

State of Florida



Public Service Commission

CAPITAL CIRCLE OFFICE CENTER • 2540 SHUMARD OAK BOULEVARD
TALLAHASSEE, FLORIDA 32399-0850

-M-E-M-O-R-A-N-D-U-M-

DATE: February 27, 2023
TO: Adam Teitzman, Commission Clerk, Office of Commission Clerk
FROM: Greg Davis, Engineering Specialist, Division of Engineering *GD LK*
Phillip Ellis, Public Utilities Supervisor, Division of Engineering *POE*
RE: Docket No. 20230000-OT - Undocketed filings for 2023.

Please file in the above mentioned docket file the attached document, Staff's Data Request #1, which was sent to each of the Ten-Year Site Plan utilities.

GD/POE/pz

Attachment

From: [Patti Zellner](mailto:Patti.Zellner)
To: ["nanci.nesmith@fpl.com"](mailto:nanci.nesmith@fpl.com); ["mark.bubriski@fpl.com"](mailto:mark.bubriski@fpl.com); ["ashley.anderson@fpl.com"](mailto:ashley.anderson@fpl.com); [Robert Pickels](#); [Matthew Bernier](#); ["regdept@tecoenergy.com"](mailto:regdept@tecoenergy.com); ["parusk@tecoenergy.com"](mailto:parusk@tecoenergy.com); ["MSirianni@tecoenergy.com"](mailto:MSirianni@tecoenergy.com); ["pkbrown@tecoenergy.com"](mailto:pkbrown@tecoenergy.com); ["Navid.Nowakhtar@fmpa.com"](mailto:Navid.Nowakhtar@fmpa.com); ["Robert.Nelcoski@fmpa.com"](mailto:Robert.Nelcoski@fmpa.com); ["Susan.Schumann@fmpa.com"](mailto:Susan.Schumann@fmpa.com); ["VerschageJB@gru.com"](mailto:VerschageJB@gru.com); ["fiscml@jea.com"](mailto:fiscml@jea.com); ["BrowRN@JEA.com"](mailto:BrowRN@JEA.com); ["landsq@jea.com"](mailto:landsq@jea.com); ["Shankar.Karki@lakelandelectric.com"](mailto:Shankar.Karki@lakelandelectric.com); ["Cindy.Clemmons@LakelandElectric.com"](mailto:Cindy.Clemmons@LakelandElectric.com); ["HFraser@ouc.com"](mailto:HFraser@ouc.com); ["BradKushner@nFrontConsulting.com"](mailto:BradKushner@nFrontConsulting.com); ["jclay@seminole-electric.com"](mailto:jclay@seminole-electric.com); ["caleb.crow@talgov.com"](mailto:caleb.crow@talgov.com)
Cc: [Greg Davis](#); [Phillip Ellis](#); [Damian Kistner](#); [Laura King](#); [Tom Ballinger](#); [Patti Zellner](#)
Subject: DN 20230000-OT (Undocketed filings for 2023) Ten-Year Site Plan Review - Staff's Data Request #1
Date: Monday, February 27, 2023 3:48:24 PM
Attachments: [2023 TYSP - Data Request #1 in PDF format.pdf](#)
[2023 TYSP - Data Request #1.docx](#)
[2023 TYSP - Data Request #1.Excel Tables.xlsx](#)

February 27, 2023

Dear Utility Representatives,

This year's Ten-Year Site Plan Review process (TYSP Review) will be led by Greg Davis and Phillip Ellis in the Florida Public Service Commission's (FPSC) Division of Engineering. Contact information is as follows:

Greg Davis
Office: (850) 413-6582
Email: GDavis@psc.state.fl.us

and

Phillip Ellis
Office: (850) 413-6626
Email: PELLis@psc.state.fl.us

Attached is Staff's Data Request #1, (in PDF and Microsoft WORD format) along with a Microsoft Excel file containing several tables. Please submit your responses to this data request to both the FPSC Division of Engineering and the FPSC Office of Commission Clerk by following the instructions below:

Submission to the FPSC Division of Engineering

1. Please email your responses to **Questions 1 and 2** to Greg and Phillip by **Monday, April 3, 2023**.
2. Please email your responses to **all other** questions to Greg and Phillip by **Monday, May 1, 2023**.
 - a. Please submit all **narrative** responses following their respective questions in a **single Microsoft Word** document, making sure to preserve question order.
 - b. Please submit all **non-narrative** responses (i.e., tables) in a **single Microsoft Excel** document with each sheet/tab labeled to identify its associated question. While multiple sheets/tabs per question are acceptable, please keep the entirety of a table on the same sheet/tab.

