

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-**

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**DATE:** March 6, 2020  
**TO:** Adam Teitzman, Commission Clerk, Office of Commission Clerk  
**FROM:** Doug Wright, Engineering Specialist, Division of Engineering *DW PoE*  
**RE:** Docket No. 20200000-OT - Undocketed filings for 2020.

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

DW/pz

Attachment

**From:** [Patti Zellner](#)  
**To:** ["Lynne\\_Adams@fpl.com"](#); ["Nanci\\_Nesmith@fpl.com"](#); [Robert Pickels](#); [Matthew Bernier](#); ["regdept@tecoenergy.com"](#); [Billy Stiles](#); ["pkbrown@tecoenergy.com"](#); ["mark.bubriski@fpl.com"](#); ["Lisa.Roddy@nexteraenergy.com"](#); ["Richard.hume@fpl.com"](#); ["Navid.Nowakhtar@fmpa.com"](#); ["Chris.Gowder@fmpa.com"](#); ["Susan.Schumann@fmpa.com"](#); ["VerschageJB@gru.com"](#); ["kamdootnt@gru.com"](#); ["GuytML@jea.com"](#); ["BrowRN@JEA.com"](#); ["landsg@jea.com"](#); ["Shankar.Karki@lakelandelectric.com"](#); ["Ted.Leffler@lakelandelectric.com"](#); ["Cindy.Clemmons@LakelandElectric.com"](#); ["HFraser@ouc.com"](#); ["BradKushner@nFrontConsulting.com"](#); ["JDiazgranados@seminole-electric.com"](#); ["jclay@seminole-electric.com"](#); ["Paul.Clark@talgov.com"](#)  
**Cc:** [Doug Wright](#); [Donald Phillips](#); [Phillip Ellis](#); [Laura King](#); [Patti Zellner](#)  
**Subject:** DN 20200000-OT - Review of the 2020 Ten-Year Site Plans for Florida's Electric Utilities - Data Request #1  
**Date:** Friday, March 06, 2020 10:39:01 AM  
**Attachments:** [image002.png](#)  
[DN\\_20200000-OT\\_\(TYSP\)\\_Staff's\\_Data\\_Request\\_#1.docx](#)  
[Data\\_Request\\_#1\\_-\\_Excel\\_Tables.xls](#)

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Dear Utility Representatives,

This year's Ten-Year Site Plan Review process (TYSP Review) will be led by Doug Wright and Donald Phillips in the Florida Public Service Commission's (FPSC) Division of Engineering. Their contact information is as follows:

Doug Wright  
Office: (850)-413-6682  
Email: [dwright@psc.state.fl.us](mailto:dwright@psc.state.fl.us)

Donald Phillips  
Office: (850)-413-6974  
Email: [DPhillip@psc.state.fl.us](mailto:DPhillip@psc.state.fl.us)

Attached is Staff's Data Request #1, 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 Doug Wright and Donald Phillips by **Wednesday, April 1, 2020**.
2. Please email your responses to **all other** questions to Doug Wright and Donald Phillips by **Monday, May 18, 2020**.
  - 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 18, 2020**.
  - a. Navigate to [www.floridapsc.com](http://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. 20200000-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 Doug Wright or Donald Phillips.

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



Enclosure

cc: Office of Commission Clerk (20200000-OT – Undocketed filings for 2020)

### **General Items**

1. Please provide an electronic copy of the Company's Ten-Year Site Plan (TYSP) for the period 2020-2029 (current planning period) in PDF format.
2. Please provide an electronic copy of all schedules and tables in the Company's current planning period TYSP in Microsoft Excel format.
3. 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.

### **Environmental Compliance Costs**

4. 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.

### **Flood Mitigation**

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

### **Load & Demand Forecasting**

6. **[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.

7. 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.
8. 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.
9. 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.
10. 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.
11. 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.
12. 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.

13. 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.
14. 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.
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 Company's Summer/Winter Peak Energy Demand.

