Air Pollution Rule. Similarly, installation of SNCR, SCR and Scrubber on the Gulf Clean Energy Center (formerly Crist) Units 4 – 7 for compliance with CAIR and CSAPR provided co-benefit removal of mercury and other air toxics for compliance with MATS requirements. In 2020, FPL eliminated coal combustion at the Gulf Clean Energy Center reducing emissions and removing those units from applicability to MATS compliance requirements while reducing its CO<sub>2</sub> emission rate by approximately half. Finally, installation of SCR and Scrubbers on Plant Daniel Units 1 & 2 for compliance with CAIR and CSAPR compliance also provided co-benefit removal of mercury and with the addition of bromine and activated carbon injection compliance with MATS requirements was achieved.
- Modified traveling screens with fish return systems have been installed as part of the modernizations of Cape Canaveral Energy Center, Riviera Beach Energy Center, and Port Everglades Energy Center to avoid retrofit costs that would be required to comply with the Cooling Water Intake Structure (CWIS) Rule (Section 316(b) of Clean Water Act) in the future.
- The use of the approved Underground Injection Control (UIC) systems for the scrubber project at the Gulf Clean Energy Center and the reclaimed water project at Smith will help reduce costs for future regulations such as Coal Combustion Residual Rule (CCR).

- The closure in-place of coal combustion residual related ash ponds will mitigate the potential for the future construction of costly ash landfill handling and disposal systems to receive the existing CCR.
- Scherer has installed dry fly ash and bottom ash handling systems that will ensure compliance with the portion of the ELG Rule that addresses the handling of fly ash and bottom ash transport water as transport water is no longer required. Additional wastewater treatment is expected to be required for the Scherer flue gas desulfurization (scrubber) in the future. FPL does not anticipate the need to install additional controls for effluent limitations guidelines (ELG) compliance at the Gulf Clean Energy Center due to ceasing coal-fired operations. FPL has not projected ELG compliance costs for its ownership portion of Daniel because the Daniel bottom ash conversion projects needed for ELG compliance were installed in 2020 for compliance with the CCR rule.
- Installation of PV solar projects and a solar thermal project at Martin Plant totaling more than 1000 MW capacity help lower FPL's fleet-wide greenhouse gas (GHG) emissions further reducing exposure to future GHG rules. FPL has initiated a robust plan to install 30 million solar panels by 2030. These projects will further reduce FPL's fleet-wide GHG emissions. In addition, FPL's current and planned expansion of the implementation of battery storage projects allows the storage of renewable generation to displace higher emitting peaking generation during system peak demand periods. Development of renewable energy and storage systems along with FPL's conversion of the Gulf Clean Energy Center to natural gas operation and the planned retirement of the majority of its coal generating units has significantly reduced FPL's exposure to existing and future environmental regulations.

Many of FPL's approved costs for environmental compliance investments can be found in the filings made in the FPSC's annual Environmental Cost Recovery Clause docket.

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QUESTION:

Please complete and return, in Microsoft Excel format, the table associated with this question found in the Excel Tables Spreadsheet by providing, on a system-wide basis, the actual annual fuel usage (in GWh) and average fuel price (in nominal \$/MMBTU) for each fuel type utilized by the Company in the 10-year period prior to the current planning period. Also, provide the forecasted annual fuel usage (in GWh) and forecasted annual average fuel price (in nominal \$/MMBTU) for each fuel type forecasted to be used by the Company in the current planning period.

RESPONSE:

Please see responsive document provided.

QUESTION:

Please discuss how the Company compares its fuel price forecasts to recognized, authoritative independent forecasts.

RESPONSE:

The medium fossil fuel price forecast methodology for both FPL and Gulf utilizes projections from The PIRA Energy Group (now known as S&P Global), rates of escalation from the U.S. Energy Information Administration (EIA), forward commodity price curves for fuel oil and natural gas, and coal projections from JD Energy, Inc. S&P Global, a world-recognized consulting firm with expertise in all aspects of the fuel oil and natural gas industry, supplies FPL with an extensive database to support its short and long-term projections of future fuel oil and natural gas prices.

FPL utilizes forward commodity price curves for fuel oil and natural gas to project the short-term forecast (current year, current year plus 1 and current year plus 2), creates a blend of forward curves and S&P Global curves for the medium term (current year plus 3 and current year plus 4), and finally, applies escalation rates provided by the EIA to the long-term fuel oil and natural gas projections provided by S&P Global. JD Energy, a consulting firm retained by many utilities and coal suppliers, has expertise in all aspects of the coal and petroleum coke industry. The firm supplies FPL with an extensive database to support its short and long-term projections of future coal prices. FPL's forecasts reflect these authoritative and independent sources. Consequently, FPL believes the Company's projections are reasonable, and comparisons to other forecasts are not necessary.

QUESTION:

Please identify and discuss expected industry trends and factors for each fuel type listed below that may affect the Company during the current planning period.

- a. Coal
- b. Natural Gas
- c. Nuclear
- d. Fuel Oil
- e. Other (please specify each, if any)

RESPONSE:

- a. Coal

With respect to rail transportation issues during the period from 2021 through 2030, short term challenges of relatively low consequence, such as embargos for annual track maintenance or crew shortages, will likely persist. The railroads appear to have more than adequate locomotive power. FPL and Gulf own or have under long-term lease a sufficient number of coal cars to haul the projected coal requirements.

- b. Natural Gas

The Annual Energy Outlook 2021, the EIA's outlook for domestic natural gas production, indicates domestic natural gas production in the Reference Case returns to pre-pandemic levels starting in 2023. In the long term, production continues to grow during the entire projection period, driven by end-use consumption and opportunities to sell natural gas internationally through LNG exports. The EIA Annual Energy Outlook 2021 (AEO 2021) states that natural gas production is expected to grow 1.5% per year from 2021 to 2025, despite a decline in production in 2021. This is due to production growth in the 2022 to 2025 period at an annual rate of 2.9%. From 2026 to 2030, production is more stable and grows at an annual rate of 0.9%. Shale gas and associated natural gas from oil plays are the primary contributors to this growth.

U.S. natural gas consumption in the AEO 2021 declines in 2021 but grows by around 1.6% per year in the 2022-025 period. Thereafter consumption remains relatively flat through 2030 because of slower industrial/residential/commercial sector growth. Natural gas used for U.S. electric power generation declines through 2022 due to short-term impact of COVID-19 on electricity demand. Thereafter, natural gas consumption in the electric sector grows marginally up to 2030 as the sector faces competition from renewables. Natural gas consumption in the residential and commercial sectors remains largely flat because of efficiency gains offsetting population growth. Natural gas consumption rises in the transportation sector remain a small share of total natural gas consumption.

Growing demand in domestic and export markets lead to increasing natural gas spot prices over the projection period at Henry Hub despite continued technological advances that support increased production.

c. Nuclear Fuel Cost Forecast

This section reviews: the various steps needed to fabricate nuclear fuel for delivery to nuclear power plants, the method used to forecast the price for each step, and other comments regarding FPL's nuclear fuel cost forecast.

a) Steps Required for Nuclear Fuel to be delivered to FPL's Plants

Four separate steps are required before nuclear fuel can be used in a commercial nuclear power reactor. These steps are summarized below.

(1) Mining: Uranium is produced in many countries such as Canada, Australia, Kazakhstan, and the United States. During the first step, uranium is mined from the ground using techniques such as open pit mining, underground mining, in-situ leaching operations, or production as a by-product from other mining operations, such as gold, copper, or phosphate rocks. The product from this first step is the raw uranium delivered as an oxide, U<sub>3</sub>O<sub>8</sub> (sometimes referred to as yellowcake).

(2) Conversion: During the second step, the U<sub>3</sub>O<sub>8</sub> is chemically converted into UF<sub>6</sub> which, when heated, changes into a gaseous state. This second step further removes any chemical impurities and serves as preparation for the third step, which requires uranium to be in a gaseous state.



(3) Enrichment: Natural uranium contains 0.711% of uranium at an atomic mass of 235 (U-235) and 99.289% of uranium at an atomic mass of 238 (U-238). FPL's nuclear reactors use uranium with a higher percentage of up to almost five percent (5%) of U-235 atoms. Because natural uranium does not contain a sufficient amount of U-235, the third step increases the percentage amount of U-235 from 0.711% to a level specified when designing the reactor core (typically in a range from approximately 2.0% to as high as 4.95%). The output of this enrichment process is enriched uranium in the form of UF<sub>6</sub>.

(4) Fabrication: During the last step, fuel fabrication, the enriched UF<sub>6</sub> is changed to a UO<sub>2</sub> powder, pressed into pellets, and fed into tubes, which are sealed and bundled together into fuel assemblies. These fuel assemblies are then delivered to the plant site for insertion in a reactor.

Like other utilities, FPL has purchased raw uranium and the other components of the nuclear fuel cycle separately from numerous suppliers from different countries.

b) Price Forecasts for Each Step

(1) Mining: The impact of the earthquake and tsunami that struck the Fukushima nuclear complex in Japan in March 2011 is still being felt in the uranium market as the majority of the Japanese nuclear reactors are still not operating. As a result, current demand has remained declined and several of the production facilities have either closed or announced delays. Factors of importance are:

- Some of the uranium inventory from the U.S. Department of Energy (DOE) is finding its way into the market periodically to fund cleanup of certain Department of Energy facilities.
- Although only two new nuclear units are scheduled to start production in the U.S. during the next 5 to 10 years, other countries, more specifically China, have announced an increase in construction of new units which may cause uranium prices to trend up in the near future.

Over a 10-year horizon, FPL expects the market to be more consistent with market fundamentals. The supply picture remains stable, with laws enacted in 2020 to resolve the import of Russian-enriched uranium, by allowing continued imports of Russian enriched uranium to meet about 15-24% of needs from 2021-2040 for currently operating and new units. New and current uranium production facilities are decreasing capacity due to continued low prices and demands. Actual demand tends to grow over time because of the long lead time to build nuclear units. However, FPL cannot discount the possibility of future periodic sharp increases in prices, but believes such occurrences will likely be temporary in nature.

(2) Conversion: The conversion market is also in a state of flux due to the Fukushima events. Planned production after 2021 is currently forecasted to be insufficient to meet a higher demand scenario, but it is projected to be sufficient to meet most reference case scenarios. As with additional raw uranium production, supply will expand beyond the current level if more firm commitments are made. FPL expects long-term price stability for conversion services to support world demand. In addition, Converdyn, the only domestic conversion facility which was temporarily closed in 2017 due to low conversion demand, has announced it is reopening in 2023 as conversion prices have seen an up surge in the last couple of years. This will result in further stabilization of conversion prices.

(3) Enrichment: Since the Fukushima events in March 2011, the near-term price of enrichment services has declined. However, plans for construction of several new facilities that were expected to come on-line after 2011 have been delayed. Also, some of the existing high operating cost diffusion plants have shut down. As with supply for the other steps of the nuclear fuel cycle, expansion of future capacity is feasible within the lead time for constructing new nuclear units and any other projected increase in demand. Meanwhile, world supply and demand will continue to be balanced such that FPL expects adequate supply of enrichment services. The current supply/demand profile will likely result in the price of enrichment services remaining stable for the next few years, then starting to increase.

(4) Fabrication: Because the nuclear fuel fabrication process is highly regulated by the Nuclear Regulatory Commission (NRC), not all production facilities can qualify as suppliers to nuclear reactors in the U.S. Although world supply and demand is expected to show significant excess capacity for the foreseeable future, the gap is not as wide for U.S. supply and demand. The supply for the U.S. market is expected to be sufficient to meet U.S. demand for the foreseeable future.

c) Other Comments Regarding FPL's Nuclear Fuel Cost Forecast

FPL's nuclear fuel price forecasts are the result of FPL's analysis based on inputs from various nuclear fuel market expert reports and studies. There is adequate projected supply, including planned and prospective mine expansions, to meet FPL demands, including operation of the Turkey Point Units through the recently approved second life extension through the early 2050's. The calculations for the nuclear fuel cost forecasts used in FPL's 2020 and 2021 resource planning work were performed consistent with the method then used for FPL's Fuel Clause filings, including the assumption of refueling outages every 18 months and plant operation at current (*i.e.*, power uprated) levels. The costs for each step to fabricate the nuclear fuel were added to calculate the total costs of the fresh fuel to be loaded at each refueling (acquisition costs). The acquisition cost for

each group of fresh fuel assemblies were then amortized over the energy produced by each group of fuel assemblies. DOE notified FPL that, effective May 2014, all high-level waste payments would be suspended until further notice. Therefore, FPL is no longer including in its nuclear fuel cost forecast a 1 mill per kilowatt hour net to reflect payment to DOE for spent fuel disposal

d. Fuel Oil

According to AEO2021, U.S. crude oil production crosses 12 million barrels per day (MMb/d) by 2023 and 13 MMb/d by 2025 and remains near this level driven by tight oil production. Onshore tight oil development in the Lower 48 states continues to be the main driver of total U.S. crude oil production, with the Permian Basin and the Williston Basin leading the growth in US tight oil production.

In AEO2021, the oil price is the primary driver of projected drilling activity and accompanying U.S. crude oil production rates. Thus, given the current economic downturn, EIA expects a lower price path in the short and medium term to decrease U.S. oil production rates.

QUESTION:

Please identify and discuss steps that the Company has taken to ensure natural gas supply availability and transportation over the current planning period.

RESPONSE:

FPL continues to evaluate strategies that will increase the reliability and supply diversity of its natural gas transportation portfolio to ensure adequate gas availability for future generation growth. In May of 2020, the contract quantity on the Sabal Trail Transmission, LLC and Florida Southeast Connection, LLC pipelines increased to 600,000 MMBtu/day, and FPL also has the option to secure additional quantities in the future if it is determined these pipelines are the most competitive alternative. The current gas transportation portfolio provides FPL access to a diverse range of natural gas supply alternatives, which helps mitigate FPL's exposure to supply disruptions. FPL has secured natural gas transportation on several upstream pipelines with access to onshore natural gas supplies, which has significantly reduced dependence on Gulf of Mexico supplies, thereby decreasing the exposure to tropical events. In addition, FPL has contracted for natural gas storage to provide access to natural gas in the event of a loss of supply.

Gulf currently operates under the provisions of the Southern Company System Intercompany Interchange Contract ("IIC") as part of an integrated electric utility system with several other operating companies (commonly referred to as the "Pool"). As part of its integrated operations in the Pool, Gulf is required to meet certain requirements for fuels, including transportation and storage, under the Pool's Fossil Fuel Policy. Gulf's current portfolio of natural gas transportation meets the requirements of the Fossil Fuel Policy and helps ensure the deliverability of gas supply to Gulf's plants while also providing access to a diverse supply of natural gas. Gulf's current portfolio includes firm gas transportation on the Gulf South Pipeline Company, LP ("Gulf South"), Florida Gas Transmission Company, LLC ("FGT"), and Transcontinental Gas Pipe Line Company, LLC ("Transco") pipelines. In addition, as required by the Fossil Fuel Policy, Gulf has contracted for natural gas storage to provide access to natural gas in the event of a loss of supply. In preparation for the integration of Gulf and FPL into a single electric operating system in 2022, and Gulf's subsequent exit from the Pool, Gulf and FPL are currently evaluating strategies to help enhance the reliability and supply diversity of the combined natural gas transportation and storage portfolio while determining if opportunities exist to modify the portfolio to the benefit of all customers.

QUESTION:

Please identify and discuss any existing or planned natural gas pipeline expansion project(s), including new pipelines and those occurring or planned to occur outside of Florida that would affect the Company during the current planning period.

RESPONSE:

Pipelines are continuing to add capacity to deliver gas from the prolific Marcellus and Utica shale regions of Pennsylvania and Ohio to the Southeast. There are also several new projects that will bring gas from the Waha area in West Texas to the Texas Gulf Coast. In addition, several projects have been announced to bring gas to the Southeast from the Scoop/Stack and Haynesville production areas. FPL and Gulf continue to explore opportunities to access these growing supply sources, but currently have no definitive plans regarding these or other new pipelines. On the plant specific side, Gulf recently completed the conversion of Gulf Clean Energy Center (GCEC) Units 6 and 7 to natural gas which is being delivered via a new plant lateral that connects GCEC to the FGT mainline.

QUESTION:

Please identify and discuss expected liquefied natural gas (LNG) industry factors and trends that will impact the Company, including the potential impact on the price and availability of natural gas, during the current planning period.

RESPONSE:

The United States became a net natural gas exporter on an annual basis in 2017 and continued to export more natural gas than it imported in 2018 and in 2019. The EIA states that because of expected increases in international demand for natural gas, EIA expects U.S. LNG exports to more than double between 2020 and 2029.

The AEO2021 side cases indicate uncertainty of international demand for and competitiveness of U.S. supply. Oil prices, which are traditionally used as a basis for global LNG price contracts, and U.S. natural gas prices both drive how competitive U.S. LNG exports are in global markets. The Oil and Gas Supply cases define the range of projected U.S. natural gas supply prices. Henry Hub natural gas spot prices remain below \$3 per million British thermal units (MMBtu) in the High Oil and Gas Supply case and exceed \$6/MMBtu by 2050 in the Low Oil and Gas Supply case. With higher oil prices or lower U.S. natural gas domestic prices, LNG exports are much higher than in the Reference case, while the opposite occurs with lower oil prices or higher U.S. natural gas domestic prices.

QUESTION:

Please identify and discuss the Company's plans for the use of firm natural gas storage during the current planning period.

RESPONSE:

FPL has 4.0 billion cubic feet (Bcf) of firm natural gas storage capacity under contract in the Bay Gas storage facility located in Alabama. The Bay Gas storage facility is interconnected to the Florida Gas Transmission ("FGT") pipeline, the Transcontinental Pipeline ("Transco") 4A Lateral, and the Gulf South Pipeline Company, LP ("Gulf South") facilities. Effective April 1, 2019, FPL entered into a three-year natural gas storage contract with Southern Pines Storage (SG Resources Mississippi, LLC) for 1 Bcf of firm storage. Southern Pines is interconnected to FGT, Transco, and Southeast Supply Header Pipeline. FPL has predominately utilized natural gas storage to help mitigate gas supply interruptions caused by severe weather and/or infrastructure problems. Over the past several years, FPL has acquired upstream transportation capacity on several pipelines to help mitigate the risk of offshore supply problems caused by severe weather in the Gulf of Mexico. While this transportation capacity has greatly reduced FPL's offshore exposure, a portion of FPL's supply portfolio remains tied to offshore natural gas sources. Therefore, natural gas storage remains an important tool to help mitigate the risk of offshore as well as onshore supply disruptions. As FPL's reliance on natural gas has increased, its ability to manage the daily "swings" that can occur on its system due to weather and unit availability changes has become more challenging, particularly with respect to oversupply situations. Natural gas storage is a valuable tool to help manage the daily balancing of supply and demand. From a balancing perspective, injection and withdrawal rights associated with storage have become an increasingly important part of the evaluation of overall storage requirements. FPL continues to evaluate its future natural gas storage needs considering the Company's increasing dependency on natural gas.

In accordance with the Southern Company System Pool's Fossil Fuel Policy, Gulf is required to maintain firm natural gas storage for its gas-fired power plants. Gulf is currently under contract for 0.58 Bcf of storage capacity in the Bay Gas storage facility, 0.85 Bcf in the Leaf River storage facility, and 0.50 Bcf in the Petal Gas Storage facility. In total, Gulf currently has 1.93 Bcf of firm natural gas storage capacity that helps mitigate the risk of supply loss and balance daily supply and demand requirements as forecasts change.

QUESTION:

Please identify and discuss expected coal transportation industry trends and factors, for transportation by both rail and water that will impact the Company during the current planning period. Please include a discussion of actions taken by the Company to promote competition among coal transportation modes, as well as expected changes to terminals and port facilities that could affect coal transportation.

RESPONSE:

With respect to rail transportation issues during the period of 2021 through 2030, short term challenges of relatively low consequence, such as embargos for annual track maintenance or crew shortages, will likely persist. The railroads appear to have more than adequate locomotive power. FPL and Gulf own or have under long-term lease a sufficient number of coal cars to haul the projected coal requirements.

As discussed in FPL's 2021 Ten-Year Site Plan, the Company terminated the power purchase agreement with Indiantown Cogen L.P. during the 4<sup>th</sup> Quarter 2020, resulting in the retirement of the associated coal-fueled generating unit.

Scherer No. 3 and 4 are served by a single railroad. However, the rail movement of the coal from the Powder River Basin is a two-line haul that enables competition from the mine origin to an interchange point. The Plant Scherer co-owners, including FPL and Gulf, utilized that circumstance to seek least cost transportation through bidding and negotiation that resulted in the current long-term rail contracts.

Plant Daniel is served by the Mississippi Export Railroad (MSE); a short line railroad with track from Pascagoula, MS to Evanston, MS. Coal supply is originated by either Union Pacific (Colorado origins) or BNSF (Wyoming origins) railroads. Trains are interchanged to the Canadian National Railway in Memphis, TN and interchanged once again to the MSE in Evanston. MSE provides transportation from Evanston to Plant Daniel.

Plant Crist (now the Gulf Clean Energy Center) units 6 and 7 were converted to burn natural gas in 2020. The plant received its last contracted rail shipment of coal to the Alabama State docks in February 2020.



QUESTION:

Please identify and discuss any expected changes in coal handling, blending, unloading, and storage at coal generating units during the current planning period. Please discuss any planned construction projects that may be related to these changes.

RESPONSE:

A variety of changes to coal handling, blending, unloading, and storage are currently projected at the coal generating units during the planning period 2021-2030. As discussed in the 2021 Ten-Year Site Plan, there will be notable PPA terminations, unit conversions and unit retirements which will impact the coal fleet. FPL has terminated the power purchase agreement with Indiantown Cogen L.P. as of the 4<sup>th</sup> Quarter 2020 and has retired the associated coal-fueled generating unit. Dismantling of the unit began in January 2021. Gulf converted Plant Crist units 6 and 7 from coal-fueled to natural-gas fueled during 2020 and has ceased all coal operations. FPL plans to retire its ownership portion of the coal-fueled Scherer Unit 4 by January 2022. Gulf plans to retire its ownership portion of two coal-fueled steam units, Plant Daniel Units 1 and 2, by the beginning of 2024.

QUESTION:

Please identify and discuss the Company's plans for the storage and disposal of spent nuclear fuel during the current planning period. As part of this discussion, please include the Company's expectation regarding short-term and long-term storage, dry cask storage, litigation involving spent nuclear fuel, and any relevant legislation.

RESPONSE:

All FPL nuclear units have constructed dry cask storage facilities at their sites, which will allow for the safe, long-term on site storage of spent nuclear fuel ("SNF") until a final repository is built.

On March 31, 2009, NextEra Energy Inc. ("NextEra") reached a settlement with the U.S. Department of Energy ("DOE") that reimbursed certain costs incurred by NextEra, for on-site storage of SNF due to DOE's failures to dispose of SNF. The settlement allowed NextEra to recover past SNF management costs incurred up to December 31, 2007. The settlement also permits an annual filing to recover spent fuel storage costs incurred by NextEra, payable by the Government on an annual basis.

On March 3, 2010, the DOE filed a motion with the Nuclear Regulatory Commission to withdraw the license application for a high-level nuclear waste repository at Yucca Mountain with prejudice. In light of the decision not to proceed with the Yucca Mountain nuclear waste repository, the President of the United States directed the Secretary of Energy to establish a Blue Ribbon Commission ("BRC") on America's Nuclear Future to conduct a comprehensive review of policies for managing the back end of the nuclear fuel cycle and to provide recommendations for developing a safe, long-term solution to managing SNF and nuclear waste.

In 2012, the BRC issued its report and recommendations which includes a consent-based approach to site future nuclear waste management facilities; creation of a new organization, independent of the DOE, dedicated solely to assuring the safe storage and ultimate disposal of spent nuclear fuel and high-level radioactive waste; providing access to the U.S. government's nuclear waste fund for the purpose of nuclear waste storage and disposal; and initiating prompt efforts to develop geologic disposal facilities, consolidated interim storage facilities and transportation to those facilities.

In January 2013, the DOE issued a strategy document for implementing the BRC recommendations, outlining among other things, long-term plans for a new management organization to handle spent fuel storage and disposal activities, development of new interim storage facilities and several possible funding reforms, including accessing the nuclear waste fund for funding these activities. A DOE team began crafting strategies for reaching out to communities that might accept and store nuclear waste.

In February 2018, the President's administration requested \$120MM to restart licensing activities for the Yucca Mountain nuclear waste repository and initiate a robust interim storage program. However, the approved budget allocated no money to the project.

In May 2018, the House passed, by a 340-72 vote, the Nuclear Waste Policy Amendments Act of 2018, a bill that addresses a major condition for licensing the Yucca Mountain repository by withdrawing the repository site from use under public land laws and placing it solely under DOE control. The bill also authorizes the DOE to store spent fuel at interim NRC-licensed storage facilities, which would be owned by a non-federal entity. It also increases Yucca Mountain's capacity limit from 70,000 to 110,000 metric tons. The Senate received the bill on May 14, and it was read twice and referred to the Committee on Environment and Public Works, but no action has been taken since.

The House also passed another bill, Energy and Water Development Appropriations, 2019, which sought to provide FY2019 funding for nuclear energy programs and would give the DOE \$100 million more than the \$120 million requested for Yucca Mountain, but the Senate approved no Yucca Mountain funding. Instead, the Senate passed a bill that included authorization for a pilot program in FY2019 to develop an interim nuclear waste storage facility at a voluntary site. However, the FY2019 appropriations measure, which was enacted in September 2018, included neither the House-passed funding for Yucca Mountain nor the Senate interim storage authorization.

QUESTION:

Please identify and discuss expected uranium production industry trends and factors that will affect the Company during the current planning period.

RESPONSE:

The uranium price increased during the second half of 2010 due primarily to the news of a significant increase in the future uranium demand to feed an increase in the number of new reactors that the Chinese planned to build. The earthquake and tsunami that struck Japan in March 2011 reversed that trend when all of the Japanese reactors were shut down and several other countries initiated abandonment of their nuclear programs. The market has drifted down since then and returned during the summer of 2013 to the levels that existed prior to the late 2010 uranium price increase. That downward drift was aided by the decision by the Department of Energy to sell some of its excess uranium inventories to fund the decontamination and decommissioning activities of old uranium enrichment plants. The market drifted down again in 2016 reaching a historic 12-year low in November. In early 2018, the market experienced a slight increase due to announcements of production cuts by two major mining companies, but the supply continues to exceed current demand. In 2019, the market again saw a slight decrease due to the continued over supply. In 2020, there was a gradual increase in Uranium pricing driven by temporary mine closures and reduced output to proactively prevent COVID-19 transmission. This reduced production has since recovered, and prices have returned to near pre-COVID-19 levels. FPL expects uranium prices to remain stable in the next few years, with price behavior to be more consistent with market fundamentals.

The events in Japan have also had a significant impact on the enrichment services market. To date, that market has declined significantly and has stabilized. The timing of the return of the nuclear reactors in Japan and the quantity will play an important role in the future enrichment price. Still in 2021 and into the foreseeable future, the price is expected to remain at these lower levels.

As for the other steps of the fabrication of nuclear fuel (conversion and fabrication services), prices are expected to remain rather stable, and additional production, including the reopening of the Converdyn conversion facility in 2023, would be added as needed to meet new reactor requirements.

QUESTION:

Please identify and discuss steps that the Company has taken to ensure continued energy generation in case of a severe cold weather event.