Submission to the FPSC Office of Commission Clerk

1. Please convert and combine the **narrative** and **non-narrative** responses sent to the FPSC Division of Engineering into a **single PDF** document.
2. Please electronically file this PDF document via the Commission's website no later than **Monday, May 1, 2023**.
 - a. Navigate to www.floridapsc.com.
 - b. At the top of the page, hover the mouse cursor over the "Clerk's Office" tab.
 - c. Select from the drop-down menu "Electronic Filing Web Form."
 - d. Please complete the form, referencing "Docket No. 20230000-OT."
 - e. Attach to the form the PDF created in Step 1 as the "Primary PDF."
 - f. Submit the form.

If you have any questions, please contact Greg Davis and Phillip Ellis.

Sincerely,
Patti Zellner
Administrative Assistant
Division of Engineering
Phone: (850) 413-6208
Email: pzellner@psc.state.fl.us

Enclosure

cc: Office of Commission Clerk (20230000-OT – Undocketed filings for 2023)

Instructions: Accompanying this data request is a Microsoft Excel (Excel) document titled "Data Request #1.Excel Tables," (Excel Tables File). For each question below that references the Excel Tables File, please complete the table and provide, in Excel Format, all data requested for those sheet(s)/tab(s) identified in parenthesis.

General Items

1. Please provide an electronic copy of the Company's Ten-Year Site Plan (TYSP) for the current planning period (2023-2032) in PDF format.
2. Please provide an electronic copy of all schedules and tables in the Company's current planning period TYSP in Excel format.
3. Please refer to the Excel Tables File (Financial Assumptions, Financial Escalation). Complete the tables by providing information on the financial assumptions and financial escalation assumptions used in developing the Company's TYSP. If any of the requested data is already included in the Company's current planning period TYSP, state so on the appropriate form.

Load & Demand Forecasting

Historic Load & Demand

4. **[Investor-Owned Utilities Only]** Please refer to the Excel Tables File (Hourly System Load). Complete the table 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.
 - a. Please also describe how loads are calculated for those hours just prior to and following Daylight Savings Time (March 13, 2022, and November 6, 2022).
5. Please refer to the Excel Tables File (Historic Peak Demand). Complete the table 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.

Forecasted Load & Demand

6. 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.

7. 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.
 - Any difference/improvement(s) made compared with those forecasts used in the Company's most recent prior TYSP.
8. 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.
9. 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 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.
10. 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 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.
11. Please explain any historic and forecasted trends in each of the following:
 - 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 Sales (GWh) to Ultimate Customers, identify the major factors (historically, currently, and in the forecasted period) that contribute to the growth/decline of the trends.
 - d. By customer type (residential, commercial, industrial) provide a detailed discussion of how the Company's demand-side management program(s) and conservation/energy-efficiency program(s) impact the observed trends in gigawatt hour sales (Schedule 3.3).
12. Please explain any historic and forecasted trends in each of the following components of Summer/Winter Peak Demand:
 - a. Demand Reduction due to the Company's demand-side management program(s) 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.
13. **[FEECA Utilities Only]** In the 2019 goal-setting proceeding, the Commission chose to continue the goals established by its 2014 goal-setting decision for the period 2020-2024. Beyond 2024 through the end of the forecasted period, how did the Company project what demand savings amounts are reflected on the DSM and Conservation-related portions of Schedules 3.1, 3.2, and 3.3? Please explain what assumptions are incorporated in those amounts, and why.
14. On August 16, 2022, the Inflation Reduction Act of 2022 ("IRA") became law. Regarding the provisions of the IRA and related funding, please explain the following
 - a. Whether the conservation related provisions are reflected on the DSM and Conservation-related portions of Schedules 3.1, 3.2, and 3.3 through the forecast (planning) period, and if so, how. If the provisions of the Act are not reflected in such forecasts, please explain why.
 - b. Whether the electrification related provisions are reflected on the demand and energy load-related portions of Schedules 3.1, 3.2, and 3.3 through the forecast (planning) period, and if so, how. If the provisions of the IRA are not reflected in such forecasts, please explain why.
15. 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 following, respectively:
 - a. Summer Peak Demand.
 - b. Winter Peak Demand.
 - c. Annual Retail Energy Sales.