RESPONSE:

FPL regularly evaluates its energy generation and delivery systems to help ensure the ability to operate these systems during both Summer and Winter peak loads, including through the most recent Winter season. A list of these operational evaluation efforts includes the following:

- Maintaining a high level of availability and implementing winterization readiness protocols for all of its generating units and avoiding planned maintenance activities in high load periods.
- Ensuring all transmission and distribution facilities are in service during high load periods.
- Coordination prior to high load events among FPL's operations, fuel supply, and generation business units to ensure that the system is prepared to address high loads.
- On-going investment in hardened transmission and distribution facilities that feed fuel supply assets, power plants, gas compressor stations, and critical loads.
- Transmission and substation infrastructure assessments, including equipment inventories and spare quantity checks, are performed in advance of all projected significant cold fronts.
- Annual identification of important feeders and customers who should be exempt from feeder rotation and load shed programs
- Robust and coordinated Emergency Plans for capacity shortfalls and fuel shortages which include annual training via corporate wide drills and exercises to ensure the organization is ready to respond to emergency conditions in every operating season.

Nevertheless, the recent extreme weather event in Texas has caused FPL to take a fresh, more focused look at its generation and delivery systems with a view to considering both near and potential long-term initiatives to address the impact of such an event on its generation, transmission and distribution systems in Florida. See FPL's response to Staff's First Data Request No. 83 for more information regarding this fresh look.

QUESTION:

Please identify any future winterization plans the Company intends to implement over the current planning period.

RESPONSE:

As discussed on page 14 of FPL's 2021 Ten Year Site Plan, FPL has responded to the mid-February 2021 Texas electric utility experience with severe Winter weather by beginning an analysis of the major components of FPL's system – generation, transmission, distribution, demand side management, and fuel supply – to better understand the potential impact of a severe Winter weather event in Florida.

That effort is underway and encompasses two principal components. The first component focuses on winterization of existing facilities, particularly existing generation units. Those analyses to-date have identified additional winterization efforts that should be undertaken, and those efforts are underway including:

- Additional winterization efforts for fossil-fueled generation units, fuel storage, and gas regulation stations including heat tracing, additional insulation, and protective enclosures.
- Additional winterization efforts for nuclear generation units including heat tracing to supplement equipment insulation for outdoor piping and sensing lines.
- Delaying the planned retirement of Manatee Units 1 & 2 until after the 2021/2022 Winter peak season.

FPL anticipates that these near-term winterization efforts will be completed by December 2021.

The second component focuses on resources that FPL will add in the future. These analyses are on-going and are designed to evaluate how well FPL's current generation, transmission, and distribution plans would address potential high loads in the future that would result from severe Winter weather and what changes, if any, might need to be made to those plans (including the post-Winter 2021/2022 status of Manatee Units 1 & 2).

FPL anticipates that these on-going analyses will be completed in time for the results to be incorporated into the resource planning work that will be presented next year in FPL's 2022 Ten Year Site Plan.

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**Existing Generating Unit Operating Performance**

Plant Name	Unit No.	Planned Outage Factor (POF)		Forced Outage Factor (FOF)		Equivalent Availability Factor (EAF)		Average Net Operating Heat Rate (ANOHR)	
		Historical	Projected	Historical	Projected	Historical	Projected	Historical	Projected
		Cape Canaveral Energy Center	3	7.2%	6.2%	0.4%	1.1%	88.0%	87.3%
Crist <sup>4</sup>	4	9.0%	1.6%	5.4%	1.9%	83.0%	82.8%	12,558	12,909
Crist <sup>5</sup>	5	9.8%	1.1%	5.8%	1.2%	82.7%	88.5%	19,333	12,506
Crist	6	11.2%	6.1%	9.1%	0.9%	73.9%	87.5%	11,070	10,968
Crist	7	13.2%	6.3%	10.8%	0.9%	63.1%	87.3%	10,853	10,743
Daniel <sup>2</sup>	1	14.5%	8.2%	1.8%	2.1%	78.4%	75.9%	11,230	12,616
Daniel <sup>2</sup>	2	14.7%	8.8%	1.8%	2.1%	76.6%	75.3%	11,126	8,032
Fort Myers	2	9.9%	6.5%	0.5%	0.7%	85.7%	87.3%	7,262	7,278
Fort Myers	3A	2.3%	9.9%	1.9%	0.8%	91.3%	83.8%	10,871	10,210
Fort Myers	3B	2.4%	9.9%	0.5%	0.8%	91.8%	83.8%	10,662	10,240
Fort Myers	3C	0.0%	9.9%	0.4%	0.8%	90.8%	83.8%	10,780	10,276
Fort Myers	3D	0.9%	9.9%	0.4%	0.8%	89.8%	83.8%	10,867	10,277
Fort Myers	GT1	0.0%	0.0%	3.7%	0.8%	93.5%	93.7%	22,008	14,101
Fort Myers	GT9	0.0%	0.0%	0.0%	0.8%	98.3%	93.7%	22,008	14,293
Lansing Smith	3	9.8%	5.8%	2.9%	0.6%	84.6%	88.0%	6,968	7,282
Lansing Smith	3A	0.5%	n/a	0.0%	n/a	95.1%	n/a	15,564	11,994
Lauderdale	6A	1.3%	12.0%	0.4%	0.8%	93.5%	81.8%	10,356	10,283
Lauderdale	6B	1.0%	12.0%	0.5%	0.8%	92.7%	81.8%	10,457	10,275
Lauderdale	6C	1.0%	12.0%	0.5%	0.8%	91.6%	81.8%	10,497	10,278
Lauderdale	6D	0.7%	12.0%	2.2%	0.8%	87.9%	81.8%	10,430	10,277
Lauderdale	6E	0.3%	12.0%	0.4%	0.8%	87.7%	81.8%	10,436	10,288
Lauderdale	GT3	9.6%	0.0%	0.0%	0.8%	90.2%	93.7%	11,398	19,653
Lauderdale	GT5	8.9%	0.0%	0.0%	0.8%	91.0%	93.7%	11,398	19,638
Manatee <sup>1</sup>	1	6.1%	7.7%	0.5%	0.4%	89.0%	86.5%	11,130	10,290
Manatee <sup>1</sup>	2	10.0%	2.7%	0.4%	0.4%	83.3%	91.4%	10,970	9,476
Manatee	3	0.0%	6.1%	0.2%	0.6%	93.1%	87.8%	6,871	6,894
Martin	3	1.5%	5.6%	1.0%	0.6%	93.5%	88.3%	7,353	7,282
Martin	4	0.0%	5.7%	1.4%	0.6%	93.4%	88.2%	7,251	7,272
Martin	8	4.8%	3.9%	0.2%	1.0%	89.4%	89.6%	6,973	6,846
Okeechobee Energy Center <sup>2</sup>		8.4%	10.9%	2.7%	1.5%	74.6%	82.1%	6,366	6,227
Pea Ridge	1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	15,000
Perdido	1	n/a	n/a	n/a	n/a	n/a	n/a	n/a	9,900
Port Everglades Energy Center		7.3%	6.9%	1.9%	1.5%	84.3%	86.1%	6,723	6,548
Riviera Beach Energy Center		4.0%	6.1%	1.4%	1.1%	88.2%	87.3%	6,592	6,716
Sanford	4	9.0%	5.5%	0.7%	0.4%	86.2%	88.6%	7,366	7,184
Sanford	5	13.2%	10.3%	0.3%	0.4%	82.7%	83.8%	7,277	7,185
Scherer	3	6.2%	5.8%	0.8%	0.8%	90.3%	87.9%	11,057	11,444
Scherer <sup>1</sup>	4	11.0%	0.0%	0.8%	2.3%	85.2%	92.2%	10,820	11,674
St Lucie	1	6.1%	5.8%	7.0%	2.4%	86.9%	91.8%	10,335	10,463
St Lucie	2	5.9%	5.8%	1.1%	2.4%	93.0%	91.8%	10,190	10,396
Turkey Point	3	6.4%	5.4%	2.6%	2.4%	91.0%	92.2%	10,578	10,703
Turkey Point	4	7.0%	4.5%	1.9%	2.4%	91.0%	93.1%	10,798	10,615
Turkey Point	5	9.7%	5.6%	1.0%	0.6%	84.1%	88.3%	7,129	6,864
West County Energy Center	1	12.1%	5.9%	0.5%	0.8%	82.3%	87.8%	7,132	6,630
West County Energy Center	2	4.1%	5.7%	0.7%	0.8%	88.1%	88.0%	6,900	6,633
West County Energy Center	3	4.4%	6.6%	0.7%	0.8%	87.0%	87.1%	6,942	6,629

Historical - average of past three years  
 Projected - average of next ten years

Notes:  
<sup>1</sup> Assumes fourth quarter 2021 retirement  
<sup>2</sup> Historical average based on commercial in-service date of 4/1/19  
<sup>3</sup> Assumes first quarter 2024 retirement  
<sup>4</sup> Assumes fourth quarter 2024 retirement  
<sup>5</sup> Assumes fourth quarter 2026 retirement  
<sup>6</sup> Assumes fourth quarter 2027 retirement  
<sup>7</sup> Assumes fourth quarter 2024 retirement  
<sup>8</sup> Assumes fourth quarter 2029 retirement

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**Nominal, Firm Purchases- Nuclear**

Year	Firm Purchases	
	\$/MWh	Escalation %
<b>HISTORY:</b>		
2018	54.78	
2019	51.30	-6.36
2020	51.95	1.26
<b>FORECAST:</b>		
2021	49.88	-3.98
2022	56.2	12.67
2023	52.4	-6.76
2024	53.71	2.50
2025	55.05	2.50
2026	56.43	2.50
2027	57.84	2.50
2028	59.29	2.50
2029	60.77	2.50
2030	62.29	2.50



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**Financial Assumptions  
 Base Case**

AFUDC RATE	<u>6.22</u> %
CAPITALIZATION RATIOS:	
DEBT	<u>40.4</u> %
PREFERRED	<u>0</u> %
EQUITY	<u>59.6</u> %
RATE OF RETURN	
DEBT	<u>4.1</u> %
PREFERRED	<u>0</u> %
EQUITY	<u>10.55</u> %
INCOME TAX RATE:	
STATE	<u>5.5</u> %
FEDERAL	<u>21</u> %
EFFECTIVE	<u>25.345</u> %
OTHER TAX RATE:	<u>1.73</u> %
DISCOUNT RATE:	<u>7.52</u> %
TAX	
DEPRECIATION RATE:	3.75 %
(assuming a 20 year tax life)	0.07219
	0.06677
	0.06177
	0.05713
	0.05285
	0.04888
	0.04522
	0.04462
	0.04461
	0.04462
	0.04461
	0.04462
	0.04461
	0.04462
	0.04461
	0.04462
	0.04461
	0.04462
	0.04461
	0.04462
	0.04461
	0.02231

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**Financial Escalation Assumptions**

Year	General	Plant Construction	Fixed O&M	Variable O&M
	Inflation	Cost	Cost	Cost
	%	%	%	%
2021	2.5	2	2.5	2.5
2022	2.5	2	2.5	2.5
2023	2.5	2	2.5	2.5
2024	2.5	2	2.5	2.5
2025	2.5	2	2.5	2.5
2026	2.5	2	2.5	2.5
2027	2.5	2	2.5	2.5
2028	2.5	2	2.5	2.5
2029	2.5	2	2.5	2.5
2030	2.5	2	2.5	2.5

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**Loss of Load Probability, Reserve Margin, and Expected Unserved Energy  
 Base Case Load Forecast**

Year	Annual Isolated			Annual Assisted*		
	Loss of Load Probability (Days/Yr)	Reserve Margin (%) (Including Firm Purchases)	Expected Unserved Energy (MWh)	Loss of Load Probability (Days/Yr)	Reserve Margin (%) (Including Firm Purchases)	Expected Unserved Energy (MWh)
<b>FPL Only System</b>						
2021	0.000017	23.5	0	0.000012	23.5	0
<b>Gulf Only System</b>						
2021	0.208482	40.7	0	0.005837	40.7	0
<b>FPL and Gulf Integrated System</b>						
2022	0.000109	25.5	0	0.000063	25.5	0
2023	0.000016	21.6	0	0.000009	21.6	0
2024	0.000052	20.1	0	0.000028	20.1	0
2025	0.000027	20.2	0	0.000015	20.2	0
2026	0.000097	20.1	0	0.000064	20.1	0
2027	0.000017	20.1	0	0.000013	20.1	0
2028	0.000021	20.1	0	0.000016	20.1	0
2029	0.000093	20.1	0	0.000050	20.1	0
2030	0.000000	20.0	0	0.000000	20.0	0

\* Values for the FPL and Integrated Systems assume approximately 175 MW of assistance for all months except for January and August.

For 2021 only, values for Gulf assume an approximate 1000 MW of assistance in the Summer months and 500 MW of assistance in the Winter months from Southern Company. This assistance for Gulf is assumed for all months except for January and August.

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Date	FPL Hourly System Load (MW)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1/1/2020	9418	9020	8627	8300	8185	8272	8590	9017	9917	10799	11482	11920	12162	12365	12549	12693	12627	12673	13116	12631	12026	11336	10562	9662
1/2/2020	8772	8218	7964	7871	8030	8716	9636	10488	11438	12247	12871	13407	13853	14278	14661	14790	14685	14659	15083	14531	13848	12983	12076	11059
1/3/2020	10096	9412	8996	8787	8837	9299	10107	10915	12204	13532	14632	15497	16196	16722	16996	17036	16706	16177	16180	15415	14591	13719	12797	11829
1/4/2020	10925	10203	9682	9411	9322	9486	9834	10463	12006	13669	14842	15729	16356	16614	16478	16102	15559	15133	14922	13931	13201	12413	11451	10420
1/5/2020	9428	8640	8156	7878	7779	7915	8411	9242	10415	11305	11684	11877	11914	11887	11852	11789	11774	12016	12747	12512	12095	11497	10696	9891
1/6/2020	9131	8766	8640	8727	9122	10096	11553	12666	12920	12862	12665	12466	12302	12135	12046	11951	12034	12421	13275	13129	12637	11889	10957	9995
1/7/2020	9196	8815	8652	8682	8964	9864	11359	12232	12459	12461	12431	12288	12270	12277	12245	12346	12414	12616	13401	13156	12519	11700	10569	9390
1/8/2020	8594	8167	8009	8031	8372	9350	10947	11896	12192	12261	12256	9664	11411	12109	12104	12169	12216	12586	13495	13344	12833	12143	11107	10054
1/9/2020	9278	8862	8648	8612	8810	9690	11010	11742	12107	12438	12675	12727	12755	12904	12922	12859	12765	13065	13828	13637	13108	12288	11276	10195
1/10/2020	9322	8711	8404	8283	8443	9105	10376	11148	11847	12567	13212	13639	13873	13950	13886	13746	13679	13873	14309	13978	13467	12790	11989	11122
1/11/2020	10244	9638	9237	9019	8993	9184	9647	10378	11778	13190	14297	14955	15457	15739	15865	15800	15482	15090	15208	14702	13983	13286	12511	11617
1/12/2020	10576	9854	9329	9048	8965	9044	9392	9989	11486	13092	14192	14904	15444	15697	15903	15937	15667	15391	15726	15292	14640	13826	12817	11503
1/13/2020	10327	9531	9099	8879	8934	9581	10845	11593	12333	13227	14107	14843	15359	15912	16138	16232	16105	15792	16197	15805	15007	14001	12890	11529
1/14/2020	10439	9663	9169	8987	9066	9785	11036	11797	12561	13558	14433	15009	15445	15807	16006	16111	16021	15708	15989	15520	14654	13676	12626	11368
1/15/2020	10501	9773	9344	8421	8456	9083	10341	11045	11848	12819	13083	14599	15088	15640	16058	16326	16131	15639	15735	15149	14303	13237	12028	10613
1/16/2020	9441	8731	8332	8146	8222	8828	10048	10787	11533	12584	13445	14236	14935	15560	16018	16302	16076	15571	15649	15103	14281	13216	12046	10766
1/17/2020	9627	8916	8525	8340	8399	9048	10389	11236	12002	12827	13450	13875	14194	14273	14153	13982	13719	13623	13903	13471	12838	12138	11373	10425
1/18/2020	9415	8756	8363	8155	8801	8302	8801	9585	10804	11976	12715	13200	13498	13694	13812	13757	13535	13249	13456	13035	12382	11733	10956	10021
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9/23/2020	12278	11459	10893	10524	10421	10761	11409	11962	13009	14443	15991	17298	18336	19240	19891	20151	20216	19845	19046	18417	17792	16574	15314	14012
9/24/2020	12925	12063	11558	11231	11217	11636	12416	12979	13911	15176	16616	17754	18648	19067	19193	19082	18918	18836	18460	18067	17586	16569	15424	14191
9/25/2020	13156	12376	11824	11485	11394	11803	12568	13024	13951	15616	17438	19050	20011	20168	20260	20395	20309	19640	18994	18438	17774	16742	15725	14675
9/26/2020	13546	12645	11997	11590	11356	11390	11556	11933	13361	15512	17308	18972	20237	20980	21159	21055	20660	20203	19351	18407	17573	16519	15478	14358
9/27/2020	13337	12414	11743	11296	11015	10922	11038	11273	12811	14982	16873	18667	19990	20832	21104	21133	20987	20396	19440	18901	18171	17125	15939	14644
9/28/2020	13569	12773	12238	11929	11929	12315	12869	13302	14434	16125	17675	19234	20385	21198	21321	20888	20325	19736	19040	18646	17916	16826	15663	14429
9/29/2020	13232	12493	11954	11625	11558	11978	12750	13254	14308	15855	17544	19032	20163	21104	21652	21799	21472	20741	19944	19327	18419	16908	15683	14587
9/30/2020	13282	12373	11735	11291	11104	11377	12027	12515	13405	14524	15721	16772	17576	18181	18363	18234	17965	17531	17114	16983	16470	15490	14326	13027
10/1/2020	12069	11323	10776	10459	10457	10902	11615	12115	12858	14187	15674	17114	18160	18755	18916	18916	18442	17691	17091	16817	16195	15213	14104	13021
10/2/2020	11962	11213	10708	10429	10412	10885	11637	12189	12826	13855	14700	15367	15744	15888	15674	15449	15317	15141	14886	14971	14523	13829	13064	12156
10/3/2020	11355	10646	10138	9851	9770	9924	10249	10621	11597	13035	14188	14882	15352	15631	15749	15892	15869	15576	15293	15237	14797	14078	13263	12458
10/4/2020	11715	11124	10757	10485	10392	10448	10657	10971	12212	13662	14970	15978	16915	17585	17944	18091	18030	17666	17201	17257	16762	15924	14967	13900
10/5/2020	12956	12277	11800	11517	11572	12015	12727	13347	14126	15395	16865	18200	19225	19967	20472	20737	20800	20494	19772	19457	18662	17589	16281	15025
10/6/2020	13984	13180	12661	12338	12326	12786	13541	14100	15069	16755	18407	19743	20744	21373	21696	21756	21485	20914	20095	19586	18708	17525	16302	15046
10/7/2020	14071	13327	12847	12494	12479	12927	13656	14209	15241	16748	18252	19564	20405	21175	21787	22155	22165	21720	20755	20152	19375	17993	16557	15399
10/8/2020	14099	13171	12500	12016	11823	12083	12790	13367	14408	16111	17714	19223	20254	21131	21674	21972	21970	21537	20579	19916	19079	17759	16416	15007
10/9/2020	13822	12940	12411	12074	12009	12346	13031	13548	14622	16254	17767	19147	20009	20754	21250	21438	21256	20610	19526	18778	17864	16645	15615	14612
10/10/2020	13838	13028	12418	11973	11809	11887	12080	12445	13656	15561	16962	18123	18977	19618	20079	20338	20294	19827	18873	18348	17565	16670	15697	14692
10/11/2020	13651	12840	12192	11723	11471	11475	11588	11805	13184	15391	17141	18607	19636	20433	20805	20909	20626	20221	19389	18879	18173	17083	15925	14664
10/12/2020	13512	12608	11984	11640	11635	11972	12693	13209	14328	16048	17582	18965	19988	20852	21294	21135	20808	20009	19176	18642	17905	16710	15494	14129
10/13/2020	12822	11993	11304	10829	10707	11036	11758	12318	13280	14779	16217	17636	18658	19534	20107	20454	20576	20231	19340	18780	17887	16500	15043	13559
10/14/2020	12335	11447	10861	10471	10398	10786	11547	12094	13106	14658	16194	17704	18845	20060	20474	20871	20923	20567	19652	19132	18252	16963	1560	



10/30/2020	13528	12646	12012	11588	11423	11727	12389	12911	13677	15004	16089	17013	17852	18431	18689	18799	18645	18047	17163	16680	15717	14817	14118	13152
10/31/2020	12130	11399	10847	10513	10344	10453	10751	11221	12112	13369	14724	15891	16718	17153	17427	17614	17524	16942	16205	15830	15181	14682	14021	13208
11/1/2020	12359	11665	11206	10867	10628	10528	10628	10899	11939	13891	15635	17021	18110	18858	19304	19403	19133	18577	17954	17831	16967	16007	14971	13842
11/2/2020	11729	11072	10650	10372	10411	10912	11622	12281	13164	13954	14545	15036	15205	15130	15002	14810	14395	14190	14551	13933	13145	12201	11286	10255
11/3/2020	9481	8899	8652	8397	8502	9026	9954	10868	11894	12714	13325	13889	14336	14706	14892	14805	14487	14334	14710	14133	13344	12444	11576	10573
11/4/2020	9826	9274	8927	8765	8814	9322	10207	11028	12207	13086	13890	14667	15184	15553	15752	15629	15342	15324	15696	15157	14440	13610	12724	11645
11/5/2020	10807	10248	9958	9804	9915	10427	11314	12287	13371	14555	15618	16517	17145	17230	17006	16752	16367	16350	16542	15929	15142	14242	13222	12103
11/6/2020	11157	10467	9987	9744	9781	10271	11135	12122	13399	14722	15878	16860	17521	17876	17932	17547	17018	16731	16727	15963	15168	14408	13622	12719
11/7/2020	11746	11092	10621	10456	10413	10557	10896	11611	13111	14448	15436	16024	16287	16317	15936	15451	15100	15079	15148	14729	14043	13488	12795	12031
11/8/2020	11323	10729	10322	10080	9997	10138	10433	11037	12171	13332	14215	14875	15099	14994	14715	14522	14479	14859	15149	14766	14240	13511	12707	12022
11/9/2020	11291	10774	10499	10405	10534	10940	11454	12260	13420	14493	15640	16470	17079	17360	17516	17409	17019	17142	17512	16928	16142	15093	14204	13364
11/10/2020	12442	11776	11343	11075	11090	11589	12492	13381	14640	15833	16870	17749	18258	18095	17640	17337	16848	16876	17313	16924	16299	15495	14589	13657
11/11/2020	12770	12181	11829	11644	11683	12072	12691	13450	14460	15574	16739	17252	17577	17778	17699	17393	17048	17322	17423	16484	15463	14653	13787	12853
11/12/2020	11977	11398	11046	10828	10846	11323	12172	13063	14166	15391	16384	16970	17507	17679	17630	17495	17145	17066	17174	16499	15557	14615	13593	12471
11/13/2020	11401	10629	10148	9885	9872	10313	11115	12062	13322	14550	15637	16721	17798	18427	18670	18422	17754	17162	16975	15998	15024	14295	13469	12531
11/14/2020	11579	10862	10326	10066	9942	10056	10405	11166	12768	14262	15454	16483	17189	17600	17715	17525	17046	16624	16591	15849	15079	14370	13523	12612
11/15/2020	11692	11007	10506	10166	9971	9936	10092	10861	12751	14586	15969	17198	18112	18719	18966	18892	18394	17638	17416	16497	15635	14591	13488	12344
11/16/2020	11284	10541	10058	9793	9813	10214	11014	12193	13680	15047	16229	17319	18151	18721	18977	18873	18300	17743	17782	16940	15947	14802	13643	12344
11/17/2020	11256	10495	10021	9743	9732	10133	11004	11779	12654	13531	14411	15152	15829	16216	16277	16164	15652	15287	15415	14702	13840	12851	11765	10603
11/18/2020	9669	9033	8648	8468	8571	8995	9922	10945	11941	12743	13429	13990	14344	14513	14498	14334	14104	14207	14556	14046	13386	12527	11610	10479
11/19/2020	9554	8935	8592	8427	8523	9058	10027	10948	11924	12769	13534	14054	14418	14583	14623	14456	14157	14304	14689	14211	13579	12716	11774	10712
11/20/2020	9813	9181	8833	8657	8719	9205	10130	11003	12043	13097	13899	14549	15040	15126	15102	14870	14507	14534	14654	14117	13471	12750	12054	11190
11/21/2020	10365	9696	9278	9029	8922	9081	9437	10184	11637	12994	14012	14682	15190	15513	15622	15343	14790	14594	14720	14141	13464	12812	12069	11216
11/22/2020	10384	9720	9265	8988	8881	8944	9240	9859	11302	12768	13821	14600	15024	15301	15416	15400	15118	15020	15150	14536	13838	13036	12102	11109
11/23/2020	10208	9532	9149	8959	9027	9494	10253	11077	12260	13281	14250	14898	15292	15486	15655	15571	15200	14907	15085	14366	13520	12528	11611	10513
11/24/2020	9498	8831	8436	8261	8322	8772	9540	10430	11495	12569	13497	14285	14883	15255	15406	15308	14899	14648	14873	14274	13593	12836	12056	11081
11/25/2020	10203	9537	9134	8950	8985	9368	10201	10760	11907	13066	13875	14622	15123	15509	15515	15335	15005	14978	15185	14566	13822	13122	12317	11307
11/26/2020	10347	9567	8967	8609	8499	8607	8929	9728	11563	13532	15115	16521	17638	18153	18203	17845	16850	15539	14674	13587	12818	12106	11448	10641
11/27/2020	9855	9229	8781	8568	8555	8746	9157	9775	11008	12346	13448	14264	14960	15431	15754	15734	15341	14913	14766	13902	13157	12399	11614	10706
11/28/2020	9866	9219	8801	8551	8438	8518	8789	9376	10710	12229	13298	14194	14802	15275	15433	15339	14966	14685	14720	14116	13350	12576	11749	10844
11/29/2020	9956	9314	8812	8521	8377	8390	8613	9141	10621	12231	13568	14622	15354	15865	16017	15939	15581	15282	15412	14762	14009	13076	12031	10922
11/30/2020	9984	9308	8899	8718	8832	9374	10231	11170	12392	13556	14297	15047	15487	15612	15242	14724	14174	14484	14807	14299	13509	12508	11359	10173
12/1/2020	9189	8538	8205	8014	8088	8607	9579	10565	11208	11690	11897	11993	12402	11969	11861	11675	11833	12489	13124	12872	12389	11793	10975	10104
12/2/2020	9474	9195	9138	9217	9476	10395	11933	13197	13551	13388	13173	12769	12622	12437	12280	12223	12309	13110	13908	13666	13167	12453	11500	10525
12/3/2020	9636	9220	9046	9063	9320	9978	11200	12063	12343	12333	12268	12259	12308	12305	12320	12320	12334	12918	13495	13101	12552	11778	10830	9781
12/4/2020	9007	8656	8201	8004	8099	8686	9749	10637	11395	11972	12391	12704	13046	13202	13214	13097	13018	13501	13791	13301	12695	11953	11068	10127
12/5/2020	9257	8663	8292	8082	8042	8211	8697	9363	10559	11858	12936	13662	14229	14627	14808	14789	14482	14376	14498	13853	13171	12529	11777	10824
12/6/2020	9906	9270	8829	8659	8613	8740	9100	9683	10846	12031	12962	13538	13915	14005	13965	13695	13562	14179	14529	14121	13566	12751	11772	10720
12/7/2020	9797	9213	8923	8828	9005	9366	10063	10838	11469	12035	12501	13003	13335	13402	13474	13151	12919	13434	14016	13520	12780	11918	10838	9828
12/8/2020	9019	8554	8372	8382	8645	9473	10941	12184	12731	12800	12717	12418	12219	11973	11803	11729	12027	12967	13985	13882	13517	12818	11935	11100
12/9/2020	10491	10132	10113	10239	10672	11624	13080	14391	14421	14122	13664	13037	12700	12230	11884	11766	11980	13020	14025	13928	13583	13030	12182	11294
12/10/2020	10659	10403	10393	10522	10944	11867	13281	14300	14309	13758	13084	12569	12220	11883	11736	11704	11835	12542	13372	13106	12583	11836	10858	9898
12/11/2020	9173	8787	8662	8688	8991	9852	11081	12089	12462	12478	12390	12263	12266	12159	12036	11941	11993	12611	13110	12704	12188	11555	10791	9939
12/12/2020	9238	8695	8251	8104	8113	8366	8832	9526	10670	11734	12381	12754	12958	13110	13061	13003	12892	13137	13407	12886	12254	11662	10924	10014
12/13/2020	9192	8592	8136	7943	7867	7996	8322	8901	10207	11533	12452	13307	13940	14430	14654	14653	14392	14285	14595	13993	13282	12379	11345	10166
12/14/2020	9160	8516	8143	8006	8126	8637	9573	10469	11512	12542	13475	14213	14795	15235	15449	15478	15169	15236	15704	15105	14241	13176	12098	10881
12/15/2020	9859	9149	8737	8527	8600	9134	10046	10860	11762	12479	13143	13799	14376	14815	14967	14945	14701	14916	15408	14886	14128	13211	12170	10946
12/16/2020	9928	9257	8845	8634	8667	9111	10083	10889	11873	12860	13734	14493	15128	15439	15548	15472	15205	15417	15802	15216	14378	13418	12399	11157
12/17/2020	10090	9419	9047	8856	8917	9410	10383	11258	12245	13229	13962	14442	14761	14848</										

Florida Power & Light Company  
 Gulf Power Company  
 Docket No. 20210000-OT  
 Ten-Year Site Plan  
 Staff's First Data Request  
 Request No. 6  
 Attachment No. 2 of 2  
 Tab 1 of 1

TYSP Year 2021  
 Staff's Data Request # 1  
 Question No. 6  
 Hours are shown in Eastern Prevailing Time

Date	Gulf Power Hourly System Load (MW)																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1/1/2020	1109	1109	1110	1098	1104	1109	1133	1158	1184	1218	1221	1196	1163	1127	1089	1069	1065	1128	1232	1233	1198	1149	1083	1011
1/2/2020	933	876	844	819	827	842	902	981	1014	1056	1074	1103	1100	1108	1108	1101	1116	1144	1225	1234	1202	1162	1094	1029
1/3/2020	942	885	845	822	822	843	896	976	1023	1097	1163	1234	1249	1251	1270	1246	1209	1196	1250	1236	1188	1133	1078	1009
1/4/2020	922	867	813	793	773	788	807	854	893	968	1025	1057	1073	1060	1049	1041	1043	1064	1168	1186	1177	1164	1135	1099
1/5/2020	1051	1039	1022	1029	1048	1099	1160	1253	1349	1388	1337	1269	1186	1130	1088	1049	1061	1109	1248	1295	1289	1267	1238	1169
1/6/2020	1119	1095	1082	1098	1121	1177	1305	1425	1454	1398	1288	1213	1144	1104	1076	1065	1070	1090	1216	1266	1251	1208	1143	1053
1/7/2020	984	939	919	916	934	970	1071	1184	1190	1159	1130	1117	1084	1075	1051	1044	1056	1098	1224	1277	1280	1260	1215	1152
1/8/2020	1098	1095	1107	1137	1194	1276	1433	1612	1633	1519	1382	1289	1194	1125	1093	1062	1071	1124	1260	1342	1342	1333	1291	1208
1/9/2020	1143	1112	1091	1086	1110	1158	1264	1391	1389	1324	1234	1168	1113	1091	1067	1047	1058	1093	1196	1218	1196	1149	1068	981
1/10/2020	884	838	808	803	795	827	898	1024	1070	1074	1089	1111	1110	1114	1113	1106	1094	1121	1194	1200	1166	1105	1036	968
1/11/2020	905	850	810	791	783	800	820	857	911	998	1077	1134	1160	1172	1160	1154	1143	1136	1187	1170	1128	1065	1010	951
1/12/2020	876	817	785	763	759	764	788	832	901	981	1037	1065	1073	1086	1102	1097	1107	1124	1227	1250	1218	1151	1083	988
1/13/2020	899	832	802	783	785	807	895	1012	1057	1094	1128	1169	1195	1218	1226	1214	1208	1217	1306	1328	1276	1189	1131	1029
1/14/2020	949	872	828	808	801	823	905	1020	1060	1098	1143	1179	1206	1239	1249	1256	1250	1246	1310	1320	1261	1194	1108	995
1/15/2020	899	836	794	776	770	800	884	1010	1045	1082	1139	1205	1228	1267	1319	1320	1334	1334	1395	1404	1362	1298	1211	1107
1/16/2020	1010	928	889	872	868	888	964	1084	1123	1162	1213	1268	1300	1314	1321	1310	1294	1306	1360	1370	1300	1225	1128	1012
1/17/2020	920	854	820	806	815	837	932	1049	1106	1119	1124	1128	1108	1112	1114	1105	1106	1120	1190	1190	1157	1115	1054	996
1/18/2020	923	876	854	810	816	825	859	898	955	1027	1083	1117	1110	1114	1109	1107	1119	1126	1150	1153	1112	1070	1021	962
1/19/2020	879	842	792	779	765	768	788	836	895	994	1067	1111	1116	1111	1114	1098	1106	1156	1292	1350	1343	1335	1307	1248
1/20/2020	1206	1186	1187	1196	1243	1304	1421	1540	1647	1679	1631	1562	1480	1402	1334	1306	1305	1385	1565	1659	1670	1655	1611	1519
1/21/2020	1479	1468	1490	1524	1562	1675	1848	2050	2111	2066	1967	1868	1751	1654	1558	1513	1507	1592	1784	1895	1905	1881	1828	1734
1/22/2020	1708	1660	1696	1695	1739	1821	1975	2129	2108	2005	1865	1745	1624	1521	1425	1382	1385	1456	1602	1627	1620	1563	1478	1365
1/23/2020	1279	1219	1196	1175	1181	1217	1332	1467	1498	1490	1455	1415	1331	1273	1240	1226	1243	1306	1379	1385	1339	1271	1192	1066
1/24/2020	978	933	886	885	890	931	1031	1130	1166	1176	1166	1174	1134	1091	1065	1047	1051	1070	1158	1208	1194	1177	1158	1110
1/25/2020	1067	1048	1039	1064	1089	1146	1231	1334	1420	1400	1347	1270	1192	1129	1082	1044	1047	1085	1202	1252	1261	1245	1195	1153
1/26/2020	1104	1078	1066	1093	1118	1147	1193	1246	1313	1340	1341	1303	1264	1252	1247	1255	1276	1346	1440	1441	1415	1346	1264	1174
1/27/2020	1108	1046	1021	1021	1037	1082	1197	1324	1367	1359	1332	1296	1219	1148	1122	1113	1128	1283	1362	1352	1332	1265	1190	
1/28/2020	1137	1112	1112	1138	1167	1241	1397	1558	1568	1453	1332	1243	1162	1107	1071	1052	1054	1086	1197	1295	1299	1274	1235	1163
1/29/2020	1086	1050	1051	1053	1058	1109	1201	1337	1375	1391	1412	1427	1405	1399	1405	1397	1407	1453	1539	1593	1547	1504	1418	1321
1/30/2020	1226	1182	1168	1173	1189	1257	1401	1556	1562	1468	1373	1297	1207	1143	1089	1068	1088	1134	1260	1314	1306	1264	1198	1102
1/31/2020	1028	968	949	934	951	987	1090	1212	1251	1272	1298	1309	1292	1272	1261	1237	1233	1261	1333	1329	1307	1257	1209	1137
2/1/2020	1077	1024	1004	985	990	1009	1049	1101	1168	1236	1283	1296	1280	1233	1199	1169	1171	1203	1304	1375	1379	1383	1355	1305
2/2/2020	1264	1233	1226	1238	1267	1315	1377	1465	1523	1458	1359	1250	1164	1121	1072	1061	1061	1098	1168	1198	1188	1163	1141	1081
2/3/2020	1004	954	940	953	979	1038	1176	1338	1356	1269	1177	1130	1086	1064	1049	1051	1052	1073	1161	1232	1198	1150	1061	970
2/4/2020	890	839	814	804	817	846	945	1069	1101	1105	1093	1090	1087	1086	1074	1067	1067	1100	1184	1230	1196	1129	1062	962
2/5/2020	872	808	784	766	763	798	881	1002	1033	1067	1101	1121	1148	1152	1133	1119	1125	1149	1229	1271	1237	1192	1121	1020
2/6/2020	930	877	839	830	824	848	928	1038	1084	1129	1172	1175	1167	1158	1136	1122	1115	1139	1210	1241	1220	1180	1118	1043
2/7/2020	985	964	971	1025	1079	1179	1356	1585	1670	1624	1548	1457	1354	1280	1211	1154	1125	1168	1274	1376	1388	1377	1353	1289
2/8/2020	1252	1227	1220	1227	1237	1265	1315	1368	1377	1315	1236	1164	1119	1078	1047	1033	1019	1042	1104	1160	1146	1113	1078	1015
2/9/2020	967	924	911	905	920	945	982	1047	1107	1134	1126	1077	1049	1022	1011	1012	1013	1043	1122	1201	1174	1123	1047	955
2/10/2020	886	830	803	799	806	845	940	1048	1088	1085	1088	1096	1100	1095	1103	1100	1088	1118	1205	1268	1242	1182	1112	1042
2/11/2020	909	844	815	799	794	823	911	1023	1064	1099	1128	1157	1184	1209	1225	1198	1220	1229	1281	1339	1308	1259	1146	1050
2/12/2020	940	871	833	820	814	835	917	1033	1087	1115	1153	1169	1201	1216	1222	1226	1226	1236	1281	1338	1299	1247	1171	1078
2/13/2020	988	912	873	861	856	876	963	1073	1100	1123	1161	1150	1137	1123	1111	1101	1073	1106	1141	1200	1184	1159	1102	1019
2/14/2020	945	896	884	888	910	960	1099	1276	1354	1355	1304	1237	1183	1128	1096	1075	1075	1098	1168	1255	1252	1249	1221	1184
2/15/2020	1137	1115	1117	1125	1137	1186	1250	1342	1403	1403	1338	1247	1160	1089	1032	1015	1017	1033	1102	1175	1178	1164	1120	1083
2/16/2020	1015	970	956	937	939	945	976	1031	1109	1185	1225	1251	1241	1228	1195	1158	1131	1148	1210	1231	1198	1145	1085	1005
2/17/2020	931	876	848	833	835	870	936	1020	1064	1120	1145	1167	1148	1131	1113	1104	1108	1127	1201	1265	1237	1176	1089	990
2/18/2020	905	834	804	786	794	816	906	1021	1068	1095	1112	1145	1150	1159	1171	1167	1164	1185	1257	1303	1276	1210	1126	1028
2/19/2020	932	864	826	812	812	831	913	1011	1054	1092	1118	1159	1197	1207	1201	1183	1178	1194	1241	1293	1260	1202	1116	1015
2/20/2020	916	855	821	801	799	827	906	1018	1069	1098	1137	1153	1157	1146	1152	1149	1150	1181	1258	1301	1296	1277	1225	1164
2/21/2020	1102	1064	1059	1061	1088	1142	1281	1446	1512	1492	1449	1394	1312	1259	1207	1176	1163	1200	1299	1415	1			

2/28/2020	1299	1281	1297	1323	1376	1469	1621	1768	1726	1564	1410	1309	1225	1151	1106	1075	1065	1095	1173	1277	1274	1243	1204	1150
2/29/2020	1106	1084	1088	1103	1142	1192	1279	1356	1372	1310	1255	1148	1091	1036	1010	995	990	1019	1074	1149	1149	1126	1099	1058
3/1/2020	1019	995	994	1001	1028	1061	1133	1196	1240	1220	1152	1090	1056	1031	1015	1007	1019	1036	1108	1198	1181	1134	1058	962
3/2/2020	879	833	797	788	785	825	935	1029	1059	1061	1069	1086	1088	1089	1090	1081	1088	1109	1167	1245	1229	1164	1081	972
3/3/2020	885	806	795	763	769	798	884	993	1047	1087	1124	1171	1196	1195	1196	1192	1191	1206	1262	1322	1311	1254	1158	1051
3/4/2020	951	886	852	827	830	862	946	1061	1111	1146	1181	1193	1186	1188	1174	1159	1170	1195	1246	1297	1248	1187	1091	972
3/5/2020	883	821	785	769	773	801	886	1014	1087	1120	1141	1159	1166	1157	1147	1129	1119	1142	1196	1257	1239	1190	1106	1007
3/6/2020	925	864	846	834	849	887	994	1117	1168	1172	1136	1119	1094	1054	1049	1048	1043	1055	1105	1168	1156	1132	1096	1040
3/7/2020	986	946	941	942	961	1010	1092	1189	1251	1261	1239	1153	1106	1048	1013	1002	1008	1034	1088	1179	1175	1165	1134	1084
3/8/2020	1039	1009	988	0	980	991	1018	1072	1136	1175	1167	1126	1079	1052	1025	1010	1013	1043	1078	1114	1187	1176	1102	1013
3/9/2020	920	863	836	839	840	887	985	1132	1157	1144	1119	1112	1093	1096	1083	1082	1088	1116	1133	1175	1227	1196	1114	1010
3/10/2020	900	833	798	782	778	810	890	1015	1067	1073	1089	1114	1128	1149	1156	1162	1170	1194	1209	1243	1277	1244	1163	1045
3/11/2020	931	863	812	791	773	810	885	1005	1046	1074	1119	1168	1202	1226	1258	1278	1295	1313	1290	1301	1329	1295	1212	1090
3/12/2020	969	898	850	836	829	841	904	1015	1027	1060	1110	1176	1212	1252	1291	1317	1339	1360	1346	1322	1341	1301	1218	1095
3/13/2020	974	886	840	817	803	818	880	976	1026	1076	1138	1203	1248	1294	1328	1359	1391	1401	1373	1336	1337	1292	1234	1128
3/14/2020	1028	939	880	842	822	825	836	878	917	1004	1082	1179	1238	1302	1343	1371	1397	1417	1408	1359	1363	1302	1218	1112
3/15/2020	996	899	835	806	772	775	788	822	852	957	1060	1130	1196	1268	1322	1378	1403	1437	1438	1385	1388	1306	1207	1082
3/16/2020	969	874	829	787	781	797	857	934	971	1052	1123	1200	1273	1340	1406	1450	1491	1505	1496	1452	1444	1366	1260	1137
3/17/2020	1025	920	876	840	833	842	899	970	1013	1078	1163	1242	1307	1381	1432	1468	1519	1524	1527	1479	1477	1403	1304	1179
3/18/2020	1061	965	917	873	876	881	942	1015	1056	1123	1202	1285	1344	1388	1424	1439	1460	1491	1489	1469	1473	1401	1306	1179
3/19/2020	1072	978	927	903	892	902	952	1022	1069	1150	1232	1328	1399	1470	1519	1556	1590	1619	1602	1552	1536	1468	1366	1233
3/20/2020	1103	1013	962	925	905	911	953	1016	1060	1143	1234	1326	1403	1468	1517	1544	1556	1548	1537	1484	1462	1389	1285	1183
3/21/2020	1081	989	935	895	874	870	890	904	942	1029	1127	1206	1262	1322	1387	1428	1308	1318	1326	1324	1338	1279	1184	1080
3/22/2020	994	908	856	811	793	791	798	827	852	938	1028	1098	1163	1213	1267	1322	1371	1416	1435	1393	1387	1334	1229	1121
3/23/2020	1011	928	878	848	835	856	910	979	1020	1094	1184	1286	1382	1457	1512	1554	1576	1588	1577	1524	1499	1425	1313	1183
3/24/2020	1077	991	939	906	888	896	944	1006	1034	1120	1209	1307	1402	1473	1528	1562	1579	1585	1575	1528	1514	1458	1365	1263
3/25/2020	1162	1083	1042	1000	987	1002	1037	1101	1117	1202	1283	1378	1481	1572	1636	1673	1700	1709	1677	1606	1553	1477	1352	1231
3/26/2020	1119	1023	952	920	895	899	953	1014	1035	1115	1199	1312	1435	1534	1612	1664	1701	1709	1680	1600	1541	1466	1346	1215
3/27/2020	1097	1017	959	927	917	922	965	1012	1046	1155	1240	1346	1448	1540	1600	1656	1671	1674	1641	1567	1529	1452	1344	1245
3/28/2020	1159	1066	1009	964	931	926	926	949	985	1103	1226	1351	1450	1543	1589	1612	1629	1627	1608	1550	1533	1464	1365	1279
3/29/2020	1188	1112	1062	1014	992	1028	980	982	1013	1137	1268	1378	1493	1602	1664	1711	1737	1760	1742	1662	1629	1525	1417	1273
3/30/2020	1141	1034	954	911	882	892	932	997	1028	1097	1165	1256	1353	1453	1537	1605	1633	1609	1610	1557	1529	1415	1301	1186
3/31/2020	1092	1009	966	931	916	945	997	1073	1123	1198	1283	1367	1422	1406	1349	1338	1364	1395	1413	1349	1298	1213	1104	990
4/1/2020	889	801	756	740	735	757	814	878	927	967	988	1006	1008	1020	1035	1055	1091	1116	1168	1165	1169	1121	1041	947
4/2/2020	865	803	761	746	742	772	822	889	933	958	980	1001	1017	1039	1071	1100	1125	1165	1183	1175	1179	1123	1039	937
4/3/2020	855	791	753	735	732	755	793	851	884	930	964	1009	1051	1094	1123	1153	1166	1185	1183	1167	1175	1125	1047	960
4/4/2020	874	804	771	738	732	738	754	774	799	870	940	1009	1071	1132	1178	1195	1191	1187	1201	1181	1203	1163	1085	1016
4/5/2020	931	865	820	790	774	773	777	799	812	885	975	1053	1131	1200	1269	1308	1344	1368	1376	1325	1310	1243	1154	1033
4/6/2020	939	857	817	785	769	783	832	879	926	981	1053	1133	1232	1305	1368	1407	1425	1443	1439	1389	1355	1290	1185	1067
4/7/2020	975	900	844	815	795	804	856	902	945	1026	1097	1184	1281	1369	1416	1447	1445	1444	1436	1415	1417	1364	1288	1180
4/8/2020	1099	1026	984	955	956	970	1019	1075	1117	1180	1276	1382	1475	1562	1622	1651	1655	1639	1612	1568	1545	1473	1382	1275
4/9/2020	1177	1094	1044	1006	998	1000	1031	1082	1123	1209	1294	1389	1515	1647	1726	1761	1786	1807	1767	1670	1611	1524	1414	1287
4/10/2020	1179	1097	1028	957	897	869	881	900	926	959	1006	1046	1078	1107	1143	1162	1185	1187	1183	1144	1142	1094	1025	936
4/11/2020	863	803	769	740	717	729	754	766	814	856	905	930	952	971	997	1021	1056	1077	1097	1092	1114	1087	1033	959
4/12/2020	889	825	785	770	750	762	778	792	837	942	1043	1133	1220	1281	1302	1320	1313	1328	1341	1325	1362	1329	1287	1258
4/13/2020	1160	1058	1005	980	952	942	971	986	1030	1108	1185	1281	1388	1458	1498	1512	1512	1493	1463	1429	1386	1328	1221	1107
4/14/2020	1002	916	853	815	796	808	841	879	917	973	1034	1113	1191	1274	1351	1394	1410	1414	1417	1379	1348	1308	1191	1084
4/15/2020	964	878	821	785	771	784	820	880	900	955	976	999	1014	1029	1047	1066	1090	1123	1135	1115	1132	1104	1019	927
4/16/2020	851	793	754	741	744	757	807	870	913	949	975	978	1001	1011	1034	1063	1104	1144	1182	1165	1153	1122	1027	935
4/17/2020	855	789	757	738	738	757	804	846	901	941	984	1031	1077	1129	1178	1218	1269	1286	1285	1261	1267	1230	1150	1073
4/18/2020	988	925	883	859	849	857	875	887	905	999	1107	1207	1302	1373	1415	1415	1411	1391	1372	1345	1335	1279	1199	1115
4/19/2020	1027	953	900	861	834	831	839	836	890	982	1112	1213	1305	1375	1411	1408	1392	1385	1407	1394	1398	1383	1316	1248
4/20/2020	1167	1041	925	847	817	817	855	898	953	1020	1085	1144	1203	1275	1328	1374	1423	1468	1471	1420	1376	1315	1206	1086
4/21/2020	974	889	839	808	792	801	843	876	933	1000	1063	1121	1190	1258	1330	1392	1461	1491	1492	1441	1379	1324	1220	1103
4/22/2020	989	909	844	813	798	810	853	884																

5/11/2020	931	853	787	759	742	763	805	853	917	991	1061	1124	1210	1281	1371	1458	1524	1558	1574	1531	1425	1361	1222	1070
5/12/2020	962	867	811	768	759	773	809	859	923	984	1041	1097	1166	1236	1317	1387	1450	1479	1490	1444	1366	1329	1216	1089
5/13/2020	971	882	824	790	784	796	846	878	958	1022	1129	1225	1329	1434	1514	1574	1613	1643	1649	1592	1490	1446	1318	1179
5/14/2020	1050	967	906	877	879	897	936	983	1069	1177	1271	1352	1443	1505	1556	1584	1611	1629	1610	1555	1476	1441	1337	1205
5/15/2020	1078	967	905	884	874	885	932	995	1082	1187	1301	1394	1481	1559	1598	1647	1666	1650	1616	1543	1469	1429	1330	1215
5/16/2020	1087	994	921	878	846	852	860	868	951	1094	1237	1365	1476	1569	1639	1684	1731	1761	1743	1669	1594	1551	1439	1323
5/17/2020	1188	1091	1021	979	961	964	981	994	1087	1221	1358	1460	1522	1560	1594	1648	1705	1725	1729	1675	1617	1582	1465	1323
5/18/2020	1208	1104	1055	1005	976	983	1020	1081	1166	1248	1309	1351	1396	1437	1482	1492	1488	1506	1492	1474	1426	1411	1331	1226
5/19/2020	1116	1029	965	921	889	891	918	971	1063	1180	1298	1395	1516	1599	1657	1691	1706	1720	1710	1673	1623	1581	1496	1365
5/20/2020	1250	1144	1086	1062	1049	1056	1083	1112	1190	1263	1326	1357	1380	1400	1378	1357	1371	1321	1343	1336	1309	1306	1242	1136
5/21/2020	1027	949	883	860	847	864	914	979	1057	1143	1264	1404	1458	1668	1749	1809	1852	1885	1871	1811	1711	1655	1525	1386
5/22/2020	1248	1155	1090	1053	1035	1024	1063	1132	1235	1378	1522	1664	1762	1856	1927	1980	2005	1997	1969	1902	1805	1751	1643	1517
5/23/2020	1390	1271	1181	1126	1077	1070	1061	1079	1169	1331	1506	1635	1741	1824	1895	1943	1952	1961	1940	1875	1779	1719	1610	1463
5/24/2020	1324	1200	1095	1039	1012	991	983	980	1091	1274	1439	1601	1730	1833	1877	1927	1950	1956	1947	1877	1778	1716	1612	1470
5/25/2020	1321	1206	1114	1058	1026	1031	1044	1070	1180	1331	1499	1640	1757	1827	1866	1871	1845	1800	1740	1646	1587	1514	1415	1292
5/26/2020	1185	1098	1039	1001	989	995	1050	1109	1185	1284	1406	1505	1601	1685	1763	1803	1806	1802	1763	1699	1614	1579	1476	1335
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5/28/2020	1286	1190	1134	1093	1085	1104	1142	1211	1330	1476	1603	1732	1828	1929	1977	1958	1886	1830	1760	1704	1646	1611	1529	1396
5/29/2020	1270	1159	1107	1060	1043	1054	1076	1145	1255	1407	1534	1652	1776	1865	1918	1952	1930	1887	1832	1770	1702	1653	1549	1439
5/30/2020	1301	1200	1119	1073	1032	1031	1030	1030	1155	1323	1503	1657	1782	1862	1931	1976	2005	2009	1983	1908	1824	1783	1680	1532
5/31/2020	1419	1286	1195	1124	1079	1054	1042	1051	1152	1312	1478	1622	1766	1876	1954	2006	2051	2077	2077	2012	1872	1795	1652	1490
6/1/2020	1330	1204	1111	1061	1021	1032	1048	1101	1207	1340	1492	1650	1818	1928	2022	2073	2103	2109	2080	2017	1901	1851	1730	1583
6/2/2020	1438	1329	1257	1211	1180	1187	1218	1261	1336	1438	1561	1679	1763	1835	1874	1884	1845	1805	1750	1715	1669	1640	1559	1432
6/3/2020	1309	1197	1141	1094	1070	1071	1111	1166	1239	1337	1455	1565	1626	1641	1653	1666	1641	1697	1697	1664	1600	1569	1486	1363
6/4/2020	1247	1158	1076	1049	1014	1021	1051	1109	1209	1334	1452	1562	1644	1721	1815	1884	1913	1928	1911	1863	1754	1694	1592	1458
6/5/2020	1305	1176	1095	1043	1003	1008	1032	1098	1229	1404	1548	1680	1805	1896	1960	2017	2037	2032	1987	1906	1819	1766	1660	1533
6/6/2020	1401	1286	1206	1143	1118	1120	1123	1131	1200	1303	1392	1440	1488	1535	1548	1536	1505	1479	1457	1452	1427	1422	1390	1307
6/7/2020	1215	1136	1084	1053	1039	1033	1049	1071	1131	1240	1361	1469	1581	1656	1692	1686	1674	1664	1672	1656	1646	1619	1557	1477
6/8/2020	1378	1321	1276	1245	1226	1247	1301	1358	1437	1547	1664	1773	1854	1940	1982	2018	2025	2042	2009	1964	1867	1829	1741	1617
6/9/2020	1496	1391	1333	1293	1277	1296	1330	1380	1474	1598	1707	1800	1872	1890	1909	1957	1982	2016	2002	1947	1879	1862	1766	1649
6/10/2020	1522	1414	1353	1302	1277	1281	1312	1364	1477	1615	1761	1872	1954	2035	2089	2103	2115	2092	2080	2025	1929	1888	1798	1643
6/11/2020	1502	1377	1294	1231	1189	1162	1156	1174	1259	1390	1507	1641	1789	1914	1994	2077	2115	2149	2129	2066	1942	1862	1725	1553
6/12/2020	1397	1261	1177	1116	1071	1077	1098	1141	1242	1375	1513	1628	1756	1872	1970	2034	2087	2116	2106	2051	1916	1843	1721	1555
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6/16/2020	1459	1323	1220	1142	1099	1089	1113	1172	1282	1418	1537	1670	1795	1895	1965	2017	2043	2033	2003	1918	1792	1702	1598	1439
6/17/2020	1296	1176	1088	1039	1014	1008	1035	1092	1156	1258	1357	1471	1584	1706	1803	1874	1920	1956	1966	1914	1792	1726	1607	1447
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7/1/2020	1603	1472	1390	1338	1320	1322	1350	1419	1541	1670	1768	1891	1983	2051	2084	2106	2134	2167	2109	1977	1851	1788	1667	1517
7/2/2020	1390	1277	1193	1143	1136	1144	1189	1252	1353	1502	1591	1669	1768	1824	1886	1961	2023	2110	2136	2099	1979	1925	1805	1662