16. Please provide responses to the following questions regarding the weather factors considered in the Company's retail energy sales and peak demand forecasts:
 - a. Please identify, with corresponding explanations, all the weather-related input variables that were used in the respective Retail Energy Sales, Winter Peak Demand, and Summer Peak Demand models.
 - b. Please specify the source(s) of the weather data used in the aforementioned forecasting models.
 - c. Please explain in detail the process/procedure/method, if any, the Company utilized to convert the raw weather data into the values of the model input variables.
 - d. Please specify with corresponding explanations:
 - i. How many years' historical weather data was used in developing each retail energy sales and peak demand model.
 - ii. How many years' historical weather data was used in the process of these models' calibration and/or validation.
 - e. Please explain how the projected values of the input weather variables (that were used to forecast the future sales or demand outputs for each planning years 2023 – 2032) were derived/obtained for the respective retail sales and peak demand models.

17. **[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.

18. Please provide responses to the following questions regarding the possible impacts of COVID-19 Pandemic (Pandemic) on the utility load forecast:
 - a. Please briefly summarize the impacts due to the Pandemic, if any, to the accuracy of the Company's respective forecast of annual retail energy sales and peak demands for 2021 and 2022.
 - b. Have any of your 2023 TYSP retail energy sales and peak demand forecasts incorporated the potential impacts of the Pandemic? Please explain your response.

19. Please address the following questions regarding the impact of all customer-owned/leased renewable generation (solar and otherwise) and/or energy storage devices on the Utility's forecasts.
 - a. Please explain in detail how the Utility's load forecast accounts for the impact of customer's renewables and/or storage.

- b. Please provide the annual impact, if any, of customer's renewables and/or storage on the Utility's retail demand and energy forecasts, by class and in total, for 2023 through 2032.
- c. If the Utility maintains a forecast for the planning horizon (2023-2032) of the number of customers with renewables and/or storage, by customer class, please provide.

Plug-in Electric Vehicles (PEVs)

- 20. 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?
 - a. Has the Company also included the impact of demand response and time of use rates for the PEV loads? If so, please provide the impact of these measures. If not, please explain why not.
- 21. Please discuss with detail any changes or modifications from the Company's previous TYSP report regarding the following PEV related topics:
 - a. The major drivers of the Company's PEV growth.
 - b. 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.
 - c. The Company's process for monitoring the installation of PEV public charging stations in its service area.
 - d. The processes or technologies, if any, that are in place to allow the Company to be notified when a customer has installed a PEV charging station in their home.
 - e. 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.
- 22. Please refer to the Excel Tables File (Electric Vehicle Charging). Complete the table 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.
 - a. Please describe all significant technological, market, regulatory, or other events or announcements since the filing of the Company's 2022 TYSP which have impacted the metrics reported
 - b. Please explain if and how the tax incentives and grants for transportation electrification associated with the IRA, adopted in August 2022, has impacted the Company's PEV and PEV charging station adoption/installation, as well as the PEV energy/demand forecast(s). If the provisions of the IRA are not reflected in such forecasts, please explain why.
- 23. 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.
24. 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.
25. Please describe if and how Section 339.287, Florida Statutes, (Electric Vehicle Charging Stations; Infrastructure Plan Development) has impacted the Company's projection of PEV growth and related demand and energy growth.
26. What has the Company learned about the impact of PEV ownership on the Company's actual and forecasted peak demand?
27. If applicable, please describe any key findings and metrics of the Company's PEV pilot program(s) which reveal the PEV impact to the demand and energy requirements of the Company.