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9/2/2020	1543	1433	1354	1317	1282	1291	1320	1381	1462	1604	1747	1883	2023	2133	2224	2279	2311	2306	2278	2180	2089	1984	1830	1664	
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9/8/2020	1396	1279	1214	1158	1136	1148	1198	1272	1350	1476	1631	1772	1903	2004	2080	2125	2149	2142	2121	2043	1992	1871	1725	1571	
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9/10/2020	1458	1338	1273	1215	1187	1190	1236	1292	1363	1471	1612	1763	1894	2014	2072	2127	2132	2157	2135	2075	2023	1907	1754	1597	
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11/1/2020	902	851	798	773	770	781	804	829	901	989	1070	1124	1178	1225	1259	1282	1277	1265	1295	1269	1200	1119	1036	940	
11/2/2020	859	811	786	770	784	814	898	1002	1056	1082	1069	1072	1062	1050	1052	1062	1078	1109	1193	1224	1183	1117	1043	962	
11/3/2020	897	863	848	850	860	911	1005	1126	1148	1122	1084	1065	1054	1051	1056	1075	1086	1119	1196	1203	1159	1108	1041	963	
11/4/2020	903	869	852	847	859	900	994	1104	1125	1109	1069	1071	1067	1081	1097	1120	1129	1147	1217	1219	1173	1109	1033	944	
11/5/2020	878	828	808	804	810	837	920	1005	1055	1067	1087	1118	1143	1178	1222	1257	1251	1264	1325	1313	1254	1179	1101	997	
11/6/2020	909	848	811	794	795	824	882	972	1032	1071	1147	1227	1286	1335	1361	1355	1330	1329	1369	1340	1329	1220	1148	1072	
11/7/2020	990	916	872	832	825	833	848	870	945	1043	1133	1215	1269	1322	1351	1356	1343	1342	1394	1366	1296	1252	1188	1110	
11/8/2020	1035	966	914	889	873	871	889	904	985	1109	1232	1329	1415	1484	1540	1567	1555	1506	1534	1492	1411	1318	1223	1127	
11/9/2020	1030	958	922	894	888	901	974	1057	1151	1242	1343	1427	1501	1566	1597	1618	1597	1562	1606	1681	1512	1433	1326	1216	
11/10/2020	1110	1027	1000	965	956	980	1042	1124	1191	1248	1318	1383	1450	1512	1560	1612	1627	1595	1618	1609	1505	1429	1321	1217	
11/11/2020	1116	1052	1002	988	983	987	1036	1097	1160	1257	1371	1473	1558	1618	1666	1629	1558	1519	1571	1543	1474	1404	1315	1204	
11/12/2020	1099	1030	979	945	940	952	1008	1093	1152	1229	1312	1408	1485	1549	1585	1583	1546	1464	1451	1401	1298	1215	1110	1001	
11/13/2020	912	837	797	777	770	795	849	922	970	1022	1060	1117	1166	1223	1276	1316	1320	1283	1289	1245	1166	1105	1032	953	953
11/14/2020	883	815	782	756	753	763	780	806	863	943	1008	1070	1137	1196	1253	1278	1290	1261	1297	1266	1202	1161	1094	1023	
11/15/2020	956	887	843	819	811	816	840	858	1004	1141	1266	1361	1458	1530	1577	1599	1577	1515	1525	1467	1369	1270	1155	1037	
11/16/2020	943	871	824	811	806	829	900	991	1052	1080	1100	1118	1136	1162	1170	1196	1198	1196	1270	1270	1222	1163	1083	1007	
11/17/2020	939	888	873	871	883	919	1003	1119	1162	1150	1133	1135	1108	1129	1147	1154	1168	1183	1262	1265	1222	1165	1093	1010	
11/18/2020	946	899	884	896	899	948	1046	1162	1197	1191	1164	1138	1124	1113	1112	1120	1133	1172	1275	1280	1253	1208	1146	1064	
11/19/2020	995	949	933	935	949	992	1086	1198	1233	1213	1174	1140	1131	1130	1145	1166	1169	1196	1274	1274	1237	1179	1106	1038	
11/20/2020	940	899	874	865	876	904	977	1065	1096	1119	1129	1145	1184	1206	1227	1255	1258	1263	1312	1289	1225	1184	1119	1047	
11/21/2020	967	911	875	853	852	857	883	915	968	1043	1089	1139	1187	1240	1268	1294	1306	1288	1335	1297	1232	1177	1116	1034	
11/22/2020	962	898	859	837	827	842	866	884	951	1039	1115	1169	1238	1284	1319	1338	1326	1340	1401	1361	1305	1230	1154	1051	
11/23/2020	965	897	864	843	843	866	926	995	1061	1117	1147	1159	1159	1154	1197	1211	1209	1223	1297	1284	1245	1200	1136	1067	
11/24/2020	992	947	921	920	939	979	1058	1157	1210	1196	1174	1149	1143	1171	1197	1216	1228	1240	1323	1328	1284	1221	1156	1060	
11/25/2020	975	910	873	852	857	876	934	997	1062	1150	1224	1295	1349	1375	1406	1418	1416	1414	1471	1463	1422	1360	1295	1213	
11/26/2020	1109	960	902	888	871	868	895	925	1029	1202	1367	1510	1589												

12/16/2020	994	947	910	906	916	944	1035	1147	1191	1219	1223	1222	1224	1194	1193	1181	1211	1271	1396	1421	1409	1419	1365	1275
12/17/2020	1206	1172	1161	1167	1188	1241	1373	1533	1614	1665	1686	1682	1623	1529	1454	1390	1423	1535	1733	1809	1827	1824	1800	1720
12/18/2020	1677	1659	1658	1677	1714	1775	1908	2056	2068	1912	1746	1621	1491	1377	1313	1276	1285	1367	1534	1581	1563	1568	1552	1513
12/19/2020	1476	1452	1449	1459	1474	1491	1558	1619	1642	1592	1504	1390	1284	1208	1162	1140	1155	1219	1314	1323	1298	1263	1205	1137
12/20/2020	1085	1031	995	987	977	978	1008	1057	1113	1186	1227	1239	1234	1207	1185	1170	1168	1231	1323	1306	1279	1222	1166	1084
12/21/2020	1010	956	931	932	946	987	1071	1175	1228	1232	1202	1169	1129	1097	1080	1075	1082	1132	1252	1295	1286	1271	1230	1163
12/22/2020	1105	1065	1060	1062	1084	1136	1239	1355	1389	1342	1265	1191	1129	1097	1080	1076	1080	1127	1238	1268	1256	1235	1201	1140
12/23/2020	1080	1050	1043	1039	1063	1115	1190	1286	1315	1260	1197	1148	1105	1091	1084	1072	1079	1125	1216	1223	1193	1158	1108	1035
12/24/2020	956	890	843	823	812	822	849	901	957	1035	1104	1159	1203	1226	1244	1292	1352	1406	1525	1559	1579	1594	1590	1571
12/25/2020	1536	1523	1517	1531	1558	1586	1649	1733	1772	1715	1617	1515	1432	1353	1283	1244	1248	1322	1474	1541	1587	1613	1625	1611
12/26/2020	1589	1591	1597	1622	1663	1722	1794	1883	1924	1835	1736	1603	1484	1381	1295	1249	1257	1343	1529	1607	1656	1671	1658	1631
12/27/2020	1598	1595	1598	1627	1650	1686	1743	1810	1837	1728	1578	1440	1331	1246	1178	1142	1164	1225	1385	1433	1438	1414	1369	1311
12/28/2020	1262	1238	1234	1239	1264	1316	1402	1504	1539	1462	1359	1268	1187	1133	1100	1088	1091	1147	1276	1313	1294	1269	1213	1152
12/29/2020	1102	1062	1061	1079	1104	1154	1257	1364	1406	1353	1274	1194	1142	1104	1084	1087	1093	1130	1251	1269	1250	1199	1143	1066
12/30/2020	990	951	920	910	920	951	1015	1085	1133	1139	1130	1121	1102	1095	1094	1086	1098	1139	1237	1244	1211	1158	1110	1017
12/31/2020	942	879	833	820	812	826	868	926	969	1055	1099	1135	1152	1154	1164	1176	1180	1228	1314	1295	1238	1180	1122	1061

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 Staff's First Data Request  
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 TYSP Year 2021  
 Staff's Data Request # 1  
 Question No. 7

FPL							
Year	Month	Actual Peak Demand	Demand Response Activated	Estimated Peak Demand	Day	Hour	System-Average Temperature
		(MW)	(MW)	(MW)			(Degrees F)
2020	1	17514	0	17514	22	0900	44
	2	18429	0	18429	19	1600	83
	3	20602	0	20602	30	1700	85
	4	21594	0	21594	14	1700	88
	5	21932	0	21932	28	1600	86
	6	24499	0	24499	24	1700	91
	7	24483	0	24483	9	1700	94
	8	24166	0	24166	28	1600	91
	9	24493	0	24493	3	1600	91
	10	22214	0	22214	7	1700	87
	11	19496	0	19496	1	1600	83
	12	15773	0	15773	16	1900	75
2019	1	16795	0	16795	4	1500	82
	2	18660	0	18660	18	1600	83
	3	18963	0	18963	11	1700	82
	4	20106	0	20106	30	1700	84
	5	22580	0	22580	31	1700	88
	6	24241	0	24241	25	1600	93
	7	23578	0	23578	2	1600	94
	8	22861	0	22861	21	1700	87
	9	23653	0	23653	6	1700	93
	10	21776	0	21776	21	1600	88
	11	19855	0	19855	7	1500	86
	12	17249	0	17249	17	1500	83
2018	1	19109	0	19109	5	800	42
	2	17492	0	17492	21	1600	81
	3	17887	0	17887	1	1600	82
	4	19348	0	19348	9	1900	83
	5	19595	0	19595	7	1700	84
	6	22254	0	22254	22	1600	88
	7	22528	0	22528	2	1700	88
	8	23217	0	23217	9	1600	90
	9	23187	0	23187	17	1700	89
	10	21781	0	21781	15	1600	87
	11	19649	0	19649	8	1500	84
	12	18088	0	18088	3	1500	85
Notes							
(Include Notes Here)							



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 Staff's First Data Request  
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 Tab 1 of 1

TYSP Year 2021  
 Staff's Data Request : 1  
 Question No. 7

GULF							
Year	Month	Actual	Demand	Estimated	Day	Hour	System-Average
		Peak Demand	Response Activated	Peak Demand			Temperature
		(MW)	(MW)	(MW)			(Degrees F)
2020	1	2129	0	2129	22	0700	32
	2	1768	0	1768	28	0700	39
	3	1760	0	1760	29	1700	83
	4	1807	0	1807	9	1700	85
	5	2077	0	2077	31	1700	91
	6	2318	0	2318	30	1700	92
	7	2392	0	2392	20	1600	92
	8	2410	0	2410	3	1700	91
	9	2394	0	2394	5	1700	94
	10	2076	0	2076	7	1600	88
	11	1666	0	1666	11	1400	79
	12	2068	0	2068	18	0800	41
2019	1	2066	0	2066	30	0800	38
	2	1564	0	1564	1	0800	48
	3	1885	0	1885	6	0700	37
	4	1734	0	1734	30	1700	78
	5	2260	0	2260	31	1700	89
	6	2444	0	2444	25	1600	95
	7	2426	0	2426	5	1600	94
	8	2374	0	2374	14	1500	82
	9	2472	0	2472	5	1700	95
	10	2284	0	2284	3	1600	92
	11	1951	0	1951	13	0700	30
	12	1862	0	1862	19	0700	35
2018	1	2809	0	2809	18	0800	24
	2	1661	0	1661	3	0800	41
	3	1622	0	1622	15	0800	44
	4	1615	0	1615	3	1700	76
	5	2090	0	2090	24	1600	83
	6	2491	0	2491	28	1600	97
	7	2408	0	2408	12	1700	88
	8	2396	0	2396	6	1600	92
	9	2354	0	2354	15	1700	95
	10	2133	0	2133	2	1600	87
	11	1845	0	1845	28	0700	37
	12	1971	0	1971	12	0700	37

Notes  
 Hour is in CPT





TOTAL AVERAGE ANNUAL CUSTOMERS

Year	ACTUAL	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	
		2001-2010	2002-2011	2003-2012	2004-2013	2005-2014	2006-2015	2007-2016	2008-2017	2009-2019	2010-2020	2011-2021	2012-2021	2013-2022	2014-2023	2015-2024	2016-2025	2017-2026	2018-2027	2019-2028	2020-2029	
2002	381,520	386,363	382,221																			
2003	389,807	393,461	389,962	388,736																		
2004	398,198	400,114	397,237	397,557	397,671																	
2005	404,084	406,977	404,023	405,230	405,802	411,911																
2006	415,183	413,955	410,930	412,571	412,857	422,626	417,879															
2007	425,791		417,915	420,934	420,309	431,955	428,429	427,761														
2008	429,300			430,540	428,738	441,220	437,181	438,233	438,259													
2009	428,204				438,390	450,706	446,127	447,135	448,294	437,091												
2010	430,028					460,733	455,602	457,024	457,731	444,504	429,165											
2011	432,401						465,478	467,438	467,967	454,286	431,591	432,340										
2012	434,440							478,178	478,892	464,609	435,209	436,563	435,611									
2013	437,697								490,503	475,531	441,574	442,936	440,243	438,047								
2014	442,369									486,729	450,506	450,623	447,009	443,350	441,150							
2015	447,556										459,909	458,491	454,702	450,788	445,631	446,458						
2016	453,139											466,319	462,249	459,363	452,374	452,313	452,162					
2017	459,049												469,519	467,787	460,351	459,095	458,780	458,127				
2018	464,681													475,745	467,878	465,992	465,524	463,975	465,609			
2019	464,883														474,984	472,332	471,563	469,114	471,960	472,135		
2020	470,680															478,194	476,496	473,885	477,293	479,546	472,190	

FORECAST ERROR  
(PERCENT)

YEAR	WN Actual	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	
		2001-2010	2002-2011	2003-2012	2004-2013	2005-2014	2006-2015	2007-2016	2008-2017	2009-2019	2010-2020	2011-2021	2012-2021	2013-2022	2014-2023	2015-2024	2016-2025	2017-2026	2018-2027	2019-2028	2020-2029	
2002	381,520	-1.3%	-0.2%																			
2003	389,807	-0.9%	0.0%	0.3%																		
2004	398,198	-0.5%	0.2%	0.2%	0.1%																	
2005	404,084	-0.7%	0.0%	-0.3%	-0.4%	-1.9%																
2006	415,183	0.3%	1.0%	0.6%	0.6%	-1.8%	-0.6%															
2007	425,791		1.9%	1.2%	1.3%	-1.4%	-0.6%	-0.5%														
2008	429,300			-0.3%	0.1%	-2.7%	-1.8%	-2.0%	-2.0%													
2009	428,204				-2.3%	-5.0%	-4.0%	-4.2%	-4.5%	-2.0%												
2010	430,028					-6.7%	-5.6%	-5.9%	-6.1%	-3.3%	0.2%											
2011	432,401						-7.1%	-7.5%	-7.6%	-4.8%	0.2%	0.0%										
2012	434,440							-9.1%	-9.3%	-6.5%	-0.2%	-0.5%	-0.3%									
2013	437,697								-10.8%	-8.0%	-0.9%	-1.2%	-0.6%	-0.1%								
2014	442,369									-9.1%	-1.8%	-1.8%	-1.0%	-0.2%	0.3%							
2015	447,556										-2.7%	-2.4%	-1.6%	-0.7%	0.4%	0.2%						
2016	453,139											-2.8%	-2.0%	-1.4%	0.2%	0.2%	0.2%					
2017	459,049												-2.2%	-1.9%	-0.3%	0.0%	0.1%	0.2%				
2018	464,681													-2.3%	-0.7%	-0.3%	-0.2%	0.2%	-0.2%			
2019	464,883														-2.1%	-1.6%	-1.4%	-0.9%	-1.5%	-1.5%	-1.5%	
2020	470,680															-1.6%	-1.2%	-0.7%	-1.4%	-1.8%	-1.8%	-0.3%
1 yr		-1.3%	-0.2%	0.3%	0.1%	-1.9%	-0.6%	-0.5%	-2.0%	-2.0%	0.2%	0.0%	-0.3%	-0.1%	0.3%	0.2%	0.2%	0.2%	-0.2%	-1.5%	-1.5%	-0.3%
2 yr		-0.9%	0.0%	0.2%	-0.4%	-1.8%	-0.6%	-2.0%	-4.5%	-3.3%	0.2%	-0.5%	-0.6%	-0.2%	0.4%	0.2%	0.1%	0.2%	-1.5%	-1.8%		
3 yr		-0.5%	0.2%	-0.3%	0.6%	-1.4%	-1.8%	-4.2%	-6.1%	-4.8%	-0.2%	-1.2%	-1.0%	-0.7%	0.2%	0.0%	-0.2%	-0.9%	-1.4%			
4 yr		-0.7%	0.0%	0.6%	1.3%	-2.7%	-4.0%	-5.9%	-7.6%	-6.5%	-0.9%	-1.8%	-1.6%	-1.4%	-0.3%	-0.3%	-1.4%	-0.7%				
5 yr		0.3%	1.0%	1.2%	0.1%	-5.0%	-5.6%	-7.5%	-9.3%	-8.0%	-1.8%	-2.4%	-2.0%	-1.9%	-0.7%	-1.6%	-1.2%					
6 yr			1.9%	-0.3%	-2.3%	-6.7%	-7.1%	-9.1%	-10.8%	-9.1%	-2.7%	-2.8%	-2.2%	-2.3%	-2.1%	-1.6%						

Retail Energy with DSM  
 (GWH)

Year	WN Actual	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	
		2001-2010	2002-2011	2003-2012	2004-2013	2005-2014	2006-2015	2007-2016	2008-2017	2009-2019	2010-2020	2011-2021	2012-2021	2013-2022	2014-2023	2015-2024	2016-2025	2017-2026	2018-2027	2019-2028	2020-2029	
2002	10,688	10,377	10,266																			
2003	10,958	10,541	10,337	10,398																		
2004	11,036	10,665	10,456	10,605	10,641																	
2005	11,331	10,802	10,587	10,855	10,851	11,154																
2006	11,490	10,970	10,749	11,055	10,958	11,456	11,260															
2007	11,483		10,874	11,238	11,023	11,715	11,532	11,485														
2008	11,472			11,386	11,170	12,042	11,850	11,693	11,666													
2009	10,941				11,300	12,262	12,101	11,857	11,937	11,809												
2010	10,803					12,478	12,304	12,048	12,206	12,105	10,892											
2011	10,931						12,455	12,315	12,416	12,498	11,188	11,421										
2012	10,858							12,592	12,631	12,791	11,647	11,768	11,595									
2013	10,838								12,907	13,080	12,051	12,064	11,794	11,083								
2014	11,066									13,330	12,265	12,369	12,054	11,154	11,129							
2015	10,975										12,504	12,574	12,287	11,246	11,063	10,961						
2016	10,938											12,718	12,492	11,462	11,210	11,034	10,907					
2017	10,917												12,668	11,584	11,284	11,167	11,023	10,830				
2018	10,822													11,632	11,347	11,275	11,147	10,907	10,730			
2019	10,795														11,443	11,292	11,272	10,978	10,770	10,924		
2020	10,671															11,364	11,326	11,079	10,796	10,951	10,803	

FORECAST ERROR  
 (PERCENT)

YEAR	WN Actual	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP
		2001-2010	2002-2011	2003-2012	2004-2013	2005-2014	2006-2015	2007-2016	2008-2017	2009-2019	2010-2020	2011-2021	2012-2021	2013-2022	2014-2023	2015-2024	2016-2025	2017-2026	2018-2027	2019-2028	2020-2029	
2002	10,688	3.0%	4.1%																			
2003	10,958	4.0%	6.0%	5.4%																		
2004	11,036	3.5%	5.5%	4.1%	3.7%																	
2005	11,331	4.9%	7.0%	4.4%	4.4%	1.6%																
2006	11,490	4.7%	6.9%	3.9%	4.8%	0.3%	2.0%															
2007	11,483		5.6%	2.2%	4.2%	-2.0%	-0.4%	0.0%														
2008	11,472			0.8%	2.7%	-4.7%	-3.2%	-1.9%	-1.7%													
2009	10,941				-3.2%	-10.8%	-9.6%	-7.7%	-8.3%	-7.4%												
2010	10,803					-13.4%	-12.2%	-10.3%	-11.5%	-10.8%	-0.8%											
2011	10,931						-12.2%	-11.2%	-12.0%	-12.5%	-2.3%	-4.3%										
2012	10,858							-13.8%	-14.0%	-15.1%	-6.8%	-7.7%	-6.4%									
2013	10,838								-16.0%	-17.1%	-10.1%	-10.2%	-8.1%	-2.2%								
2014	11,066									-17.0%	-9.8%	-10.5%	-8.2%	-0.8%	-0.6%							
2015	10,975										-12.2%	-12.7%	-10.7%	-2.4%	-0.8%	0.1%						
2016	10,938											-14.0%	-12.4%	-4.6%	-2.4%	-0.9%	0.3%					
2017	10,917												-13.8%	-5.8%	-3.3%	-2.2%	-1.0%	0.8%				
2018	10,822													-7.0%	-4.6%	-4.0%	-2.9%	-0.8%	0.9%			
2019	10,795														-5.7%	-4.4%	-4.2%	-1.7%	0.2%	-1.2%		
2020	10,671															-6.1%	-5.8%	-3.7%	-1.2%	-2.6%	-1.2%	
1 yr		3.0%	4.1%	5.4%	3.7%	1.6%	2.0%	0.0%	-1.7%	-7.4%	-0.8%	-4.3%	-6.4%	-2.2%	-0.6%	0.1%	0.3%	0.8%	0.9%	-1.2%	-1.2%	
2 yr		4.0%	6.0%	4.1%	4.4%	0.3%	-0.4%	-1.9%	-8.3%	-10.8%	-2.3%	-7.7%	-8.1%	-0.8%	-0.8%	-0.9%	-1.0%	-0.8%	0.2%	-2.6%		
3 yr		3.5%	5.5%	4.4%	4.8%	-2.0%	-3.2%	-7.7%	-11.5%	-12.5%	-6.8%	-10.2%	-8.2%	-2.4%	-2.4%	-2.2%	-2.9%	-1.7%	-1.2%			
4 yr		4.9%	7.0%	3.9%	4.2%	-4.7%	-9.6%	-10.3%	-12.0%	-15.1%	-10.1%	-10.5%	-10.7%	-4.6%	-3.3%	-4.0%	-4.2%	-3.7%				
5 yr		4.7%	6.9%	2.2%	2.7%	-10.8%	-12.2%	-11.2%	-14.0%	-17.1%	-9.8%	-12.7%	-12.4%	-5.8%	-4.6%	-4.4%	-5.8%					
6 yr			5.6%	0.8%	-3.2%	-13.4%	-12.2%	-13.8%	-16.0%	-17.0%	-12.2%	-14.0%	-13.8%	-7.0%	-5.7%	-6.1%						

ACTUAL SUMMER PEAK VARIANCE

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SUMMER PEAK with DSM  
 (MW)

YEAR	WN Actual	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	
		2001-2012	2002-2011	2003-2012	2004-2013	2005-2014	2006-2015	2007-2016	2008-2017	2009-2018	2010-2019	2011-2020	2012-2021	2013-2022	2014-2023	2015-2024	2016-2025	2017-2026	2018-2027	2019-2028	2020-2029	
2001	18,877	18,008																				
2002	19,316	18,599	19,009																			
2003	20,183	19,245	19,581	19,708																		
2004	20,789	19,640	19,980	20,171	20,171																	
2005	22,120	20,045	20,409	20,611	20,611	20,488																
2006	21,793	20,466	20,811	21,078	21,078	20,995	21,779															
2007	21,886	20,875	21,116	21,534	21,534	21,533	22,337	22,124														
2008	21,351	21,206	21,364	21,908	21,908	22,013	22,902	22,566	22,153													
2009	21,594	21,572	21,698	22,337	22,337	22,533	23,442	23,158	22,516	20,983												
2010	21,878	22,052	22,092	22,825	22,825	23,013	23,975	23,649	23,200	20,927	21,715											
2011	21,388		22,511	23,314	23,314	23,491	24,453	24,176	23,754	21,065	21,532	21,560										
2012	21,770			23,810	23,810	23,980	24,949	24,593	24,314	21,544	21,825	21,606	21,533									
2013	21,654				24,315	24,459	24,979	24,979	24,803	21,771	21,954	21,757	21,749	21,694								
2014	23,043					24,967	25,987	25,396	25,872	22,964	23,130	22,892	22,963	22,736	22,670							
2015	23,126						26,586	25,974	26,443	23,479	23,414	23,458	23,407	23,069	23,221	23,216						
2016	23,613								26,558	24,016	23,775	23,751	23,835	23,345	23,640	23,681	24,118					
2017	23,062									27,660	24,552	24,151	24,047	23,950	23,635	24,047	24,131	24,256	23,979			
2018	23,781										25,263	24,657	24,177	23,995	23,908	24,395	24,502	24,501	24,241	23,984		
2019	23,238											25,068	24,501	24,262	24,218	24,739	24,874	24,763	24,416	24,405	24,277	
2020	24,308												24,945	24,640	24,540	25,075	25,172	25,050	24,498	24,635	24,470	24,624

FORECAST ERROR  
 (PERCENT)

Year	WN Actual	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	
		2001-2012	2002-2011	2003-2012	2004-2013	2005-2014	2006-2015	2007-2016	2008-2017	2009-2018	2010-2019	2011-2020	2012-2021	2013-2022	2014-2023	2015-2024	2016-2025	2017-2026	2018-2027	2019-2028	2020-2029	
2001	18,877	4.8%																				
2002	19,316	3.9%	1.6%																			
2003	20,183	4.9%	3.1%	2.4%																		
2004	20,789	5.9%	4.0%	3.1%	3.1%																	
2005	22,120	10.4%	8.4%	7.3%	7.3%	8.0%																
2006	21,793	6.5%	4.7%	3.4%	3.4%	3.8%	0.1%															
2007	21,886	4.8%	3.6%	1.6%	1.6%	1.6%	-2.0%	-1.1%														
2008	21,351	0.7%	-0.1%	-2.5%	-2.5%	-3.0%	-6.8%	-5.4%	-3.6%													
2009	21,594	0.1%	-0.5%	-3.3%	-3.3%	-4.2%	-7.9%	-6.8%	-4.1%	2.9%												
2010	21,878	-0.8%	-1.0%	-4.2%	-4.2%	-4.9%	-8.7%	-7.5%	-5.7%	4.5%	0.8%											
2011	21,388		-5.0%	-8.3%	-8.3%	-9.0%	-12.5%	-11.5%	-10.0%	1.5%	-0.7%	-0.8%										
2012	21,770																					
2013	21,654																					
2014	23,043																					
2015	23,126																					
2016	23,613																					
2017	23,062																					
2018	23,781																					
2019	23,238																					
2020	24,308																					
1 yr		4.8%	1.6%	2.4%	3.1%	8.0%	0.1%	-1.1%	-3.6%	2.9%	0.8%	-0.8%	1.1%	-0.2%	1.6%	-0.4%	-2.1%	-3.8%	-0.8%	-4.3%	-1.3%	
2 yr		3.9%	3.1%	3.1%	7.3%	3.8%	-2.0%	-5.4%	-4.1%	4.5%	-0.7%	0.8%	-0.4%	1.4%	-0.4%	-0.3%	-4.9%	-1.9%	-4.8%	-0.7%		
3 yr		4.9%	4.0%	7.3%	3.4%	1.6%	-6.8%	-6.8%	-5.7%	1.5%	-0.3%	-0.5%	0.3%	0.2%	-0.1%	-4.4%	-2.9%	-4.8%	-1.3%			
4 yr		5.9%	8.4%	3.4%	1.6%	-3.0%	-7.9%	-7.5%	-10.0%	1.0%	-1.4%	0.7%	-1.2%	-4.1%	-1.2%	-2.9%	-6.2%	-0.8%				
5 yr		10.4%	4.7%	1.6%	-2.5%	-4.2%	-8.7%	-11.5%	-10.5%	-0.5%	-0.4%	-1.4%	-0.9%	-2.4%	-2.5%	-6.6%	-3.0%					
6 yr		6.5%	3.6%	-2.5%	-3.3%	-4.9%	-12.5%	-11.5%	-12.7%	0.3%	-1.2%	-0.6%	-3.7%	-0.5%	-6.1%	-3.4%						
7 yr		4.8%	-0.1%	-3.3%	-4.2%	-9.0%	-12.7%	-13.3%	-10.9%	-1.5%	-0.7%	-4.1%	-0.9%	-4.0%	-3.1%							
8 yr		0.7%	-0.5%	-4.2%	-8.3%	-9.2%	-13.2%	-9.3%	-12.5%	-1.7%	-4.5%	-1.6%	-4.2%	-0.9%								
9 yr		0.1%	-1.0%	-8.3%	-8.6%	-11.5%	-11.3%	-11.0%	-12.7%	-6.1%	-3.6%	-5.2%	-2.7%	-1.3%								
10 yr		-0.8%	-5.0%	-8.6%	-10.9%	-7.7%	-13.0%	-11.1%	-16.6%	-5.9%	-7.3%											

ACTUAL SUMMER PEAK VARIANCE

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WINTER PEAK with DSM  
 (MW)

YEAR	WN Actual	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP
		2001-2012	2002-2011	2003-2012	2004-2013	2005-2014	2006-2015	2007-2016	2008-2017	2009-2018	2010-2019	2011-2020	2012-2021	2013-2022	2014-2023	2015-2024	2016-2025	2017-2026	2018-2027	2019-2028	2020-2029
2002	17,979	19,226	18,968																		
2003	18,026	19,982	19,451	20,190																	
2004	18,353	20,382	19,842	19,986	20,081																
2005	19,349	20,780	20,252	20,447	20,447	20,081															
2006	19,334	21,173	20,653	20,922	20,922	21,241	21,792														
2007	18,525	21,568	20,970	21,385	21,385	21,777	22,216	22,247													
2008	16,832	21,881	21,272	21,784	21,784	22,221	22,640	22,592	22,332												
2009	18,891	22,249	21,668	22,236	22,236	22,738	23,093	23,045	22,684	18,697											
2010	19,936	22,613	22,039	22,685	22,685	23,258	23,532	23,478	23,345	18,676	20,439										
2011	18,647		22,458	23,181	23,181	23,795	23,941	23,900	23,824	18,962	20,514	21,107									
2012	17,941			23,683	23,683	24,336	24,351	24,310	24,299	19,505	20,702	21,380	20,871								
2013	17,720			24,194	24,194	24,892	24,783	24,722	24,746	19,846	20,948	21,490	20,993	20,230							
2014	19,737				24,716	25,460	25,250	25,142	26,016	20,852	21,927	22,292	21,757	21,504	19,856						
2015	19,809						25,902	25,729	26,660	21,530	22,484	22,657	22,110	22,012	20,903	21,118					
2016	20,656							26,327	27,325	21,993	22,822	22,821	22,273	22,235	21,421	21,333	20,228				
2017	18,110								28,011	22,459	23,158	22,985	22,401	22,414	21,661	21,437	21,103	20,347			
2018	19,339									22,966	23,527	23,171	22,550	22,597	21,897	21,537	21,307	20,647	19,592		
2019	18,831										23,905	23,365	22,702	22,771	22,107	21,717	21,537	20,788	19,962	19,515	
2020	17,703											23,582	22,891	22,960	22,309	21,876	21,701	20,925	20,141	19,873	19,946

FORECAST ERROR  
 (PERCENT)

YEAR	WN Actual	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP
		2001-2012	2002-2011	2003-2012	2004-2013	2005-2014	2006-2015	2007-2016	2008-2017	2009-2018	2010-2019	2011-2020	2012-2021	2013-2022	2014-2023	2015-2024	2016-2025	2017-2026	2018-2027	2019-2028	2020-2029
2002	17,979	-6.5%	-5.2%																		
2003	18,026	-9.8%	-7.3%	-10.7%																	
2004	18,353	-10.0%	-7.5%	-8.2%	-8.6%																
2005	19,349	-6.9%	-4.5%	-5.4%	-5.4%	-3.6%															
2006	19,334	-8.7%	-6.4%	-7.6%	-7.6%	-9.0%	-11.3%														
2007	18,525	-14.1%	-11.7%	-13.4%	-13.4%	-14.9%	-16.6%	-16.7%													
2008	16,832	-23.1%	-20.9%	-22.7%	-22.7%	-24.2%	-25.7%	-25.5%	-24.6%												
2009	18,891	-15.1%	-12.8%	-15.0%	-15.0%	-16.9%	-18.2%	-18.0%	-16.7%	1.0%											
2010	19,936	-11.8%	-9.5%	-12.1%	-12.1%	-14.3%	-15.3%	-15.1%	-14.6%	6.7%	-2.5%										
2011	18,647		-17.0%	-19.6%	-19.6%	-21.6%	-22.1%	-22.0%	-21.7%	-1.7%	-9.1%	-11.7%									
2012	17,941			-24.2%	-24.2%	-26.3%	-26.3%	-26.2%	-26.2%	-8.0%	-13.3%	-16.1%	-14.0%								
2013	17,720				-26.8%	-28.8%	-28.5%	-28.3%	-28.4%	-10.7%	-15.4%	-17.5%	-15.6%	-12.4%							
2014	19,737					-22.5%	-21.5%	-24.1%	-5.4%	-10.0%	-11.5%	-9.3%	-8.2%	-0.6%							
2015	19,809						-23.5%	-23.0%	-25.7%	-8.0%	-11.9%	-12.6%	-10.4%	-10.0%	-5.2%	-6.2%					
2016	20,656							-21.5%	-24.4%	-6.1%	-9.5%	-9.5%	-7.3%	-7.1%	-3.6%	-3.2%	2.1%				
2017	18,110								-35.3%	-19.4%	-21.8%	-19.2%	-19.2%	-16.4%	-15.5%	-14.2%	-11.0%				
2018	19,339									-15.8%	-17.8%	-16.5%	-14.2%	-14.4%	-11.7%	-10.2%	-9.2%	-6.3%	-1.3%		
2019	18,831										-21.2%	-19.4%	-17.0%	-17.3%	-14.8%	-13.3%	-12.6%	-9.4%	-5.7%	-3.5%	
2020	17,703											-24.9%	-22.7%	-22.9%	-20.6%	-19.1%	-18.4%	-15.4%	-12.1%	-10.9%	-11.2%
1 yr		-6.5%	-5.2%	-10.7%	-8.6%	-3.6%	-11.3%	-16.7%	-24.6%	1.0%	-2.5%	-11.7%	-14.0%	-12.4%	-0.6%	-6.2%	2.1%	-11.0%	-1.3%	-3.5%	-11.2%
2 yr		-9.8%	-7.3%	-8.2%	-5.4%	-9.0%	-16.6%	-25.5%	-16.7%	6.7%	-9.1%	-16.1%	-15.6%	-8.2%	-5.2%	-3.2%	-14.2%	-6.3%	-5.7%	-10.9%	
3 yr		-10.0%	-7.5%	-5.4%	-7.6%	-14.9%	-25.7%	-18.0%	-14.6%	-1.7%	-13.3%	-17.5%	-9.3%	-10.0%	-3.6%	-15.5%	-9.2%	-9.4%	-12.1%		
4 yr		-6.9%	-4.5%	-7.6%	-13.4%	-24.2%	-18.2%	-15.1%	-21.7%	-8.0%	-15.4%	-11.5%	-10.4%	-7.1%	-16.4%	-10.2%	-12.6%	-15.4%			
5 yr		-8.7%	-6.4%	-13.4%	-22.7%	-16.9%	-15.3%	-22.0%	-26.2%	-10.7%	-10.0%	-12.6%	-7.3%	-19.2%	-11.7%	-13.3%	-18.4%				
6 yr		-14.1%	-11.7%	-22.7%	-15.0%	-14.3%	-22.1%	-26.2%	-28.4%	-5.4%	-11.9%	-9.5%	-19.2%	-14.4%	-14.8%	-19.1%					
7 yr		-23.1%	-20.9%	-15.0%	-12.1%	-21.6%	-26.3%	-28.3%	-24.1%	-8.0%	-9.5%	-21.2%	-14.2%	-17.3%	-20.6%						
8 yr		-15.1%	-12.8%	-12.1%	-19.6%	-26.3%	-28.5%	-21.5%	-25.7%	-6.1%	-21.8%	-16.5%	-17.0%	-17.0%	-17.0%						
9 yr		-11.8%	-9.5%	-19.6%	-24.2%	-28.8%	-21.8%	-23.0%	-24.4%	-19.4%	-17.8%	-19.4%	-22.7%								
10 yr			-17.0%	-24.2%	-26.8%	-22.5%	-23.5%	-21.5%	-35.3%	-15.8%	-21.2%	-24.9%									

ACTUAL SUMMER PEAK VARIANCE

SUMMER PEAK with DSM  
(MW)

YEAR	WN Actual	TYSP 2001-2012	TYSP 2002-2011	TYSP 2003-2012	TYSP 2004-2013	TYSP 2005-2014	TYSP 2006-2015	TYSP 2007-2016	TYSP 2008-2017	TYSP 2009-2018	TYSP 2010-2019	TYSP 2011-2020	TYSP 2012-2021	TYSP 2013-2022	TYSP 2014-2023	TYSP 2015-2024	TYSP 2016-2025	TYSP 2017-2026	TYSP 2018-2027	TYSP 2019-2028	TYSP 2020-2029
2001	2,206	2,265																			
2002	2,406	2,322	2,224																		
2003	2,344	2,322	2,231	2,264																	
2004	2,440	2,341	2,251	2,296	2,391																
2005	2,458	2,364	2,275	2,346	2,440	2,417															
2006	2,525	2,397	2,308	2,386	2,459	2,473	2,470														
2007	2,606	2,423	2,335	2,424	2,502	2,531	2,531	2,535													
2008	2,514	2,456	2,368	2,456	2,476	2,576	2,576	2,559	2,576												
2009	2,451	2,488	2,401	2,483	2,513	2,625	2,627	2,595	2,627	2,608											
2010	2,482	2,526	2,439	2,523	2,550	2,677	2,677	2,641	2,685	2,670	2,589										
2011	2,545		2,488	2,556	2,583	2,725	2,718	2,702	2,735	2,754	2,559	2,592									
2012	2,385			2,590	2,611	2,758	2,744	2,738	2,760	2,794	2,570	2,642	2,601								
2013	2,381				2,661	2,803	2,787	2,800	2,820	2,857	2,577	2,675	2,628	2,514							
2014	2,491					2,860	2,836	2,871	2,891	2,917	2,568	2,706	2,664	2,522	2,512						
2015	2,530						2,889	2,937	2,959	2,979	2,619	2,712	2,695	2,545	2,501	2,449					
2016	2,466							2,978	3,003	3,026	2,671	2,722	2,718	2,584	2,526	2,471	2,450				
2017	2,516								3,080	3,107	2,737	2,754	2,753	2,604	2,545	2,499	2,491	2,433			
2018	2,454									3,196	2,790	2,787	2,787	2,612	2,556	2,518	2,520	2,453	2,383		
2019	2,416										2,855	2,830	2,822	2,628	2,575	2,516	2,546	2,469	2,400	2,402	
2020	2,448											2,880	2,871	2,656	2,610	2,531	2,552	2,485	2,405	2,347	2,458

FORECAST ERROR  
(PERCENT)

Year	WN Actual	TYSP 2001-2012	TYSP 2002-2011	TYSP 2003-2012	TYSP 2004-2013	TYSP 2005-2014	TYSP 2006-2015	TYSP 2007-2016	TYSP 2008-2017	TYSP 2009-2018	TYSP 2010-2019	TYSP 2011-2020	TYSP 2012-2021	TYSP 2013-2022	TYSP 2014-2023	TYSP 2015-2024	TYSP 2016-2025	TYSP 2017-2026	TYSP 2018-2027	TYSP 2019-2028	TYSP 2020-2029
2001	2,206	-2.6%																			
2002	2,406	3.6%	8.2%																		
2003	2,344	1.0%	5.1%	3.5%																	
2004	2,440	4.2%	8.4%	6.3%	2.0%																
2005	2,458	4.0%	8.0%	4.8%	0.7%	1.7%															
2006	2,525	5.4%	9.4%	5.8%	2.7%	2.1%	2.2%														
2007	2,606	7.5%	11.6%	7.5%	4.1%	3.0%	3.0%	2.8%													
2008	2,514	2.3%	6.2%	2.3%	1.5%	-2.4%	-2.4%	-1.8%	-2.4%												
2009	2,451	-1.5%	2.1%	-1.3%	-2.5%	-6.6%	-6.7%	-5.5%	-6.7%	-6.0%											
2010	2,482	-1.8%	1.7%	-1.6%	-2.7%	-7.3%	-7.3%	-6.0%	-7.6%	-7.1%	-4.1%										
2011	2,545		2.3%	-0.4%	-1.5%	-6.6%	-6.4%	-5.8%	-6.9%	-7.6%	-0.5%	-1.8%									
2012	2,385			-7.9%	-8.6%	-13.5%	-13.1%	-12.9%	-13.6%	-14.6%	-7.2%	-9.7%	-8.3%								
2013	2,381				-10.5%	-15.1%	-14.6%	-15.0%	-15.6%	-16.7%	-7.6%	-11.0%	-9.4%	-5.3%							
2014	2,491					-12.9%	-12.2%	-13.2%	-13.8%	-14.6%	-3.0%	-7.9%	-6.5%	-1.2%	-0.8%						
2015	2,530						-12.4%	-13.8%	-14.5%	-15.1%	-3.4%	-6.7%	-6.1%	-0.6%	1.2%	3.3%					
2016	2,466							-17.2%	-18.5%	-17.7%	-9.4%	-9.4%	-9.3%	-4.6%	-2.4%	-0.2%	0.7%				
2017	2,516								-18.3%	-19.0%	-8.1%	-8.6%	-8.6%	-3.4%	-1.1%	0.7%	1.0%	3.4%			
2018	2,454									-23.2%	-12.1%	-12.0%	-12.0%	-6.1%	-4.0%	-2.6%	-2.6%	0.0%	3.0%		
2019	2,416										-15.4%	-14.6%	-14.4%	-8.1%	-6.2%	-4.0%	-5.1%	-2.1%	0.7%	0.6%	
2020	2,448											-15.0%	-14.7%	-7.8%	-6.2%	-3.3%	-4.1%	-1.5%	1.8%	4.3%	-0.4%
1 yr		-2.6%	8.2%	3.5%	2.0%	1.7%	2.2%	2.8%	-2.4%	-6.0%	-4.1%	-1.8%	-8.3%	-5.3%	-0.8%	3.3%	0.7%	3.4%	3.0%	0.6%	-0.4%
2 yr		3.6%	5.1%	6.3%	0.7%	2.1%	3.0%	-1.8%	-6.7%	-7.1%	-0.5%	-9.7%	-9.4%	-1.2%	1.2%	-0.2%	1.0%	0.0%	0.7%	4.3%	
3 yr		1.0%	8.4%	4.8%	2.7%	3.0%	-2.4%	-5.5%	-7.6%	-7.6%	-7.2%	-11.0%	-6.5%	-0.6%	-2.4%	0.7%	-2.6%	-2.1%	1.8%		
4 yr		4.2%	8.0%	5.8%	4.1%	-2.4%	-6.7%	-6.0%	-6.9%	-14.6%	-7.6%	-7.9%	-6.1%	-4.6%	-1.1%	-2.6%	-5.1%	-1.5%			
5 yr		4.0%	9.4%	7.5%	1.5%	-6.6%	-7.3%	-5.8%	-13.6%	-16.7%	-3.0%	-6.7%	-9.3%	-3.4%	-4.0%	-4.0%	-4.1%				
6 yr		5.4%	11.6%	2.3%	-2.5%	-7.3%	-6.4%	-12.9%	-15.6%	-14.6%	-3.4%	-9.4%	-8.6%	-6.1%	-6.2%	-3.3%					
7 yr		7.5%	6.2%	-1.3%	-2.7%	-6.6%	-13.1%	-15.0%	-13.8%	-15.1%	-7.7%	-7.7%	-12.0%	-8.1%	-6.2%						
8 yr		2.3%	2.1%	-1.6%	-1.5%	-13.5%	-14.6%	-13.2%	-14.5%	-18.5%	-8.1%	-12.0%	-14.4%	-7.8%							
9 yr		-1.5%	1.7%	-0.4%	-8.6%	-15.1%	-12.2%	-13.8%	-17.9%	-19.0%	-12.1%	-14.6%	-14.7%								
10 yr		-1.8%	2.3%	-7.9%	-10.5%	-12.9%	-12.4%	-17.2%	-18.3%	-23.2%	-15.4%										



ACTUAL SUMMER PEAK VARIANCE

WINTER PEAK with DSM  
 (MW)

YEAR	WN Actual	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP
		2001-2012	2002-2011	2003-2012	2004-2013	2005-2014	2006-2015	2007-2016	2008-2017	2009-2018	2010-2019	2011-2020	2012-2021	2013-2022	2014-2023	2015-2024	2016-2025	2017-2026	2018-2027	2019-2028	2020-2029
2002	2,077	2,149	2,155																		
2003	2,171	2,161	2,174	2,113																	
2004	2,171	2,171	2,184	2,140	2,162																
2005	2,231	2,184	2,197	2,175	2,196	2,130															
2006	2,268	2,205	2,218	2,202	2,225	2,204	2,072														
2007	2,285	2,220	2,234	2,228	2,250	2,235	2,348	2,362													
2008	2,243	2,241	2,255	2,248	2,284	2,289	2,398	2,407	2,352												
2009	2,381	2,260	2,275	2,261	2,302	2,327	2,449	2,438	2,409	2,320											
2010	2,329	2,284	2,298	2,287	2,331	2,347	2,466	2,454	2,458	2,399	2,287										
2011	2,366		2,336	2,306	2,359	2,376	2,493	2,503	2,489	2,479	2,220	2,296									
2012	2,292			2,329	2,410	2,418	2,534	2,559	2,534	2,545	2,254	2,371	2,327								
2013	2,269				2,424	2,445	2,575	2,622	2,581	2,611	2,311	2,401	2,368	2,271							
2014	2,377					2,467	2,590	2,668	2,629	2,654	2,296	2,454	2,394	2,318	2,370						
2015	2,171						2,618	2,723	2,686	2,694	2,353	2,439	2,440	2,297	2,299	2,146					
2016	2,141							2,785	2,746	2,758	2,410	2,450	2,443	2,343	2,326	2,112	2,124				
2017	2,240							2,865	2,829	2,840	2,482	2,481	2,476	2,362	2,346	2,150	2,153	2,153			
2018	2,577									2,911	2,524	2,512	2,509	2,367	2,357	2,171	2,177	2,173	2,202		
2019	2,499									2,991	2,587	2,550	2,542	2,383	2,375	2,170	2,205	2,190	2,192	2,271	
2020	2,464										2,650	2,597	2,587	2,408	2,406	2,180	2,210	2,206	2,259	2,210	2,256

FORECAST ERROR  
 (PERCENT)

YEAR	WN Actual	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP	TYSP
		2001-2012	2002-2011	2003-2012	2004-2013	2005-2014	2006-2015	2007-2016	2008-2017	2009-2018	2010-2019	2011-2020	2012-2021	2013-2022	2014-2023	2015-2024	2016-2025	2017-2026	2018-2027	2019-2028	2020-2029
2002	2,077	-3.3%	-3.6%																		
2003	2,171	0.5%	-0.1%	2.8%																	
2004	2,171	0.0%	-0.6%	1.4%	0.4%																
2005	2,231	2.2%	1.6%	2.6%	1.6%	4.7%															
2006	2,268	2.9%	2.2%	3.0%	1.9%	2.9%	9.5%														
2007	2,285	3.0%	2.3%	2.6%	1.6%	2.3%	-2.7%	-3.2%													
2008	2,243	0.1%	-0.5%	-0.2%	-1.8%	-2.0%	-6.5%	-6.8%	-4.6%												
2009	2,381	5.4%	4.7%	5.3%	3.4%	2.3%	-2.8%	-2.3%	-1.1%	2.6%											
2010	2,329	2.0%	1.4%	1.8%	-0.1%	-0.8%	-5.6%	-5.1%	-5.2%	-2.9%	1.8%										
2011	2,366		1.3%	2.6%	0.3%	-0.4%	-5.1%	-5.5%	-4.9%	-4.6%	6.6%	3.1%									
2012	2,292			-1.6%	-4.9%	-5.2%	-9.5%	-10.4%	-9.5%	-9.9%	1.7%	-3.3%	-1.5%								
2013	2,269				-6.4%	-7.2%	-11.9%	-13.5%	-12.1%	-13.1%	-1.8%	-5.5%	-4.2%	-0.1%							
2014	2,377					-3.7%	-8.2%	-10.9%	-9.6%	-10.5%	3.5%	-3.2%	-0.7%	2.5%	0.3%						
2015	2,171						-17.1%	-20.3%	-19.2%	-19.4%	-7.7%	-11.0%	-11.0%	-5.5%	-5.6%	1.2%					
2016	2,141							-23.1%	-22.0%	-22.4%	-11.2%	-12.6%	-12.4%	-8.6%	-8.0%	1.4%	0.8%				
2017	2,240								-20.8%	-21.1%	-9.8%	-9.7%	-9.5%	-5.2%	-4.5%	4.2%	4.0%	4.0%			
2018	2,577									-11.5%	2.1%	2.6%	2.7%	8.9%	9.3%	18.7%	18.4%	18.6%	17.0%		
2019	2,499										-3.4%	-2.0%	-1.7%	4.9%	5.2%	15.2%	13.3%	14.1%	14.0%	10.1%	
2020	2,464											-5.1%	-4.7%	2.3%	2.4%	13.0%	11.5%	11.7%	9.1%	11.5%	9.3%
1 yr		-3.3%	-3.6%	2.8%	0.4%	4.7%	9.5%	-3.2%	-4.6%	2.6%	1.8%	3.1%	-1.5%	-0.1%	0.3%	1.2%	0.8%	4.0%	17.0%	10.1%	9.3%
2 yr		0.5%	-0.1%	1.4%	1.6%	2.9%	-2.7%	-6.8%	-1.1%	-2.9%	6.6%	-3.3%	-4.2%	2.5%	-5.6%	1.4%	4.0%	18.6%	14.0%	11.5%	
3 yr		0.0%	-0.6%	2.6%	1.9%	2.3%	-6.5%	-2.3%	-4.6%	1.7%	-5.5%	-0.7%	-5.5%	-8.0%	4.2%	18.4%	14.1%	9.1%			
4 yr		2.2%	1.6%	3.0%	1.6%	-2.0%	-2.8%	-5.1%	-4.9%	-9.9%	-1.8%	-3.2%	-11.0%	-8.6%	-4.5%	18.7%	13.3%	11.7%			
5 yr		2.9%	2.2%	2.6%	-1.8%	2.3%	-5.6%	-5.5%	-9.5%	-13.1%	3.5%	-11.0%	-12.4%	-5.2%	9.3%	15.2%	11.5%				
6 yr		3.0%	2.3%	-0.2%	3.4%	-0.8%	-5.1%	-10.4%	-12.1%	-10.5%	-7.7%	-12.6%	-9.5%	8.9%	5.2%	13.0%					
7 yr		0.1%	-0.5%	5.3%	-0.1%	-0.4%	-9.5%	-13.5%	-9.6%	-19.4%	-11.2%	-9.7%	-2.7%	4.9%	2.4%						
8 yr		5.4%	4.7%	1.8%	0.3%	-5.2%	-11.9%	-10.9%	-19.2%	-22.4%	-9.8%	2.6%	-1.7%	2.3%							
9 yr		2.0%	1.4%	2.6%	-4.9%	-7.2%	-8.2%	-20.3%	-22.0%	-21.1%	2.1%	-2.0%	-4.7%								
10 yr			1.3%	-1.6%	-6.4%	-3.7%	-17.1%	-23.1%	-20.8%	-11.5%	-3.4%	-5.1%									

**Florida Power & Light Company**  
**Gulf Power Company**  
**Docket No. 20210000-OT**  
**Ten-Year Site Plan**  
**Staff's First Data Request**  
**Request No. 16**  
**Attachment No. 1 of 2**  
**Tab 1 of 1**

**Based on 75th Percentile of Historical Forecasting Errors**

	<b>Net Energy for Load</b>			<b>Summer Peak</b>			
	<b>Forecast</b>	<b>High Band</b>	<b>Low Band</b>	<b>Forecast</b>	<b>High Band</b>	<b>Low Band</b>	
2021	123,120	125,759	120,480	2021	24,620	25,102	24,139
2022	123,989	127,493	120,485	2022	24,967	25,548	24,385
2023	125,059	129,930	120,189	2023	25,441	26,112	24,771
2024	126,034	132,060	120,007	2024	25,926	26,758	25,094
2025	127,216	134,401	120,031	2025	26,307	27,398	25,216
2026	128,223	136,465	119,981	2026	26,669	28,018	25,320
2027	129,116	137,825	120,407	2027	26,944	28,473	25,415
2028	130,772	140,149	121,396	2028	27,313	28,993	25,632
2029	132,415	142,612	122,217	2029	27,802	29,630	25,974
2030	134,215	144,552	123,879	2030	28,376	30,388	26,363

Notes: Net Energy for Load Forecast is from Schedule 3.3, Column (2) and does not include adjustments for DSM  
 Summer Peak Forecast is from Schedule 3.1, Column (2) and does not include incremental conservation,  
 cumulative load management, or incremental load management

**Florida Power & Light Company**  
**Gulf Power Company**  
**Docket No. 20210000-OT**  
**Ten-Year Site Plan**  
**Staff's First Data Request**  
**Request No. 16**  
**Attachment No. 2 of 2**  
**Tab 1 of 2**