Demand Response

28. **[FEECA Utilities Only]** Please refer to the Excel Tables File (DR Participation). Complete the table by providing for each source of demand response 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.
29. **[FEECA Utilities Only]** Please refer to the Excel Tables File (DR Annual Use). Complete the table by providing for each source of demand response annual usage information for 10 years prior to the current planning period. Please also provide a summary of all demand response using the table.
30. **[FEECA Utilities Only]** Please refer to the Excel Tables File (DR Peak Activation). Complete the table by providing for each source of demand response 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.
31. Please refer to the Excel Tables File (LOLP). Complete the table by providing the loss of load probability, reserve margin, and expected unserved energy for each year of the planning period.

Generation & Transmission

Utility-Owned Generation

32. Please refer to the Excel Tables File (Unit Performance). Complete the table by providing information on each utility-owned generating resources' outage factors, availability factors,

and average net operating heat rate (if applicable). For historical averages, use the past three years and for projected factors, use an average of the next ten-year period.

33. Please refer to the Excel Tables File (Utility Existing Traditional). Complete the table 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.
34. Please refer to the Excel Tables File (Utility Planned Traditional). Complete the table 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.
35. Please refer to the Excel Tables File (Utility Existing Renewable). Complete the table 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.
36. Please refer to the Excel Tables File (Utility Planned Renewable). Complete the table 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.
37. 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?
38. **[Investor-Owned Utilities Only]** Please refer to the Excel Tables File (As-Available Energy Rate). Complete the table 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.
39. Please refer to the Excel Tables File (Planned PPSA Units). Complete the table 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.

40. 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.
41. Please refer to the Excel Tables File (Capacity Factors). Complete the table 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.
42. **[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.
43. Please refer to the Excel Tables File (Steam Unit CC Conversion). Complete the table by providing information on all of the Company's steam units that are potential candidates for repowering to operation as Combined Cycle units.
44. Please refer to the Excel Tables File (Steam Unit Fuel Switching). Complete the table by providing information on all of the Company's steam units that are potential candidates for fuel-switching.
45. Please refer to the Excel Tables File (Transmission Lines). Complete the table 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.

Purchases and Sales

46. Please refer to the Excel Tables File (Firm Purchases). Complete the table by providing information on the Utility's firm capacity and energy purchases.
47. Please refer to the Excel Tables File (PPA Existing Traditional). Complete the table 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.
48. Please refer to the Excel Tables File (PPA Planned Traditional). Complete the table 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.
49. Please refer to the Excel Tables File (PPA Existing Renewable). Complete the table 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.

50. Please refer to the Excel Tables File (PPA Planned Renewable). Complete the table 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.
51. 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?
52. Please refer to the Excel Tables File (PSA Existing). Complete the table 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.
53. Please refer to the Excel Tables File (PSA Planned). Complete the table 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.
54. Please list and discuss any long-term power sale agreements within the past year that were cancelled, expired, or modified. What was the primary reason for the change? What, if any, were the secondary reasons?

Renewable Generation

55. Please refer to the Excel Tables File (Annual Renewable Generation). Complete the table 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.
56. Please describe any actions the Company engages in to encourage production of renewable energy within its service territory.
57. **[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.
58. 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.

59. 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.

Energy Storage

60. Briefly discuss any progress in the development and commercialization of non-lithium-ion based battery storage technology the Company has observed in recent years.
61. If applicable, please describe the strategy of how the Company charges and discharges its energy storage facilities. As part of the response discuss if any recent legislation, including the IRA has changed how the Company dispatches its energy storage facilities.
62. 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).
63. Please explain whether customers have expressed interest in energy storage technologies. If so, describe the type of customer (residential, commercial industrial) and how have their interests been addressed.
64. Please refer to the Excel Tables File (Existing Energy Storage). Complete the table 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.
65. Please refer to the Excel Tables File (Planned Energy Storage). Complete the table 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.
66. 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.

67. If the Company utilizes non-firm generation sources in its system portfolio, please detail whether it currently utilizes or has considered utilizing energy storage technologies to provide firm capacity from such generation sources. If not, please explain.
- Based on the Company's operational experience, please discuss to what extent energy storage technologies can be used to provide firm capacity from non-firm generation sources. As part of your response, please discuss any operational challenges faced and potential solutions to these challenges.

Other

68. Please identify and discuss the Company's role in the research and development of utility power technologies, including, but not limited to research programs that are funded through the Energy Conservation Cost Recovery Clause. 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.