**Based on 75th Percentile of Historical Forecasting Errors**

	<b>Net Energy for Load</b>			<b>Summer Peak</b>		
	<b>Forecast</b>	<b>High Band</b>	<b>Low Band</b>	<b>Forecast</b>	<b>High Band</b>	<b>Low Band</b>
2021	11,771	12,023	11,519	2,462	2,510	2,413
2022	11,755	12,087	11,423	2,444	2,501	2,387
2023	11,759	12,217	11,301	2,467	2,532	2,402
2024	11,772	12,335	11,210	2,494	2,574	2,414
2025	11,806	12,473	11,140	2,513	2,617	2,408
2026	11,832	12,592	11,071	2,529	2,657	2,401
2027	11,846	12,645	11,047	2,545	2,690	2,401
2028	11,856	12,706	11,006	2,560	2,718	2,403
2029	11,847	12,760	10,935	2,589	2,759	2,418
2030	11,904	12,821	10,988	2,618	2,804	2,432

Notes: Net Energy for Load Forecast is from Schedule 3.3, Column (2) and does not include adjustments for DSM  
 Summer Peak Forecast is from Schedule 3.1, Column (2) and does not include incremental conservation,  
 cumulative load management, or incremental load management

**Florida Power & Light Company**  
**Gulf Power Company**  
**Docket No. 20210000-OT**  
**Ten-Year Site Plan**  
**Staff's First Data Request**  
**Request No. 19**  
**Attachment No. 1 of 2**  
**Tab 1 of 1**

TYSP Year 2021  
 Staff's Data Request # 1  
 Question No. 19

**FPL Service Territory**

Year	Number of PEVs <sup>(1)</sup>	Number of Public PEV Charging Stations <sup>(2)</sup>	Number of Public DCFC PEV Charging Stations. <sup>(2)</sup>	Cumulative Impact of PEVs <sup>(3)</sup>		
				Summer Demand	Winter Demand	Annual Energy
				(MW)	(MW)	(GWh)
2021	49,282	4,007	761	13	5	43
2022	59,636	5,286	1,045	36	13	112
2023	75,862	7,320	1,502	70	25	217
2024	97,925	9,210	1,959	117	42	362
2025	127,482	11,437	2,520	181	65	555
2026	168,680	13,815	3,148	267	95	813
2027	222,806	16,534	3,893	379	135	1,145
2028	291,594	20,377	4,952	520	186	1,558
2029	375,053	24,580	6,159	691	247	2,056
2030	479,126	26,857	6,821	899	321	2,660

**Notes**

**1) Includes cars and trucks**  
**2) Charging Stations represent estimated number of ports in FPL service territory. Quick-charge PEV station ports included in total Number of Public PEV Charging Stations.**  
**3) MW and GWh are incremental from the end of 2020**

**Florida Power & Light Company**  
**Gulf Power Company**  
**Docket No. 20210000-OT**  
**Ten-Year Site Plan**  
**Staff's First Data Request**  
**Request No. 19**  
**Attachment No. 2 of 2**  
**Tab 1 of 1**

TYSP Year 2021  
 Staff's Data Request # 1  
 Question No. 19

**Gulf Service Territory**

Year	Number of PEVs <sup>(1)</sup>	Number of Public PEV Charging Stations <sup>(2)</sup>	Number of Public DCFC PEV Charging Stations. <sup>(2)</sup>	Cumulative Impact of PEVs <sup>(3)</sup>		
				Summer Demand	Winter Demand	Annual Energy
				(MW)	(MW)	(GWh)
2021	1,981	165	31	1	0	1
2022	2,397	218	43	1	1	2
2023	3,049	302	62	3	1	5
2024	3,936	380	81	5	2	8
2025	5,124	472	104	7	3	12
2026	6,780	570	130	11	4	18
2027	8,955	682	160	15	5	26
2028	11,720	841	204	21	7	36
2029	15,074	1,014	253	28	10	48
2030	19,257	1,108	281	36	13	63

**Notes**

1) Includes cars and trucks  
 2) Charging Stations represent estimated number of ports in Gulf service territory. Quick-charge PEV station ports included in total Number of Public PEV Charging Stations.  
 3) MW and GWh are incremental from the end of 2020

DOCKET 20210000 STAFF DR 1 No. 25

TABLE 25A - FPL Total Demand Response									
Year	Beginning Year: Number of Customers	Available Capacity (MW)		New Customers Added	Added Capacity (MW)		Customers Lost	Lost Capacity (MW)	
		Sum	Win		Sum	Win		Sum	Win
2011	813,124	1,858	1,657	11,765	27	20	3,856	20	14
2012	821,033	1,880	1,615	14,890	40	33	3,796	11	9
2013	832,127	1,880	1,443	16,667	32	20	1,287	10	6
2014	847,507	1,857	1,419	11,282	38	28	26,638	103	87
2015	832,151	1,703	1,371	4,901	21	15	12,574	33	30
2016	824,478	1,716	1,312	7,926	26	20	25,479	62	54
2017	806,925	1,737	1,337	7,547	40	30	41,865	62	50
2018	772,607	1,729	1,339	7,983	56	39	48,566	77	61
2019	732,025	1,730	1,313	8,739	33	25	16,313	35	25
2020	724,449	1,734	1,315	4,766	36	26	12,428	47	30

TABLE 25B - FPL Residential On Call Program									
Year	Beginning Year: Number of Customers	Available Capacity (MW)		New Customers Added	Added Capacity (MW)		Customers Lost	Lost Capacity (MW)	
		Sum	Win		Sum	Win		Sum	Win
2011	791,791	1,000	903	10,712	13	12	2,691	3	3
2012	799,812	1,013	856	13,910	18	15	3,505	4	4
2013	810,217	1,025	843	15,370	19	16	704	1	1
2014	824,883	1,010	828	10,395	22	21	25,204	54	51
2015	810,074	878	822	4,422	9	10	12,041	26	27
2016	802,455	882	742	7,302	15	15	24,689	52	51
2017	785,068	910	759	7,226	15	15	41,271	54	47
2018	751,023	866	750	7,771	16	14	48,151	68	55
2019	710,643	852	706	8,631	20	16	15,673	29	23
2020	703,601	845	702	4,674	10	9	11,758	21	20

TABLE 25C - FPL Business On Call Program									
Year	Beginning Year: Number of Customers	Available Capacity (MW)		New Customers Added	Added Capacity (MW)		Customers Lost	Lost Capacity (MW)	
		Sum	Win		Sum	Win		Sum	Win
2011	20,345	99	0	1,038	6	0	1,150	5	0
2012	20,233	99	0	954	5	0	279	1	0
2013	20,908	102	0	1,283	7	0	568	2	0
2014	21,623	103	0	871	5	0	1,332	6	0
2015	21,162	103	0	462	3	0	525	4	0
2016	21,099	103	0	606	3	0	781	6	0
2017	20,924	80	0	296	1	0	586	5	0
2018	20,634	80	0	163	1	0	400	1	0
2019	20,397	78	0	87	0	0	630	3	0
2020	19,854	75	0	50	1	0	651	4	0

TABLE 25D - FPL Commercial/Industrial Load Control Program (CILC)									
Year	Beginning Year:	Available		New Customers	Added		Customers Lost	Lost	
		Sum	Win		Sum	Win		Sum	Win
2011	457	500	503	0	0	0	5	5	5
2012	452	497	500	0	0	0	7	3	3
2013	445	493	418	0	0	0	8	4	4
2014	437	483	422	0	0	0	78	32	27
2015	359	459	379	0	0	0	2	1	1
2016	357	461	394	0	0	0	4	2	1
2017	353	462	392	0	0	0	1	1	1
2018	352	466	388	0	0	0	4	2	0
2019	348	465	389	0	0	0	5	1	1
2020	343	465	391	0	0	0	8	13	5

TABLE 25E - FPL Commercial/Industrial Demand Reduction Rider (CDR)									
Year	Beginning Year: Number of Customers	Available Capacity (MW)		New Customers Added	Added Capacity (MW)		Customers Lost	Lost Capacity (MW)	
		Sum	Win		Sum	Win		Sum	Win
2011	484	222	219	15	8	8	9	4	4
2012	490	237	222	26	18	18	4	2	2
2013	512	238	149	14	6	4	6	3	2
2014	520	239	150	16	11	7	13	6	4
2015	523	243	153	17	8	5	4	2	1
2016	536	251	157	18	8	5	5	3	2
2017	549	265	166	25	23	15	5	2	1
2018	569	293	178	49	39	25	6	2	2
2019	612	320	202	21	13	10	6	2	1
2020	627	341	212	42	26	17	8	3	1

TABLE 25F - FPL Curtailable Service									
Year	Beginning Year: Number of Customers	Available Capacity (MW)		New Customers Added	Added Capacity (MW)		Customers Lost	Lost Capacity (MW)	
		Sum	Win		Sum	Win		Sum	Win
2011	47	37	32	0	0	0	1	3	2
2012	46	34	37	0	0	0	1	0	0
2013	45	22	33	0	0	0	1	0	0
2014	44	22	19	0	0	0	11	6	5
2015	33	19	18	0	0	0	2	1	1
2016	31	20	19	0	0	0	0	0	0
2017	31	21	20	0	0	0	2	1	1
2018	29	24	22	0	0	0	5	4	4
2019	24	15	16	0	0	0	0	0	0
2020	24	9	9	0	0	0	3	6	4

Notes  
 Table 25E: Calculations have been updated to account for a CDR customer dropped in 2018 and an additional CDR customer dropped in 2019. In some instances the magnitude in reported MW values did not change due to rounding.

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TABLE 25A - Gulf Power Total Demand Response									
Year	Beginning Year: Number of Customers	Available Capacity (MW)		New Customers Added	Added Capacity (MW)		Customers Lost	Lost Capacity (MW)	
		Sum	Win		Sum	Win		Sum	Win
2011	8,587	15	19	1,387	2	2	1,295	2	3
2012	8,679	14	18	2,284	2	3	485	1	1
2013	10,478	18	23	2,943	5	6	794	1	2
2014	12,627	22	28	2,468	4	5	714	1	2
2015	14,381	29	17	2,594	5	3	728	1	1
2016	16,247	29	17	2,166	4	2	693	1	1
2017	17,720	32	19	1,952	4	2	513	1	1
2018	19,159	34	21	1,385	2	1	746	1	1
2019	19,833	36	21	870	11	11	546	1	1
2020	20,122	46	31	648	1	1	574	1	1

TABLE 25B - Gulf Power Energy Select Program									
Year	Beginning Year: Number of Customers	Available Capacity (MW)		New Customers Added	Added Capacity (MW)		Customers Lost	Lost Capacity (MW)	
		Sum	Win		Sum	Win		Sum	Win
2011	8,587	15	19	1,387	2	2	1,295	2	3
2012	8,679	14	18	2,284	2	3	485	1	1
2013	10,478	18	23	2,943	5	6	794	1	2
2014	12,627	22	28	2,468	4	5	714	1	2
2015	14,381	29	17	2,594	5	3	728	1	1
2016	16,247	29	17	2,166	4	2	693	1	1
2017	17,720	32	19	1,952	4	2	513	1	1
2018	19,159	34	21	1,385	2	1	746	1	1
2019	19,833	36	21	846	2	1	546	1	1
2020	20,098	36	22	648	1	1	574	1	1

TABLE 25C - Gulf Power Curtailable Load Program									
Year	Beginning Year: Number of Customers	Available Capacity (MW)		New Customers Added	Added Capacity (MW)		Customers Lost	Lost Capacity (MW)	
		Sum	Win		Sum	Win		Sum	Win
2011									
2012									
2013									
2014									
2015									
2016									
2017									
2018									
2019	0	0	0	24	10	10	0	0	0
2020	24	10	10	0	0	0	0	0	0

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TABLE 26A - FPL Total Demand Response

Year	Summer					Winter				
	Number of Events	Average		Maximum		Number of Events	Average		Maximum	
		(MW)	Number of Customers	(MW)	Number of Customers		(MW)	Number of Customers	(MW)	Number of Customers
2011	24	93	440,591	210	528,605	3	308	352,837	661	988
2012	16	112	497,221	228	531,798	5	126	530,484	249	532,131
2013	10	121	534,211	201	536,773	2	129	532,825	137	532,825
2014	4	174	598,725	273	719,331	2	94	590,165	104	590,165
2015	4	132	305,059	310	549,041	0	0	0	0	0
2016	1	2	2,374	2	2,374	0	0	0	0	0
2017	3	67	560,173	80	559,579	2	65	531,063	80	531,063
2018	1	75	477,930	75	477,930	1	65	112,260	65	112,260
2019	1	138	466,099	138	466,099	0	0	0	0	0
2020	0	0	0	0	0	0	0	0	0	0

TABLE 26B - FPL Residential On Call & Business On Call Programs

Year	Summer					Winter				
	Number of Events	Average		Maximum		Number of Events	Average		Maximum	
		(MW)	Number of Customers	(MW)	Number of Customers		(MW)	Number of Customers	(MW)	Number of Customers
2011	24	93	440,591	210	528,605	2	132	528,761	132	528,761
2012	16	112	497,221	228	531,798	5	126	530,484	249	532,131
2013	10	121	534,211	201	536,773	2	129	532,825	137	532,825
2014	4	174	598,725	273	719,331	2	94	590,165	104	590,165
2015	4	132	305,059	310	549,041	0	0	0	0	0
2016	1	2	2,374	2	2,374	0	0	0	0	0
2017	3	67	560,173	80	559,579	2	65	531,063	80	531,063
2018	1	75	477,930	75	477,930	1	65	112,260	65	112,260
2019	1	138	466,099	138	466,099	0	0	0	0	0
2020	0	0	0	0	0	0	0	0	0	0

TABLE 26C - FPL Commercial/Industrial Load Control (CILEC), Commercial/Industrial Demand Reduction (CIDR) & Costable Service (CS)

Year	Summer					Winter				
	Number of Events	Average		Maximum		Number of Events	Average		Maximum	
		(MW)	Number of Customers	(MW)	Number of Customers		(MW)	Number of Customers	(MW)	Number of Customers
2011	0	0	0	0	0	1	661	988	661	988
2012	0	0	0	0	0	0	0	0	0	0
2013	0	0	0	0	0	0	0	0	0	0
2014	0	0	0	0	0	0	0	0	0	0
2015	0	0	0	0	0	0	0	0	0	0
2016	0	0	0	0	0	0	0	0	0	0
2017	0	0	0	0	0	0	0	0	0	0
2018	0	0	0	0	0	0	0	0	0	0
2019	0	0	0	0	0	0	0	0	0	0
2020	0	0	0	0	0	0	0	0	0	0

Notes

(Include Notes Here)





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TABLE 27A - FPL Total Demand Response							
Year	Average Number of Customers	Summer Peak			Winter Peak		
		Activated During Peak? (Y/N)	Number of Customers Activated	Capacity Activated (MW)	Activated During Peak? (Y/N)	Number of Customers Activated	Capacity Activated (MW)
2011	817,079	N	0	0	Y	988	757
2012	826,580	N	0	0	N	0	0
2013	839,817	N	0	0	N	0	0
2014	839,829	N	0	0	N	0	0
2015	828,315	N	0	0	N	0	0
2016	815,702	N	0	0	N	0	0
2017	789,766	N	0	0	N	0	0
2018	752,316	N	0	0	N	0	0
2019	728,238	N	0	0	N	0	0
2020	720,618	N	0	0	N	0	0

TABLE 27B - FPL Residential On Call and FPL Business On Call Programs							
Year	Average Number of Customers	Summer Peak			Winter Peak		
		Activated During Peak? (Y/N)	Number of Customers Activated	Capacity Activated (MW)	Activated During Peak? (Y/N)	Number of Customers Activated	Capacity Activated (MW)
2011	816,091	N	0	0	N	0	0
2012	825,585	N	0	0	N	0	0
2013	838,816	N	0	0	N	0	0
2014	838,871	N	0	0	N	0	0
2015	827,395	N	0	0	N	0	0
2016	814,773	N	0	0	N	0	0
2017	788,825	N	0	0	N	0	0
2018	751,349	N	0	0	N	0	0
2019	727,248	N	0	0	N	0	0
2020	719,613	N	0	0	N	0	0

TABLE 27C - FPL Commercial/Industrial Load Control (CILC), Commercial/Industrial Demand Reduction (CDR) & Curtailable Service (CS)							
Year	Average Number of Customers	Summer Peak			Winter Peak		
		Activated During Peak? (Y/N)	Number of Customers Activated	Capacity Activated (MW)	Activated During Peak? (Y/N)	Number of Customers Activated	Capacity Activated (MW)
2011	988	N	0	0	Y	988	757
2012	995	N	0	0	N	0	0
2013	1,002	N	0	0	N	0	0
2014	958	N	0	0	N	0	0
2015	920	N	0	0	N	0	0
2016	929	N	0	0	N	0	0
2017	942	N	0	0	N	0	0
2018	968	N	0	0	N	0	0
2019	989	N	0	0	N	0	0
2020	1,006	N	0	0	N	0	0

Notes  
 Table 27C: Calculations have been updated to account for a CDR customer dropped in 2018 and an additional CDR customer dropped in 2019. Totals may not add due to rounding.

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**TABLE 27A - Gulf Power Total Demand Response**

Year	Average Number of Customers	Summer Peak			Winter Peak		
		Activated During Peak? (Y/N)	Number of Customers Activated	Capacity Activated (MW)	Activated During Peak? (Y/N)	Number of Customers Activated	Capacity Activated (MW)
2011	8,633	Y	8,343	14	N	8,494	19
2012	9,579	Y	9,217	16	Y	0	0
2013	11,553	N	0	0	N	0	0
2014	13,504	N	0	0	N	0	0
2015	15,314	N	0	0	N	0	0
2016	16,984	N	0	0	N	0	0
2017	18,439	N	0	0	N	0	0
2018	19,479	N	0	0	N	0	0
2019	20,007	N	0	0	N	0	0
2020	20,159	N	0	0	N	0	0

**TABLE 27B - Gulf Power Energy Select Program**

Year	Average Number of Customers	Summer Peak			Winter Peak		
		Activated During Peak? (Y/N)	Number of Customers Activated	Capacity Activated (MW)	Activated During Peak? (Y/N)	Number of Customers Activated	Capacity Activated (MW)
2011	8,633	Y	8,343	14	Y	8,494	19
2012	9,579	Y	9,217	16	N	0	0
2013	11,553	N	0	0	N	0	0
2014	13,504	N	0	0	N	0	0
2015	15,314	N	0	0	N	0	0
2016	16,984	N	0	0	N	0	0
2017	18,439	N	0	0	N	0	0
2018	19,479	N	0	0	N	0	0
2019	19,983	N	0	0	N	0	0
2020	20,135	N	0	0	N	0	0

**TABLE 27C - Gulf Power Curtailable Load Program**

Year	Average Number of Customers	Summer Peak			Winter Peak		
		Activated During Peak? (Y/N)	Number of Customers Activated	Capacity Activated (MW)	Activated During Peak? (Y/N)	Number of Customers Activated	Capacity Activated (MW)
2011							
2012							
2013							
2014							
2015							
2016							
2017							
2018							
2019	24	N	0	0	N	0	0
2020	24	N	0	0	N	0	0

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Facility Name	Unit No.	County Location	Unit Type	Primary Fuel	Commercial In-Service		Gross Capacity (MW)		Net Capacity (MW)		Firm Capacity (MW)		Capacity Factor (%)
					Mo	Yr	Sum	Win	Sum	Win	Sum	Win	
<b>FPL Units</b>													
Cape Canaveral	3	Brevard County	CC	NG	Apr	2013	1,295	1,410	1,290	1,393	1,290	1,393	62.33
Fort Myers	2	Lee County	CC	NG	Jun	2002	1,837	1,809	1,812	1,787	1,812	1,787	76.65
Fort Myers	3	Lee County	CT	NG	Jun	2003	835	842	852	840	852	840	8.14
Fort Myers	1, 9	Lee County	GT	FO2	May	1974	124	123	108	123	108	123	1.22
Fort Lauderdale	6	Broward County	CT	NG	Dec	2016	1,148	1,113	1,155	1,110	1,155	1,110	18.74
Fort Lauderdale	3, 5	Broward County	GT	NG	Aug	1970	68	75	69	74	69	74	1.10
Manatee	1	Manatee County	ST	NG	Oct	1976	863	852	813	821	813	821	4.94
Manatee	2	Manatee County	ST	NG	Dec	1977	863	852	813	821	813	821	0.65
Manatee	3	Manatee County	CC	NG	Jun	2005	1,301	1,283	1,249	1,265	1,249	1,265	43.99
Martin	3	Martin County	CC	NG	Feb	1994	612	539	487	533	487	533	36.37
Martin	4	Martin County	CC	NG	Apr	1994	612	539	487	533	487	533	27.91
Martin	8	Martin County	CC	NG	Jun	2005	1,301	1,294	1,235	1,271	1,235	1,271	69.33
Okeechobee	1	Okeechobee County	CC	NG	Mar	2019	1,886	1,699	1,720	1,672	1,720	1,672	85.65
Port Everglades	5	Broward County	CC	NG	Apr	2016	1,412	1,355	1,237	1,338	1,237	1,338	69.30
Riveria Beach	5	Palm Beach County	CC	NG	Apr	2014	1,295	1,410	1,290	1,393	1,290	1,393	79.25
Sanford	4	Volusia County	CC	NG	Oct	2003	1,266	1,160	1,176	1,188	1,176	1,188	22.30
Sanford	5	Volusia County	CC	NG	Jun	2002	1,266	1,201	1,176	1,188	1,176	1,188	20.41
Scherer	4	Monroe County	ST	SUB	Jul	1989	680	638	634	635	634	635	4.61
St. Lucie	1	St. Lucie County	ST	Nuc	May	1976	1,080	1,072	981	1,003	981	1,003	97.50
St. Lucie	2	St. Lucie County	ST	Nuc	Jun	1983	919	862	840	860	840	860	89.41
Turkey Point	3	Miami Dade County	ST	Nuc	Nov	1972	877	894	837	859	837	859	89.57
Turkey Point	4	Miami Dade County	ST	Nuc	Jun	1973	877	883	841	868	841	868	86.59
Turkey Point	5	Miami Dade County	CC	NG	May	2007	1,301	1,336	1,270	1,311	1,270	1,311	50.08
West County	1	Palm Beach County	CC	NG	Aug	2009	1,367	1,391	1,259	1,369	1,259	1,369	46.51
West County	2	Palm Beach County	CC	NG	Nov	2009	1,367	1,391	1,259	1,369	1,259	1,369	69.00
West County	3	Palm Beach County	CC	NG	May	2011	1,367	1,371	1,259	1,369	1,259	1,369	57.04
<b>Gulf Units</b>													
Crist	4	Escambia County	FS	Coal	Jul	1959	94	79	78	78	78	78	13.19
Crist	5	Escambia County	FS	Coal	Jun	1961	94	77	78	78	78	78	15.20
Crist	6	Escambia County	FS	Coal/NG	May	1970	370	317	315	315	315	315	7.86
Crist	7	Escambia County	FS	Coal/NG	Aug	1973	578	498	496	496	496	496	4.52
Daniel	1	Jackson County	FS	Coal	Sep	1977	274	255	251	251	251	251	8.29
Daniel	2	Jackson County	FS	Coal	Jun	1981	274	255	251	251	251	251	3.12
Lansing Smith	3	Bay County	CC	NG	Apr	2019	656	658	660	646	660	646	49.22
Lansing Smith	A	Bay County	CT	LO	May	1971	41	40	32	40	32	40	0.89
Pea Ridge	1	Santa Rosa County	CT	NG	May	1998	15	5	12	15	12	15	1.63
Perdido	1	Escambia County	IC	LFG	Oct	2010	3	2	3	3	3	3	94.27
Scherer	3	Monroe County	FS	Coal	Jan	1987	222	225	215	215	215	215	16.44

**Notes**  
 Capacity factor is based on actual unit performance from 2020.

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Facility Name	Unit No.	County Location	Unit Type	Primary Fuel	Commercial In-Service		Gross Capacity (MW)		Net Capacity (MW)		Firm Capacity (MW)		Projected Capacity Factor* (%)
					Mo	Yr	Sum	Win	Sum	Win	Sum	Win	
<b>FPL Planned Units</b>													
Dania Beach Clean Energy Center	7	Broward County	CC	NG	2nd Q	2022	1163	1176	1,163	1,176	1,163	1,176	84.58
<b>Gulf Planned Units</b>													
Gulf Clean Energy Center (Crist)	8	Escambia County	CT	NG	4th Q	2021	938	949	938	949	938	949	4.27
<b>Notes</b>													
* The Projected Capacity Factor values were calculated by taking the average of the projected capacity factors starting from the first year the unit is in service (Dania Beach Clean EC, 2022; Gulf Clean EC, 2021) through the year 2030.													

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Facility Name	Unit No.	County Location	Unit Type	Primary Fuel	Commercial In-Service		Gross Capacity (MW)		Net Capacity (MW)		Firm Capacity (MW)		Capacity Factor (%)
					Mo	Yr	Sum	Win	Sum	Win	Sum	Win	
Babcock Ranch Solar	1	Charlotte County	PV	Solar	Dec	2016	74.5	74.5	74.5	74.5	38.6	0.0	24.0
Barefoot Solar	1	Brevard County	PV	Solar	Mar	2018	74.5	74.5	74.5	74.5	41.6	0.0	24.5
Blue Cypress Solar	1	Indian River County	PV	Solar	Mar	2018	74.5	74.5	74.5	74.5	35.1	0.0	24.1
Citrus Solar	1	DeSoto County	PV	Solar	Dec	2016	74.5	74.5	74.5	74.5	41.9	0.0	23.8
Coral Farms Solar	1	Putnam County	PV	Solar	Jan	2018	74.5	74.5	74.5	74.5	40.2	0.0	22.8
DeSoto Solar	1	DeSoto County	PV	Solar	Oct	2009	25.0	25.0	25.0	25.0	11.0	0.0	19.7
Hammock Solar	1	Hendry County	PV	Solar	Mar	2018	74.5	74.5	74.5	74.5	34.8	0.0	24.4
Horizon Solar	1	Alachua / Putnam County	PV	Solar	Jan	2018	74.5	74.5	74.5	74.5	40.2	0.0	23.1
Indian River Solar	1	Indian River County	PV	Solar	Jan	2018	74.5	74.5	74.5	74.5	39.8	0.0	24.1
Interstate Solar	1	St. Lucie County	PV	Solar	Jan	2019	74.5	74.5	74.5	74.5	39.5	0.0	23.2
Loggerhead Solar	1	St. Lucie County	PV	Solar	Mar	2018	74.5	74.5	74.5	74.5	35.8	0.0	24.2
Manatee Solar	1	Manatee County	PV	Solar	Dec	2016	74.5	74.5	74.5	74.5	41.7	0.0	24.7
Martin Solar Thermal (1)	1	Martin County	Solar Thermal	Solar	Dec	2010	75.0	75.0	75.0	75.0	*	*	*
Miami Dade Solar	1	Dade County	PV	Solar	Jan	2019	74.5	74.5	74.5	74.5	39.2	0.0	23.4
Pioneer Trail Solar	1	Volusia County	PV	Solar	Jan	2019	74.5	74.5	74.5	74.5	38.4	0.0	22.2
Space Coast Solar	1	Brevard County	PV	Solar	Apr	2010	10	10	10	10	4.0	0.0	18.1
Sunshine Gateway Solar	1	Columbia County	PV	Solar	Jan	2019	74.5	74.5	74.5	74.5	41.7	0.0	23.3
Wildflower Solar	1	DeSoto County	PV	Solar	Jan	2018	74.5	74.5	74.5	74.5	41.0	0.0	24.2
Sweetbay Solar	1	Martin County	PV	Solar	January	2020	74.5	74.5	74.5	74.5	28.1	0.0	21.7
Northern Preserve Solar	1	Baker County	PV	Solar	January	2020	74.5	74.5	74.5	74.5	33.0	0.0	21.0
Cattle Ranch Solar	1	Desoto County	PV	Solar	January	2020	74.5	74.5	74.5	74.5	34.8	0.0	23.9
Twin Lakes Solar	1	Putnam County	PV	Solar	January	2020	74.5	74.5	74.5	74.5	34.8	0.0	24.0
Blue Heron Solar	1	Hendry County	PV	Solar	January	2020	74.5	74.5	74.5	74.5	33.6	0.0	24.9
Babcock Preserve Solar	1	Charlotte County	PV	Solar	January	2020	74.5	74.5	74.5	74.5	36.1	0.0	25.4
Hibiscus Solar	1	Palm Beach County	PV	Solar	April	2020	74.5	74.5	74.5	74.5	40.5	0.0	27.7
Okeechobee Solar	1	Okeechobee County	PV	Solar	April	2020	74.5	74.5	74.5	74.5	36.6	0.0	29.1
Southfork Solar	1	Manatee County	PV	Solar	April	2020	74.5	74.5	74.5	74.5	45.0	0.0	31.4
Echo River Solar	1	Suwannee County	PV	Solar	April	2020	74.5	74.5	74.5	74.5	47.5	0.0	28.6
Blue Indigo Solar	1	Jackson County	PV	Solar	April	2020	74.5	74.5	74.5	74.5	49.4	0.0	26.9
Lakeside Solar	1	Okeechobee County	PV	Solar	December	2020	74.5	74.5	74.5	74.5	36.2	0.0	26.6
Trailside Solar	1	St. Johns County	PV	Solar	December	2020	74.5	74.5	74.5	74.5	39.0	0.0	26.7
Union Springs Solar	1	Union County	PV	Solar	December	2020	74.5	74.5	74.5	74.5	37.6	0.0	26.4
Egret Solar	1	Baker County	PV	Solar	December	2020	74.5	74.5	74.5	74.5	35.2	0.0	26.2
Nassau Solar	1	Nassau County	PV	Solar	December	2020	74.5	74.5	74.5	74.5	34.7	0.0	26.2
FPL Juno Beach Living Lab (2)	1	Various	PV	Solar	Various	Various	0.15	0.15	0	0	0	0.0	2.3
SolarNow	1	Various	PV	Solar	Various	2016-2019 Various	0.8	0.8	0.4	0	0	0.0	11.9
C&I Solar Partnership(2)	1	Various	PV	Solar	Various	2016 Various	3	3	1	0	0	0.0	8.7% - 10.1%
Business PV for Schools (3)	Various	Various	PV	Solar	Various	2013-2015 Various	--	--	--	--	--	--	--

**Notes**

Capacity factors are actuals for 2020 for all units except Lakeside, Trailside, Union Springs, Egret and Nassau Solar. These units were placed into service during 12/2020 and the capacity factors provided are forecasted capacity factors for these units for the first year of operation.

(1) The Martin Solar Thermal unit is a 75MW unit capable of producing steam to be used in the Martin 8 Combined Cycle unit and is not an electrical generator.

(2) The FPL Living Lab research assets and the C&I Solar Partnership assets generation reflects impact of operational and inverter communication issues at these sites including micro-inverter performance and other technology issues; sites undergoing evaluation and generation expected to increase in 2021 as a result.

(3) Ownership of Business PV for Schools assets have all been transferred to the schools in 2020 and are no longer utility owned.

(4) C&I Solar Partnership impacted due to micro inverter issues at Daytona Kennel Club.

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Facility Name	Unit No.	County Location	Unit Type	Primary Fuel	Commercial In-Service		Gross Capacity (MW)		Net Capacity (MW)		Firm Capacity (MW)		Projected Capacity Factor* (%)
					Mo	Yr	Sum	Win	Sum	Win	Sum	Win	
Pelican Solar	1	St. Lucie County	PV	Solar	Feb	2021	74.5	74.5	74.5	74.5	36	0	21.90
Magnolia Springs Solar	1	Clay County	PV	Solar	Mar	2021	74.5	74.5	74.5	74.5	36	0	26.40
Palm Bay Solar	1	Brevard County	PV	Solar	Mar	2021	74.5	74.5	74.5	74.5	36	0	26.70
Discovery Solar	1	Brevard County	PV	Solar	May	2021	74.5	74.5	74.5	74.5	36	0	21.90
Orange Blossom Solar	1	Indian River County	PV	Solar	Jun	2021	74.5	74.5	74.5	74.5	36	0	23.80
Sabal Palm Solar	1	Palm Beach County	PV	Solar	Apr	2021	74.5	74.5	74.5	74.5	36	0	24.00
Fort Drum Solar	1	Okeechobee County	PV	Solar	Jun	2021	74.5	74.5	74.5	74.5	36	0	22.00
Rodeo Solar	1	DeSoto County	PV	Solar	Mar	2021	74.5	74.5	74.5	74.5	36	0	27.40
Willow Solar	1	Manatee County	PV	Solar	May	2021	74.5	74.5	74.5	74.5	36	0	25.20
Blue Springs Solar	1	Jackson County	PV	Solar	Dec	2021	74.5	74.5	74.5	74.5	41	0	23.30
Cotton Creek Solar	1	Escambia County	PV	Solar	Dec	2021	74.5	74.5	74.5	74.5	43	0	21.70
Ghost Orchid Solar	1	Hendry County	PV	Solar	Jan	2022	74.5	74.5	74.5	74.5	39	0	25.10
Sawgrass Solar	1	Hendry County	PV	Solar	Jan	2022	74.5	74.5	74.5	74.5	39	0	25.00
Sundew Solar	1	St. Lucie County	PV	Solar	Jan	2022	74.5	74.5	74.5	74.5	39	0	24.80
Immokalee Solar	1	Collier County	PV	Solar	Jan	2022	74.5	74.5	74.5	74.5	39	0	25.40
Grove Solar	1	Indian River County	PV	Solar	Jan	2022	74.5	74.5	74.5	74.5	39	0	24.80
Elder Branch Solar	1	Manatee County	PV	Solar	Jan	2022	74.5	74.5	74.5	74.5	39	0	29.60
Everglades Solar	1	Miami-Dade County	PV	Solar	Jan	2023	74.5	74.5	74.5	74.5	30	0	25.00
White Tail Solar	1	Martin County	PV	Solar	Jan	2023	74.5	74.5	74.5	74.5	30	0	24.70
Bluefield Preserve Solar	1	St. Lucie County	PV	Solar	Jan	2023	74.5	74.5	74.5	74.5	30	0	24.90
Cavendish Solar	1	Okeechobee County	PV	Solar	Jan	2023	74.5	74.5	74.5	74.5	30	0	28.80
Anhinga Solar	1	Clay County	PV	Solar	Jan	2023	74.5	74.5	74.5	74.5	30	0	28.20
Blackwater River Solar	1	Santa Rosa County	PV	Solar	Jan	2023	74.5	74.5	74.5	74.5	37	0	24.70
Chipola River Solar	1	Calhoun County	PV	Solar	Jan	2023	74.5	74.5	74.5	74.5	37	0	28.40
Flowers Creek Solar	1	Calhoun County	PV	Solar	Jan	2023	74.5	74.5	74.5	74.5	37	0	25.20
First City Solar	1	Escambia County	PV	Solar	Jan	2023	74.5	74.5	74.5	74.5	37	0	24.20
Apalachee Solar	1	Jackson County	PV	Solar	Jan	2023	74.5	74.5	74.5	74.5	37	0	28.80
SolarNow**	1	Various	PV	Solar	Various	2021	0.02	0.02	0.01	0	0.1	0	15
Gulf Small Solar**	1	Various	PV	Solar	Various	2021	0.08	0.08	0.04	0	0.04	0	15
Manatee Battery Storage***	1	Manatee County	BS	N/A	4th Q	2021	409	409	409	409	409	409	N/A
Sunshine Gateway Battery Storage***	1	Columbia County	BS	N/A	4th Q	2021	30	30	30	30	30	30	N/A
Echo River Battery Storage***	1	Suwannee County	BS	N/A	4th Q	2021	30	30	30	30	30	30	N/A
Energy Storage	1	Unknown	BS	N/A	1st Q	2029	300	300	300	300	300	300	N/A
Energy Storage	1	Unknown	BS	N/A	1st Q	2030	400	400	400	400	400	400	N/A
Unsitd Solar PV	1	Unknown	PV	Solar	1st Q	2024	894	894	894	894	434	0	TBD
Unsitd Solar PV	1	Unknown	PV	Solar	1st Q	2025	894	894	894	894	434	0	TBD
Unsitd Solar PV	1	Unknown	PV	Solar	1st Q	2026	968.5	968.5	968.5	968.5	404	0	TBD
Unsitd Solar PV	1	Unknown	PV	Solar	1st Q	2027	968.5	968.5	968.5	968.5	395	0	TBD
Unsitd Solar PV	1	Unknown	PV	Solar	1st Q	2028	1192	1192	1192	1192	473	0	TBD
Unsitd Solar PV	2	Unknown	PV	Solar	1st Q	2029	1192	1192	1192	1192	284	0	TBD
Unsitd Solar PV	3	Unknown	PV	Solar	1st Q	2030	1192	1192	1192	1192	287	0	TBD

**Notes**

\*The capacity values shown for solar units are for the first year of operation. These capacity values and the associated energy output of the solar sites degrade over time and this degradation is accounted for in these projections.

Capacity factors for PV solar units vary based on a variety of factors, including location, technology type (fixed or tracking), DC/AC ratio, and account for annual degradation.

\*\*The SolarNow and Gulf Small Solar net capacity factors are estimates based on engineering plans and actual performance of similar sites. The infield placement, orientation, panel tilt and localized shading that occurs with these smaller generating assets impacts the overall generation effectiveness.

\*\*\*Battery Storage units do not have a traditional capacity factor and therefore are listed as N/A in the capacity factor column.

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Seller Name	Facility Name	County Location	Unit Type	Primary Fuel	Installed Capacity (MW)		Contract Firm Capacity (MW)		Contract Term Dates (MM/YY)	
					Summer	Winter	Summer	Winter	Begins	Ends
Shell Energy NA	Tenaska	Autauga	CC	Gas	765	765	885	885	11/09	05/23
Notes										



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Seller Name	Facility Name	Unit No.	County Location	Unit Type	Primary Fuel	Gross Capacity (MW)		Net Capacity (MW)		Contracted Firm Capacity (MW)		Contract Term Dates (MM/YY)	
						Sum	Win	Sum	Win	Sum	Win	Start	End
<b>Notes</b>													
There are no planned new traditional generator PPAs during the planning period.													

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Seller Name	Facility Name	County Location	Unit Type	Primary Fuel	Installed Capacity (MW)		Contract Firm Capacity (MW)		Contract Term Dates (MM/YY)	
					Summer	Winter	Summer	Winter	Begins	Ends
Wheelabrator Technologies	Broward South	Broward	Steam	MSW	3.5	3.5	3.5	3.5	01/93	12/26
Solid Waste Authority of Palm Beach	SWA 1 (40)	Palm Beach	Steam	MSW	55	55	40	40	01/12	03/34
Solid Waste Authority of Palm Beach	SWA 2 (70)	Palm Beach	Steam	MSW	90	90	70	70	01/16	03/34
Morgan Stanley (King I)	Kingfisher I	Kingfisher	WT	Wind	178 <sup>(1)</sup>	178 <sup>(1)</sup>	58 <sup>(2)</sup>	71 <sup>(2)</sup>	01/16	12/35
Morgan Stanley (King II)	Kingfisher II	Kingfisher	WT	Wind	94 <sup>(1)</sup>	94 <sup>(1)</sup>	31 <sup>(2)</sup>	38 <sup>(2)</sup>	02/17	12/35
Gulf Coast Solar Center I	Eglin	Okaloosa	PV	Solar	30	30	N/A	N/A	06/17	12/42
Gulf Coast Solar Center II	Holley	Santa Rosa	PV	Solar	40	40	N/A	N/A	11/17	12/42
Gulf Coast Solar Center III	Saufley	Escambia	PV	Solar	50	50	N/A	N/A	11/17	12/42
Bay County Florida	Bay County Solid Waste	Bay	ST	MSW	11	11	N/A	N/A	07/17	07/23
<b>Notes</b>										
(1) Gulf's MW portion of facility resulting from the agreement										
(2) MWs scheduled during the system seasonal peak hour per contract obligation to deliver fixed amount per hour										

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Seller Name	Facility Name	County Location	Unit Type	Primary Fuel	Installed Capacity (MW)		Contract Firm Capacity (MW)		Contract Term Dates (MM/YY)	
					Summer	Winter	Summer	Winter	Begins	Ends
<b>Notes</b>										
There are no planned new renewable generator PPAs during the planning period.										

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Buyer Name	Facility Name	Unit No.	County Location	Unit Type	Primary Fuel	Gross Capacity (MW)		Net Capacity (MW)		Contracted Firm Capacity (MW)		Contract Term Dates (MM/YY)	
						Sum	Win	Sum	Win	Sum	Win	Start	End
Lee County Full Requirements Agreement <sup>1</sup>	Lee County Full Requirements Agreement <sup>1</sup>	N/A	Lee	Full Requirements	System Average	N/A	N/A	N/A	N/A	775 - 1266	668 - 671	01/14	12/33
Florida Keys Long Term Agreement <sup>2</sup>	Florida Keys Long Term Agreement <sup>2</sup>	N/A	Monroe	Full Requirements	System Average	N/A	N/A	N/A	N/A	137 - 176	148 - 192	05/11	12/31
Moore Haven	Moore Haven	N/A	Glades	Partial Requirements	System Average	N/A	N/A	N/A	N/A	4	3	07/16	12/25
City of Homestead	City of Homestead	N/A	Miami-Dade	Partial Requirements	Natural Gas	N/A	N/A	N/A	N/A	18 - 51	24 - 27	08/15	12/24
City of Homestead	City of Homestead	N/A	Miami-Dade	Partial Requirements	Natural Gas	N/A	N/A	N/A	N/A	10	10	08/15	12/24
Florida Public Utilities Company <sup>3</sup>	Florida Public Utilities Company <sup>3</sup>	N/A	Various	Partial Requirements	Natural Gas	N/A	N/A	N/A	N/A	13 - 45	70	01/18	12/26
Florida Public Utilities Company <sup>3</sup>	Florida Public Utilities Company <sup>3</sup>	N/A	Various	Partial Requirements	Natural Gas	N/A	N/A	N/A	N/A	70	70	01/20	12/26
City of Quincy	City of Quincy	N/A	Gadsden	Partial Requirements	System Average	N/A	N/A	N/A	N/A	19	19	01/16	12/27
City of Wauchula	City of Wauchula	N/A	DeSotto	Full Requirements	System Average	N/A	N/A	N/A	N/A	14	14	01/17	12/21
City of New Smyrna Beach	City of New Smyrna Beach	N/A	Volusia	Partial Requirements	System Average	N/A	N/A	N/A	N/A	45	45	02/14	12/24
City of New Smyrna Beach	City of New Smyrna Beach	N/A	Volusia	Partial Requirements	Natural Gas	N/A	N/A	N/A	N/A	20	20	07/17	12/21
City of New Smyrna Beach	City of New Smyrna Beach	N/A	Volusia	Partial Requirements	Natural Gas	N/A	N/A	N/A	N/A	30	30	07/17	12/24
Seminole Electric Cooperative	Seminole Electric Cooperative	N/A	Various	Partial Requirements	Natural Gas	N/A	N/A	N/A	N/A	200	200	06/14	05/21
Florida Public Utilities Company	Florida Public Utilities Company <sup>4</sup>	N/A	Jackson	Full Requirements	Natural Gas	N/A	N/A	N/A	N/A	61 - 64	67 - 70	01/20	12/26

Notes

- (1) The contract includes an option to extend the agreement through December 31, 2053.
- (2) The contract includes an option to extend the agreement through December 31, 2051.
- (3) The contract includes an option to extend the agreement through December 31, 2030.
- (4) The contract includes an option to extend the agreement through December 31, 2030

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Buyer Name	Facility Name	Unit No.	County Location	Unit Type	Primary Fuel	Gross Capacity (MW)		Net Capacity (MW)		Contracted Firm Capacity (MW)		Contract Term Dates (MM/YY)	
						Sum	Win	Sum	Win	Sum	Win	Start	End
Seminole Electric	Seminole Electric		Various <sup>(2)</sup>	Partial Requirements	System Average	N/A	N/A	N/A	N/A	40 <sup>(1)</sup>	40 <sup>(1)</sup>	06/21	12/21
Seminole Electric	Seminole Electric		Various <sup>(2)</sup>	Partial Requirements	System Average	N/A	N/A	N/A	N/A	30 <sup>(1)</sup>	30 <sup>(1)</sup>	01/22	12/22
JEA	JEA		Duval	Partial Requirements	Natural Gas	N/A	N/A	N/A	N/A	200	200	01/22	12/41
<b>Notes</b>													
(1) Gulf's allocated share of Southern electric system sale to entity as shown in Gulf's 2019 Ten-Year Site Plan													
(2) This transaction is served by Gulf Power													

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Renewable Source	FPL Annual Renewable Generation (GWh)										
	Actual		Projected								
	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Utility - Firm	0	0	FPL and Gulf are modeled as individual systems in 2021. From 2022-2030, they are modeled as one system. See "Integrated System" below.								
Utility - Non-Firm	3,785	6,043									
Utility - Co-Firing	0	0									
Purchase - Firm	1,001	780									
Purchase - Non-Firm	249	200									
Purchase - Co-Firing	0	0									
Customer - Owned	105	479									
<b>Total</b>	<b>5,141</b>	<b>7,502</b>									
<b>Notes</b>											
All energy for FPL-owned renewables is being considered non-firm for the purposes of this table. However, FPL, accounts for a percentage of the nameplate rating of PV facilities as firm capacity in reliability analysis.											

Renewable Source	Gulf Annual Renewable Generation (GWh)										
	Actual		Projected								
	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Utility - Firm	0	0	FPL and Gulf are modeled as individual systems in 2021. From 2022-2030, they are modeled as one system. See "Integrated System" below.								
Utility - Non-Firm	158	413									
Utility - Co-Firing	0	0									
Purchase - Firm	1,031	1,031									
Purchase - Non-Firm	284	223									
Purchase - Co-Firing	0	0									
Customer - Owned	22	69									
<b>Total</b>	<b>1,496</b>	<b>1,737</b>									
<b>Notes</b>											
All energy for FPL-owned renewables is being considered non-firm for the purposes of this table. However, FPL, accounts for a percentage of the nameplate rating of PV facilities as firm capacity in reliability analysis.											

Renewable Source	Integrated Annual Renewable Generation (GWh)										
	Actual		Projected								
	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Utility - Firm	FPL and Gulf are modeled as individual systems in 2021. From 2022-2030, they are modeled as one system.		0	0	0	0	0	0	0	0	0
Utility - Non-Firm			7,666	9,277	11,417	13,380	15,503	17,625	20,270	22,808	25,390
Utility - Co-Firing			0	0	0	0	0	0	0	0	0
Purchase - Firm			1,811	1,811	1,816	1,811	1,811	1,781	1,786	1,781	1,781
Purchase - Non-Firm			422	422	422	420	420	419	420	418	417
Purchase - Co-Firing			0	0	0	0	0	0	0	0	0
Customer - Owned			709	851	1,008	1,180	1,370	1,570	1,793	2,042	2,333
<b>Total</b>			<b>10,609</b>	<b>12,362</b>	<b>14,662</b>	<b>16,792</b>	<b>19,104</b>	<b>21,395</b>	<b>24,268</b>	<b>27,049</b>	<b>29,922</b>
<b>Notes</b>											
All energy for FPL-owned renewables is being considered non-firm for the purposes of this table. However, FPL, accounts for a percentage of the nameplate rating of PV facilities as firm capacity in reliability analysis.											

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Plant Name	Land Available (Acres)	Potential Installed Net Capacity (MW)	Potential Obstacles to Installation
None	n/a	n/a	n/a
<b>Note: Basis for this response are the solar sites listed as Preferred Sites and described in TYSP Chapter 4, pages 247-276. None of these sites are potential candidates for additional utility-scale solar installations.</b>			

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Project Name	Pilot Program (Y/N)	In-Service/ Pilot Start Date (MM/YY)	Max Capacity Output (MW)	Max Energy Stored (MWh)	Conversion Efficiency (%)
Community Energy Storage (3 locations)	Y	05/16 - 01/17	0.1	0.2	85
Southwest	Y	10/16	1.5	4	92
Florida Bay	Y	12/16	1.5	1.5	94
Mobile UPS	Y	2/17	0.8	<.1	98
Citrus	Y	3/18	4	16	87
Babcock Ranch	Y	3/18	10	40	87
Wynwood	Y	12/19	10	40	87
Virtual Power Plant (13 locations)	Y	06/19-07/20	0.08	0.19	90
Dania Beach Energy Center	Y	8/20	11.5	46	87
University Microgrid	Y	10/20	3	9	87
EV2G	Y	12/20-12/21	1.25	1.25	TBD

**Notes**  
 (Include Notes Here)



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TYSP Year                    2021  
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 Question No.                    51

Project Name	Pilot Program (Y/N)	In-Service/ Pilot Start Date (MM/YY)	Projected Max Capacity Output (MW)	Projected Max Energy Stored (MWh)	Projected Conversion Efficiency (%)
Babcock Augmentation	Y	6/21	1	2	87
Resi. Living Lab (8 locations)	Y	5/21-8/21	0.04	0.09	90
EV + Storage (3 locations)	Y	8/21	1.05	1.8	87
Manatee	N	12/21	409	900	87
Sunshine Gateway	N	12/21	30	75	87
Echo River	N	12/21	30	75	87
FPL EVolution Hub	Y	12/21	8.55	17.1	TBD
2029 Battery	N	1/29	300	950	TBD
2030 Battery	N	1/30	400	1600	TBD

**Notes**

Conversion efficiency based on equipment rated efficiency. Future units reflect expected equipment rated efficiency. TBD is to be determined.

**As-Available Energy Rates (FPL)**

Year	As-Available Energy (\$/MWh)	On-Peak Average (\$/MWh)	Off-Peak Average (\$/MWh)	Zonal As-Available Pricing														
				NENORTH			NESOUTH			SSEAST			SOUTH			WEST		
				As-Available Energy (\$/MWh)	On-Peak Average (\$/MWh)	Off-Peak Average (\$/MWh)	As-Available Energy (\$/MWh)	On-Peak Average (\$/MWh)	Off-Peak Average (\$/MWh)	As-Available Energy (\$/MWh)	On-Peak Average (\$/MWh)	Off-Peak Average (\$/MWh)	As-Available Energy (\$/MWh)	On-Peak Average (\$/MWh)	Off-Peak Average (\$/MWh)	As-Available Energy (\$/MWh)	On-Peak Average (\$/MWh)	Off-Peak Average (\$/MWh)
2011	31.09	39.84	28.02	30.36	38.67	27.44	31.77	40.82	28.59	31.24	40.00	28.16	31.53	40.66	28.32	30.57	39.03	27.60
2012	22.46	28.42	20.34	22.06	27.67	20.07	22.87	29.06	20.66	22.54	28.56	20.40	22.77	29.07	20.53	22.06	27.76	20.04
2013	22.92	25.29	22.00	22.54	24.72	21.70	23.19	25.64	22.24	22.92	25.28	22.00	23.35	25.96	22.34	22.62	24.87	21.74
2014	27.19	30.64	25.99	26.75	30.00	25.60	27.55	31.09	26.31	27.24	30.69	26.03	27.52	31.23	26.25	26.91	30.21	25.75
2015	17.87	20.06	16.54	17.21	19.64	16.33	17.65	20.32	16.69	17.52	20.10	16.60	17.09	20.50	16.69	17.28	19.75	16.37
2016	16.70	19.70	15.65	15.57	18.20	14.64	17.18	20.33	16.08	16.97	20.03	15.90	17.00	20.18	15.88	16.79	19.78	15.75
2017	18.93	21.32	18.07	18.23	20.12	17.56	19.27	21.83	18.37	19.08	21.55	18.21	19.17	21.78	18.17	18.90	21.32	18.05
2018	21.85	25.71	20.50	21.56	25.31	20.25	22.10	26.11	20.71	21.85	25.71	20.50	21.98	25.85	20.60	21.76	25.57	20.42
2019	18.64	22.05	17.47	18.72	22.16	17.54	18.74	22.15	17.57	18.57	21.95	17.41	18.65	22.09	17.47	18.52	21.88	17.36
2020	14.50	16.89	13.65	14.56	16.94	13.71	*	*	*	14.45	16.81	13.61	14.56	17.02	13.68	14.45	16.80	13.60
2021	22.41	23.46	21.67	**	**	**	**	**	**	**	**	**	**	**	**	**	**	**
2022	FPL and Gulf are modeled as individual systems in 2021. From 2022-2030, they are modeled as one system. See "Integrated System" below.																	
2023																		
2024																		
2025																		
2026																		
2027																		
2028																		
2029																		
2030																		

\* In 2020 FPL consolidated its NE North and NE South zones into a single Northeast zone as a result of the elimination of a point of system export at New Smyrna Beach  
 \*\* FPL historically keeps track of avoided costs on a regional basis but forecasts avoided costs on an system average basis

**As-Available Energy Rates (Gulf)**

Year	As-Available Energy (\$/MWh)	On-Peak Average (\$/MWh)	Off-Peak Average (\$/MWh)
2011	37.96	45.22	35.53
2012	27.64	33.56	25.66
2013	31.37	38.04	29.14
2014	35.78	44.36	32.91
2015	25.24	31.67	23.09
2016	24.39	30.40	22.39
2017	26.69	31.52	25.08
2018	32.93	40.04	30.55
2019	25.65	31.06	23.84
2020	20.68	24.52	19.36
2021	22.41	23.46	21.67
2022	FPL and Gulf are modeled as individual systems in 2021. From 2022-2030, they are modeled as one system. See "Integrated System" below.		
2023			
2024			
2025			
2026			
2027			
2028			
2029			
2030			

**As-Available Energy Rates (Integrated System)**

Year	As-Available Energy (\$/MWh)	On-Peak Average (\$/MWh)	Off-Peak Average (\$/MWh)
2021	FPL and Gulf are modeled as individual systems in 2021. From 2022-2030, they are modeled as one system.		
2022	18.62	19.09	18.29
2023	16.50	16.88	16.23
2024	17.97	18.01	17.94
2025	20.27	21.89	19.12
2026	21.01	21.43	20.71
2027	21.52	22.06	21.15
2028	22.06	23.28	21.20
2029	22.88	24.74	21.55
2030	24.06	24.40	23.82

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TYSP Year                    2021  
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 Question No.                57

Generating Unit Name	Summer Capacity (MW)	Certification Dates (if Applicable)		In-Service Date (MM/YY)
		Need Approved (Commission)	PPSA Certified	
<b>Nuclear Unit Additions</b>				
N/A	N/A	N/A	N/A	N/A
<b>Combustion Turbine Unit Additions</b>				
Gulf Clean Energy Center	938	N/A	N/A	December, 2021
<b>Combined Cycle Unit Additions</b>				
Dania Beach Clean Energy Center	1163	March, 2018	December, 2018	June, 2022
<b>Steam Turbine Unit Additions</b>				
N/A	N/A	N/A	N/A	N/A
<b>Notes</b>				
(Include Notes Here)				