Environmental

69. Please explain if the Company assumes carbon dioxide (CO₂) 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, answer the following questions:
- Please identify the year during the current planning period in which CO₂ compliance costs are first assumed to have a non-zero value.
 - [Investor-Owned Utilities Only]** Please explain if the exclusion of CO₂ compliance costs would result in a different resource plan than that presented in the Company's current planning period TYSP.
 - [Investor-Owned Utilities Only]** Please provide a revised resource plan assuming no CO₂ compliance costs.
70. 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.
71. For the U.S. EPA's Standards of Performance for Greenhouse Gas Emissions for New Stationary Sources: Electric Utility Generating Units Rule:
- Will your Company be materially affected by the rule?
 - What compliance strategy does the Company anticipate employing for the rule?
 - If the strategy has not been completed, what is the Company's timeline for completing the compliance strategy?
 - Will there be any regulatory approvals needed for implementing this compliance strategy? How will this affect the timeline?
 - Does the Company anticipate asking for cost recovery for any expenses related to this rule? Refer to the Excel Tables File (Emissions Cost). Complete the table by providing information on the costs for the current planning period.
 - If the answer to any of the above questions is not available, please explain why.

72. 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.
- Mercury and Air Toxics Standards (MATS) Rule.
 - Cross-State Air Pollution Rule (CSAPR).
 - Cooling Water Intake Structures (CWIS) Rule.
 - Coal Combustion Residuals (CCR) Rule.
 - Standards of Performance for Greenhouse Gas Emissions for New Stationary Sources: Electric Utility Generating Units.
 - Affordable Clean Energy Rule or its replacement.
 - Effluent Limitations Guidelines and Standards (ELGS) from the Steam Electric Power Generating Point Source Category.
73. Please refer to the Excel Tables File (EPA Operational Effects). Complete the table 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.
74. Please refer to the Excel Tables File (EPA Cost Effects). Complete the table 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.
75. Please refer to the Excel Tables File (EPA Unit Availability). Complete the table 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.
76. 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.

Fuel Supply & Transportation

77. Please refer to the Excel Tables File (Fuel Usage & Price). Complete the table 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.
78. Please discuss how the Company compares its fuel price forecasts to recognized, authoritative independent forecasts.

79. 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)
80. Please provide a comparison of the Utility's 2022 fuel price forecast and the actual 2022 delivered fuel prices.
81. Please explain any notable changes in the Utility's forecast of fuel prices used to prepare the Utility's 2023 TYSP compared to the fuel process used to prepare the Utility's 2022 TYSP.
82. Please identify and discuss steps that the Company has taken to ensure natural gas supply availability and transportation over the current planning period.
83. 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.
84. 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.
85. Please identify and discuss the Company's plans for the use of firm natural gas storage during the current planning period.
86. 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.
87. 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.
88. 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.
89. Please identify and discuss expected uranium production industry trends and factors that will affect the Company during the current planning period.

90. [FPL Only] The following questions are with regard to hydrogen fuel creation and use at the Cavendish NextGen Hydrogen Hub:
- a. Please explain how FPL plans to account for the produced hydrogen fuel that is integrated into the natural gas system for use at FPL's Okeechobee Clean Energy Center.
 - b. Please explain how FPL plans to price the produced hydrogen fuel that is integrated into FPL's natural gas system over the Ten-Year Site Plan time horizon

Extreme Weather

91. Please identify and discuss steps, if any, that the Company has taken to ensure continued energy generation in case of a severe cold weather event.
92. Please identify any future winterization plans, if any, the Company intends to implement over the current planning period.
93. Please explain the Company's planning process for flood mitigation for current and proposed power plant sites and transmission/distribution substations.
94. Please address the following questions regarding the impact of all major storm events, such as Hurricane Ian, with associated flooding, destruction of utility facilities and customer buildings, and forced customer permanent migration.
- a. Based on actual data, please briefly summarize the impact that major storms have had on your utility's customer number, retail sales and peak load.
 - b. Please explain whether the above discussed impact is include in your company's customer/retail energy sales/demand forecasts.
 - c. If your response to subpart (b) is affirmative, please explain how this impact is modeled.
95. Has the Company had to make any upgrades to any generating units or changes to operations practices as a result of any FERC Orders addressing extreme weather planning within the last two years? If so, please describe.