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**Solar (PV) - 2022**

**(Dates shown are approximate and are subject to change)**

Months	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
	2020												2021												2022											
Permitting/Engineering/Fabrication	█												█																							
Construction															█																					
Unit In-Service																									█											

**Florida Power & Light Company**  
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**Solar (PV) - 2023**

**(Dates shown are approximate and are subject to change)**

Months	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12												
	2021												2022												2023																							
Permitting/Engineering/Fabrication	█												█																																			
Construction															█																																	
Unit In-Service																									█																							























Gulf Units					27.9	27.9	27.9	27.9	27.9	27.9	27.9	27.9	27.9	27.9	27.9
Blue Indigo Solar	1	PV	Tracking	Solar	27.9	27.9	27.9	27.9	27.9	27.9	27.9	27.9	27.9	27.9	27.9
Crist	4	FS	N/A	NG	2.2	8.5	8.9	8.4	9.9	**	**	**	**	**	**
Crist	5	FS	N/A	NG	-1.0	11.7	9.8	9.4	11.6	11.5	10.9	**	**	**	**
Crist	6	FS	N/A	NG	16.2	8.4	6.1	7.2	9.7	8.5	5.7	6.4	7.1	7.7	3.1
Crist	7	FS	N/A	NG	15.8	5.0	2.9	7.4	7.8	8.7	5.1	6.9	5.4	6.3	2.8
Daniel	1	FS	N/A	Coal	20.2	9.5	3.1	0.3	**	**	**	**	**	**	**
Daniel	2	FS	N/A	Coal	31.5	4.1	1.6	0.0	**	**	**	**	**	**	**
Lansing Smith	3	CC	N/A	NG	87.1	48.2	39.6	55.5	62.8	64.1	53.5	51.3	52.3	48.6	42.3
Lansing Smith	A	CT	N/A	LO	0.0	0.5	0.1	0.0	0.2	0.2	0.1	0.3	**	**	**
Pea Ridge	1	CT	N/A	NG	1.6	1.1	1.4	1.5	1.7	1.4	**	**	**	**	**
Perdido	1	IC	N/A	LFG	94.3	94.0	94.0	94.0	94.0	92.1	94.0	94.0	94.0	94.0	98.3
Scherer	3	FS	N/A	Coal	11.5	18.9	8.7	12.6	12.7	12.3	10.4	12.2	11.6	12.1	12.7
EPL and Gulf Integrated Units															
Gulf Coast Clean Energy Center	8	CT	N/A	NG	*	*	4.1	9.2	7.0	5.4	2.3	2.7	2.7	3.2	2.0
2022 Blue Springs Solar	1	PV	Tracking	Solar	*	*	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3	23.3
2022 Cotton Creek Solar	1	PV	Fixed	Solar	*	*	21.7	21.7	21.7	21.7	21.7	21.7	21.7	21.7	21.7
2022 Ghost Orchid Solar	1	PV	Fixed	Solar	*	*	25.1	24.8	24.8	24.8	24.8	24.8	24.8	24.8	24.8
2022 Sawgrass Solar	1	PV	Fixed	Solar	*	*	25.0	24.7	24.7	24.7	24.7	24.7	24.7	24.7	24.7
2022 Sundew Solar	1	PV	Fixed	Solar	*	*	24.8	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5
2022 Immokalee Solar	1	PV	Fixed	Solar	*	*	25.4	25.2	25.2	25.2	25.2	25.2	25.2	25.2	25.2
2022 Grove Solar	1	PV	Fixed	Solar	*	*	24.8	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5
2022 Elder Branch Solar	1	PV	Tracking	Solar	*	*	29.6	29.1	29.1	29.1	29.1	29.1	29.1	29.1	29.1
2023 Everglades Solar	1	PV	Fixed	Solar	*	*	*	25.0	24.7	24.7	24.7	24.7	24.7	24.7	24.7
2023 White Tail Solar	1	PV	Fixed	Solar	*	*	*	24.7	24.4	24.4	24.4	24.4	24.4	24.4	24.4
2023 Bluefield Preserve Solar	1	PV	Fixed	Solar	*	*	*	24.9	24.6	24.6	24.6	24.6	24.6	24.6	24.6
2023 Cavendish Solar	1	PV	Tracking	Solar	*	*	*	28.8	28.2	28.2	28.2	28.2	28.2	28.2	28.2
2023 Anhinga Solar	1	PV	Tracking	Solar	*	*	*	28.2	27.5	27.5	27.5	27.5	27.5	27.5	27.5
2023 Blackwater River Solar	1	PV	Fixed	Solar	*	*	*	24.7	24.2	24.2	24.2	24.2	24.2	24.2	24.2
2023 Chipola Solar	1	PV	Tracking	Solar	*	*	*	28.4	27.7	27.7	27.7	27.7	27.7	27.7	27.7
2023 Flowers Creek Solar	1	PV	Tracking	Solar	*	*	*	25.2	24.6	24.6	24.6	24.6	24.6	24.6	24.6
2023 First City Solar	1	PV	Fixed	Solar	*	*	*	24.2	23.8	23.8	23.8	23.8	23.8	23.8	23.8
2023 Apalachee Solar	1	PV	Tracking	Solar	*	*	*	28.8	28.1	28.1	28.1	28.1	28.1	28.1	28.1
2024 Unstied Solar	1	PV	Fixed	Solar	*	*	*	*	23.8	23.8	23.8	23.8	23.8	23.8	23.8
2024 Unstied Solar	1	PV	Tracking	Solar	*	*	*	*	27.5	27.5	27.5	27.5	27.5	27.5	27.5
2025 Unstied Solar	1	PV	Fixed	Solar	*	*	*	*	*	23.8	23.8	23.8	23.8	23.8	23.8
2025 Unstied Solar	1	PV	Tracking	Solar	*	*	*	*	*	27.5	27.5	27.5	27.5	27.5	27.5
2026 Unstied Solar	1	PV	Fixed	Solar	*	*	*	*	*	24.5	24.5	24.5	24.5	24.5	24.5
2026 Unstied Solar	1	PV	Tracking	Solar	*	*	*	*	*	27.5	27.5	27.5	27.5	27.5	27.5
2027 Unstied Solar	1	PV	Fixed	Solar	*	*	*	*	*	24.5	24.5	24.5	24.5	24.5	24.5
2027 Unstied Solar	1	PV	Tracking	Solar	*	*	*	*	*	27.5	27.5	27.5	27.5	27.5	27.5
2028 Unstied Solar	1	PV	Fixed	Solar	*	*	*	*	*	24.5	24.5	24.5	24.5	24.5	24.5
2028 Unstied Solar	1	PV	Tracking	Solar	*	*	*	*	*	27.5	27.5	27.5	27.5	27.5	27.5
2029 Unstied Solar	1	PV	Fixed	Solar	*	*	*	*	*	24.5	24.5	24.5	24.5	24.5	24.5
2029 Unstied Solar	1	PV	Tracking	Solar	*	*	*	*	*	27.5	27.5	27.5	27.5	27.5	27.5
2030 Unstied Solar	1	PV	Fixed	Solar	*	*	*	*	*	24.5	24.5	24.5	24.5	24.5	24.5
2030 Unstied Solar	1	PV	Tracking	Solar	*	*	*	*	*	27.7	27.7	27.7	27.7	27.7	27.7

**Notes**

\* Unit was not yet in service or will not yet be in service.  
 \*\* Unit has been or will be retired and is no longer in service.  
 \*\*\* Martin Unit 8 is also partially fueled by a 75 MW solar thermal facility (not listed above) that supplies steam when adequate sunlight is available, thus reducing fossil fuel use.  
 This table does not include proposed energy storage sites as they do not have a typical capacity factor  
 Note that although all solar units degrade at 0.3% per year, the capacity factors shown do not decrease. In FPL's modeling, the capacity (MW) of the solar units decreases at the same rate of 0.3% per year while the capacity factor itself remains constant.  
 Actual capacity factors for PV solar units vary based on several factors, including location, technology type (fixed or tracking), and DC/AC ratio.



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TYSP Year                    2021  
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 Question No.                    61

Plant Name	Fuel Type	Summer Capacity (MW)	In-Service Date (MM/YYY)	Potential Conversion	Potential Issues
Manatee Unit 1	Gas / Oil	809	Oct-76	combined cycle	see notes below
Manatee Unit 2	Gas / Oil	809	Dec-77	combined cycle	see notes below
Crist Unit 4	Gas	78	Jul-59	combined cycle	see notes below
Crist Unit 5	Gas	78	Jun-61	combined cycle	see notes below
Crist Unit 6	Gas	315	May-70	combined cycle	see notes below
Crist Unit 7	Gas	496	Aug-73	combined cycle	see notes below
<b>Notes</b>					
<p>All existing conventional steam generating units are capable of being converted to combined cycle operation. The only remaining units on the FPL system (including Gulf Power) that are potential candidates for repowering or conversion are Manatee Units 1 and 2 and Gulf Clean Energy Center (GCEC, formerly Crist Plant) Units 4, 5, 6 and 7. However, the 2021 Ten Year Site Plan forecasts Manatee Units 1 and 2 to be retired in the 4th quarter of 2021, GCEC Unit 4 to be retired in the 4th quarter of 2024, and GCEC unit 5 to be retired in 4th quarter of 2026, therefore, they are no longer being considered for repowering or conversion.</p>					

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TYSP Year                      2021  
 Staff's Data Request #        1  
 Question No.                    62

Plant Name	Fuel Type	Summer Capacity (MW)	In-Service Date (MM/YYYY)	Potential Conversion	Potential Issues
N/A					
<b>Notes</b>					
Coal fired or oil fired conventional steam generating units are capable of being switched to burn natural gas. There are no remaining units on the FPL system (including Gulf Power) that are potential candidates for fuel switching as they have already been switched to burn natural gas.					

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TYSP Year                    2021  
 Staff's Data Request #        1  
 Question No.                    63

**Transmission Projects Requiring TLSA Approval**

Transmission Line	Line Length	Nominal Voltage	Date Need Approved	Date TLSA Certified	In-Service Date
	(Miles)	(kV)			
Levee-Midway (Note 1)	150	500	5/28/1988	4/20/1990	2030

**Notes**

**Note 1:** Final order certifying the corridor was issued in April 1990. Construction of 138 miles is complete and in-service. Another phase of the project will utilize the remaining 12 mile section of the Levee-Midway corridor and will bring a second 500 kV line to feed Conservation 500/230 kV substation. The second Conservation 500 kV line is currently projected to be built no earlier than 2030 with the month in which the line would go into service unknown at this time.

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TYSP Year                            2021  
 Staff's Data Request #                1  
 Question No.                            65 e

Year	Estimated Cost of Standards of Performance for Greenhouse Gas Emissions Rule for New Sources Impacts (Present-Year \$ millions)			
	Capital Costs	O&M Costs	Fuel Costs	Total Costs
2021	N/A	N/A	N/A	N/A
2022	N/A	N/A	N/A	N/A
2023	N/A	N/A	N/A	N/A
2024	N/A	N/A	N/A	N/A
2025	N/A	N/A	N/A	N/A
2026	N/A	N/A	N/A	N/A
2027	N/A	N/A	N/A	N/A
2028	N/A	N/A	N/A	N/A
2029	N/A	N/A	N/A	N/A
2030	N/A	N/A	N/A	N/A
<b>Notes</b>				
(Include Notes Here)				

Unit	Unit Type	Fuel Type	Net Summer Capacity (MW)	Estimated EPA Rule Impacts: Operational Effects							CCR	
				ELGS	ACE or replacement	MATS	CSAPR/CAIR	CWIS	Non-Hazardous Waste	Special Waste		
Cape Canaveral 3	CC	NG, ULSD	1290	N/A	N/A	N/A	N/A	Installation of additional controls possible	N/A	N/A		
Fort Myers Gas Turbines 1 & 2	GT	DFO	108	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
Fort Myers 2	CC	NG	1812	N/A	N/A	N/A	N/A	Installation of additional controls certain for Impingement Mortality Reduction	N/A	N/A		
Fort Myers 3 A-D	GT	NG, ULSD	852	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
Dania Beach 7	CC	NG, ULSD	1163	N/A	N/A	N/A	N/A	Installation or replacement of additional controls	N/A	N/A		
Lauderdale Gas Turbines 3 & 4	GT	NG, DFO	69	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
Lauderdale 6 A-F	GT	NG, DFO	1155	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
Port Everglades 5	CC	NG, ULSD	1237	N/A	N/A	N/A	N/A	Installation of additional controls possible	N/A	N/A		
Riviera 5	CC	NG, ULSD	1290	N/A	N/A	N/A	N/A	Installation of additional controls possible	N/A	N/A		
Sanford 4	CC	NG	1176	N/A	N/A	N/A	N/A	Additional controls not likely to be required	N/A	N/A		
Sanford 5	CC	NG, DFO	1176	N/A	N/A	N/A	N/A	Additional controls not likely to be required	N/A	N/A		
Turkey Point 3	PWR	NUC	837	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
Turkey Point 4	PWR	NUC	841	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
Turkey Point 5	CC	NG, ULSD	1270	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
Manatee 1	ST	NG, RFO	813	N/A	N/A	ESP Installation Completed 2013	800 MW Cycling Project Complete	Additional controls not likely to be required	N/A	N/A		
Manatee 2	ST	NG, RFO	813	N/A	N/A	ESP Installation Completed 2012	800 MW Cycling Project Complete	Additional controls not likely to be required	N/A	N/A		
Manatee 3	CC	NG	1249	N/A	N/A	N/A	N/A	Additional controls not likely to be required	N/A	N/A		
Martin 3	CC	NG	487	N/A	N/A	N/A	N/A	Additional controls not likely to be required	N/A	N/A		
Martin 4	CC	NG	487	N/A	N/A	N/A	N/A	Additional controls not likely to be required	N/A	N/A		
Martin 8	CC	NG, ULSD	1235	N/A	N/A	N/A	N/A	Additional controls not likely to be required	N/A	N/A		
Martin SOLAR	ST	SUN	75 <sup>2</sup>	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
St. Lucie 1	PWR	NUC	981	N/A	N/A	N/A	N/A	Installation of additional controls possible	N/A	N/A		
St. Lucie 2	PWR	NUC	840 <sup>1</sup>	N/A	N/A	N/A	N/A	Installation of additional controls possible	N/A	N/A		
West County Energy Center	CC	NG, ULSD	1259	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
West County Energy Center	CC	NG, ULSD	1259	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
West County Energy Center	CC	NG, ULSD	1259	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
Webb County Clean Energy Center	CC	NG, ULSD	1720	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
Scherer 3	ST	SUB	215 <sup>1</sup>	Dry ash handling systems previously installed. Scrubber wastewater treatment anticipated in the future.	No impacts expected	Hg Control Installed 2010, FGD/SCR Installed 2011	SCR & FGD Installed 2011	Additional controls not likely to be required	Closure of existing ash pond beginning in 2018 and construction of new CCR landfill	N/A		
Scherer 4	ST	SUB	634 <sup>1</sup>	Dry ash handling systems previously installed. Scrubber wastewater treatment anticipated in the future.	No impacts expected	Hg Control Installed 2010, FGD/SCR Installed 2012	SCR & FGD Installed 2012	Additional controls not likely to be required	Closure of existing ash pond beginning in 2018 and construction of new CCR landfill	N/A		
Gulf Clean Energy Center (formerly Crist)	ST	NG	967	No additional controls anticipated due to gas conversion projects	No impacts expected	Coal operation was retired in 2020 and no longer subject to MATS	N/A	Units 6 & 7 have existing closed cycle cooling system; Additional controls not likely to be required prior to Units 4 & 5 retirement dates	Ongoing compliance activities			
Gulf Clean Energy Center Unit 8	CT	NG, ULSD	940	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
Pea Ridge	ST	NG	12	N/A	No impacts expected	N/A	N/A	N/A	N/A	N/A		
Perdido	IC	LFG	3	N/A	No impacts expected	N/A	N/A	N/A	N/A	N/A		
Smith	CC,CT	NG,ULSD	692	N/A	No impacts expected	N/A	N/A	Unit 3 has existing closed cycle cooling system; New lower capacity intake pumps installed	2017-2023 pond closure design and implementation	N/A		
Daniel	ST	Coal	502	Dry bottom ash handling installed in 2020 for CCR compliance	No impacts expected	Scrubber, ACl, and Bromine Injection added for MATS	No additional control required, allowances will be purchased as needed	Units have existing closed cycle cooling system	Pond closure scheduled Fall 2020-2022 with ongoing compliance monitoring	N/A		

**Notes**  
 (Include Notes Here)  
 Units included above only reflect current operating units or projects that are under construction or expected to become operational this year  
 Unit Type: ST = Steam Turbine, GT = Gas Turbine, CC = Combined Cycle, PV = Photovoltaic, IC = Internal Combustion, BS = Battery Storage  
 Fuel Type: NG = Natural Gas, DFO = Distillate Fuel Oil, RFO = Residual Fuel Oil, ULSD = Ultra-Low Sulfur Distillate, BIT = Bituminous Coal, SUB = Sub-Bituminous Coal,  
 SUN = Solar (PV & thermal), NUC = Nuclear, No = None  
 Notes: <sup>1</sup> FPL Ownership Share only  
<sup>2</sup>Unit capability also included in Martin Unit 8 Net Summer Capacity  
<sup>3</sup>FPL's solar and battery storage sites have not been affected by any current federal or state environmental rules and FPL is actively monitoring EPA and FDEP proposed

Unit	Unit Type	Fuel Type	Net Summer Capacity (MW)	Estimated EPA Rule Impacts: Unit Availability (Month/Year - Duration)							CCR	
				ELGS	ACE or replacement	MATS	CAIR	CWIS	Non-Hazardous Waste	Special Waste		
Cape Canaveral 3	CC	NG, ULSD	1290	N/A	N/A	N/A	N/A	2022-2025 time frame for fine mesh screens, if required. <sup>3</sup>	N/A	N/A		
Fort Myers Gas Turbines 1 & 2	GT	DFO	108	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
Fort Myers 2	CC	NG	1812	N/A	N/A	N/A	N/A	2022-2025 time frame for modified traveling screens, fish return system and fine mesh screens, if required. <sup>3</sup>	N/A	N/A		
Fort Myers 3 A-D	GT	NG, ULSD	852	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
Dania Beach 7	CC	NG, ULSD	1,163	N/A	N/A	N/A	N/A	2022-2025 time frame for fine mesh screens, if required. <sup>3</sup>	N/A	N/A		
Lauderdale Gas Turbines 3 & 4	GT	NG, DFO	69	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
Lauderdale 6 A-F	GT	NG, ULSD	1155	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
Port Everglades 5	CC	NG, ULSD	1237	N/A	N/A	N/A	N/A	2022-2025 time frame for fine mesh screens, if required. <sup>3</sup>	N/A	N/A		
Riviera 5	CC	NG, ULSD	1290	N/A	N/A	N/A	N/A	No Impacts are Anticipated	N/A	N/A		
Sanford 4	CC	NG	1176	N/A	N/A	N/A	N/A	No Impacts are Anticipated	N/A	N/A		
Sanford 5	CC	NG, ULSD	1176	N/A	N/A	N/A	N/A	No Impacts are Anticipated	N/A	N/A		
Turkey Point 3	PWR	NUC	837	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
Turkey Point 4	PWR	NUC	841	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
Turkey Point 5	CC	NG, ULSD	1270	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
Manatee 1	ST	NG, RFO	813	N/A	N/A	ESP Project Complete 2013	800 MW Cycling Project Complete	No Impacts are Anticipated	N/A	N/A		
Manatee 2	ST	NG, RFO	813	N/A	N/A	ESP Project Complete 2012	800 MW Cycling Project Complete	No Impacts are Anticipated	N/A	N/A		
Manatee 3	CC	NG	1249	N/A	N/A	N/A	N/A	No Impacts are Anticipated	N/A	N/A		
Martin 3	CC	NG	487	N/A	N/A	N/A	N/A	No Impacts are Anticipated	N/A	N/A		
Martin 4	CC	NG	487	N/A	N/A	N/A	N/A	No Impacts are Anticipated	N/A	N/A		
Martin 8	CC	NG, ULSD	1235	N/A	N/A	N/A	N/A	No Impacts are Anticipated	N/A	N/A		
Martin SOLAR	ST	SUN	75 <sup>2</sup>	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
St. Lucie 1	PWR	NUC	981	N/A	N/A	N/A	N/A	2022-2025 for velocity cap excluder device, if required. <sup>3</sup>	N/A	N/A		
St. Lucie 2	PWR	NUC	840 <sup>1</sup>	N/A	N/A	N/A	N/A	2022-2025 for velocity cap excluder device, if required. <sup>3</sup>	N/A	N/A		
West County Energy Center	CC	NG, ULSD	1259	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
West County Energy Center	CC	NG, ULSD	1259	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
West County Energy Center	CC	NG, ULSD	1259	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
Wichibee Clean Energy Center	CC	NG, ULSD	1720	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
Scherer 4	ST	SUB	634 <sup>1</sup>	No additional controls prior to January 2022, when FPL "retires" its share in Unit 4.	None, unit will be retired and goes into effect	Completed 2010	Completed 2012	No Impacts are Anticipated	No Impacts are Anticipated	N/A		
Scherer 3	ST	SUB	215 <sup>1</sup>	No Impacts Anticipated	No Impacts Anticipated	No Impacts Anticipated	No Impacts Anticipated	No Impacts Anticipated	No Impacts Anticipated	N/A		
Gulf Clean Energy Center (formerly Crist)	ST	Coal, NG	967	No additional controls anticipated due to gas conversion projects	N/A	No Impacts Anticipated	No Impacts Anticipated	No Impacts Anticipated	No Impacts Anticipated	N/A		
Gulf Clean Energy Center (formerly Crist)	CT	NG, ULSD	940	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
Pea Ridge	ST	NG	12	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
Perdido	IC	LFG	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
Smith	CC, CT	NG, ULSD	692	No additional controls anticipated	N/A	N/A	No Impacts Anticipated	No Impacts Anticipated	No Impacts Anticipated	N/A		
Daniel	ST	Coal	502	No Impacts Anticipated	None, Unit will be retired in 2024	No Impacts Anticipated	No Impacts Anticipated	No Impacts Anticipated	No Impacts Anticipated	N/A		

**Notes**  
 (Include Notes Here)

Units included above only reflect current operating units or projects that are under construction or expected to become operational this year

Unit Type: ST = Steam Turbine, GT = Gas Turbine, CC = Combined Cycle, PV = Photovoltaic, IC = Internal Combustion, BS = Battery Storage  
 Fuel Type: NG = Natural Gas, DFO = Distillate Fuel Oil, RFO = Residual Fuel Oil, ULSD = Ultra-Low Sulfur Distillate, BIT = Bituminous Coal,  
 SUB = Sub-Bituminous Coal, SUN = Solar (PV & thermal), NUC = Nuclear, No = None

Notes: <sup>1</sup> FPL Ownership Share only  
<sup>2</sup> Unit capability also included in Martin Unit 8 Net Summer Capability  
<sup>3</sup> If additional controls are required for CWIS, most work would be done without any unit impacts and tie-in to existing systems would occur  
<sup>4</sup> FPL's solar and battery storage sites have not been affected by any current federal or state environmental rules and FPL is actively monitoring EPA

**FPL**

Year		Uranium		Coal		Natural Gas		Residual Oil		Distillate Oil	
		GWh	\$/MMBTU	GWh	\$/MMBTU	GWh	\$/MMBTU	GWh	\$/MMBTU	GWh	\$/MMBTU
Actual	2011	22,942	0.61	5,634	2.84	74,388	5.83	630	12.93	123	19.46
	2012	16,916	0.57	4,745	2.89	80,594	4.97	378	13.81	54	20.52
	2013	25,243	0.61	5,981	2.71	75,208	4.83	75	14.62	120	21.42
	2014	26,812	0.63	4,482	2.92	79,211	5.29	231	14.70	128	20.84
	2015	27,045	0.64	5,275	2.70	85,797	4.45	323	14.64	139	20.68
	2016	28,033	0.64	4,165	2.76	86,157	3.90	426	14.14	230	14.97
	2017	27,971	0.62	4,164	2.73	86,710	4.28	184	11.95	216	18.43
	2018	28,176	0.57	2,583	2.46	91,213	4.45	248	11.83	129	16.01
	2019	27,791	0.53	2,488	2.59	93,373	3.90	224	11.53	224	17.01
	2020	28,221	0.53	1,636	3.22	95,278	2.44	53	12.94	66	13.31
Projected	2021	28,105	0.50	613	2.54	87,292	3.00	8	9.28	7	9.81
	2022	FPL and Gulf are modeled as individual systems in 2021. From 2022-2030, they are modeled as one system. See "Integrated System" below.									
	2023										
	2024										
	2025										
	2026										
	2027										
	2028										
	2029										
	2030										

Notes  
(Include Notes Here)

**Gulf**

Year		Uranium		Coal		Natural Gas		Residual Oil		Distillate Oil	
		GWh	\$/MMBTU	GWh	\$/MMBTU	GWh	\$/MMBTU	GWh	\$/MMBTU	GWh	\$/MMBTU
Actual	2011	--	--	8,090	4.46	7,195	4.93	--	--	1	22.37
	2012	--	--	5,391	4.18	10,517	3.68	--	--	1	22.16
	2013	--	--	5,602	3.60	8,834	4.67	--	--	1	22.27
	2014	--	--	7,394	3.69	8,207	5.02	--	--	1	21.16
	2015	--	--	4,876	3.47	7,787	3.60	--	--	1	16.01
	2016	--	--	4,697	3.21	8,724	3.38	--	--	1	12.31
	2017	--	--	4,973	2.83	8,983	3.60	--	--	1	12.92
	2018	--	--	5,258	2.82	8,150	3.85	--	--	1	16.75
	2019	--	--	4,125	3.17	8,808	3.49	--	--	0	15.09
	2020	--	--	2,067	4.08	10,474	2.47	--	--	0	19.22
Projected	2021	--	--	1,906	2.82	11,241	2.95	--	--	2	10.03
	2022	FPL and Gulf are modeled as individual systems in 2021. From 2022-2030, they are modeled as one system. See "Integrated System" below.									
	2023										
	2024										
	2025										
	2026										
	2027										
	2028										
	2029										
	2030										

Notes  
(Include Notes Here)

**FPL and Gulf Integrated System**

Year		Uranium		Coal		Natural Gas		Residual Oil		Distillate Oil		
		GWh	\$/MMBTU	GWh	\$/MMBTU	GWh	\$/MMBTU	GWh	\$/MMBTU	GWh	\$/MMBTU	
Projected	2021	FPL and Gulf are modeled as individual systems in 2021. From 2022-2030, they are modeled as one system.										
	<b>Integrated FPL and Gulf</b>											
	2022	28,888	0.49	268	2.62	96,181	2.69	0	9.74	17	10.61	
	2023	28,484	0.49	244	2.74	96,120	2.76	0	10.09	4	12.21	
	2024	28,305	0.48	239	2.83	95,099	2.74	0	10.06	4	12.56	
	2025	28,823	0.50	232	2.91	93,771	3.03	0	9.54	7	13.25	
	2026	28,483	0.51	197	2.98	93,093	2.96	0	9.57	4	13.49	
	2027	28,423	0.52	231	3.05	91,924	3.11	0	9.66	6	13.75	
	2028	28,994	0.53	219	3.13	90,386	3.27	0	9.75	5	14.00	
	2029	28,484	0.55	228	3.19	90,035	3.42	0	9.85	5	14.26	
2030	28,421	0.56	238	3.26	89,672	3.57	0	9.94	4	14.53		

Notes  
(Include Notes Here)