16. Please refer to the Company's respective Utility Perspective section in the Commission's "Review of the 2019 Ten-Year Site Plans of Florida's Electric Utilities." Please answer your Company's respective questions below regarding the growth of customers and retail energy sales, of which the associated figure in the Utility Perspective section is based on the values reported on Schedule 2 of your respective Company's 2019 TYSP:

**FPL:**

- a. Please explain, in general, why the Company's growth rate of retail energy sales lags the growth rate of customers starting in 2011.
- b. Please explain why the divergence in the growth rates of customers and retail energy sales increases during the forecast period.
- c. Please identify the drivers which contribute to the sharp fall in the growth rate of retail energy sales in the period 2011-2012 and the decline in the growth rate in 2017, respectively.

**DEF:**

- a. Please explain, in general, why the Company's growth rate of retail energy sales lags the growth rate of customers starting in 2011.
- b. Please explain why the divergence in the growth rates of customers and retail energy sales increases during the forecast period.
- c. Please identify the drivers which contribute to the sharp fall in the growth rate of retail energy sales in the period 2011-2013, the decline in the growth rate in 2017, and the projected decline in the growth rate in 2019, respectively.

**TECO:**

- a. Please explain, in general, why the Company's growth rate of retail energy sales lags the growth rate of customers.
- b. Please explain why the divergence in the growth rates of customers and retail energy sales increases during the forecast period.
- c. Please identify the drivers which contribute to the sharp fall in the growth rate of retail energy in 2011.

**GPC:**

- a. Please explain, in general, why the Company's growth rate of retail energy sales lags the growth rate of customers starting in 2012.
- b. Please explain why the divergence in the growth rates of customers and retail energy sales increases during the forecast period.

- c. Please identify the drivers which contribute to the sharp fall in the growth rate of retail energy sales in the period 2011-2013, the decline in the growth rate in 2017, and the increase in the growth rate in 2018, respectively.

**GRU:**

- a. Please explain, in general, why the Company's growth rate of retail energy sales lags the growth rate of customers starting in 2011.
- b. Please identify the drivers which contribute to the sharp fall in the growth of retail energy sales in the period 2011-2014 and the decline in the growth rate in 2017, respectively.

**JEA:**

- a. Please explain, in general, why the Company's growth rate of retail energy sales lags the growth rate of customers starting in 2011.
- b. Please explain why the divergence in the growth rates of customers and retail energy sales increase during the forecast period.
- c. Please identify the drivers which contribute to the sharp fall in the growth rate of retail energy sales in the period 2011-2013, and the decline in the growth rate in 2017, respectively.

**LAK:**

- a. Please explain, in general, why the Company's growth rate of retail energy sales is projected to lag the growth rate of customers starting in 2020.
- b. Please explain why the divergence in the growth rates of customers and the retail energy sales is projected to increase during the forecast period.
- c. Please identify the drivers which contribute to the sharp fall in the growth rate of retail energy sales in the period 2011-2012, and the relatively high growth rates in 2015 and 2018, respectively.

**OUC:**

- a. Please explain, in general, why the Company's growth rate of retail energy sales lags the growth rate of customers.
- b. Please identify the drivers which contribute to the decline in the growth rate of retail energy sales in 2012 and 2017, respectively.



**SEC:**

- a. Please explain, in general, why the Company's growth rate of retail energy sales lags the growth rate of customers starting in 2011.
- b. Please identify the drivers which contribute to the sharp fall in the growth rate of retail energy sales in the period 2010-2014, and the decline in the growth rate in 2017, respectively.

**TAL:**

- a. Please explain, in general, why the Company's growth rate of retail energy sales lags the growth rate of customers starting in 2012.
- b. Please explain why the divergence in the growth rates of customers and retail energy sales is projected to increase during the forecast period.
- c. Please identify the drivers which contribute to the sharp fall in the growth rate of retail energy sales in the period 2010-2013, and the decline in the growth rate in 2017, respectively.

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 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?
19. 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.

20. 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. "Quick-charge" PEV charging stations are those that require a service drop greater than 240 volts and/or use three-phase power.
21. 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.
22. Please describe how the Company monitors the installation of PEV public charging stations in its service area.
23. 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.
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. 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?
26. **[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.
27. **[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.
28. **[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.

### **Generation & Transmission**

29. 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.
30. 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.
31. 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.
32. 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.
33. 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?
34. 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.

35. 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.
36. 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.
37. 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.
38. 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?
39. 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.
40. 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.
41. Please list and discuss any long-term power sale agreements within the past year that were cancelled, expired, or modified.
42. 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.

43. **[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.
44. Please describe any actions the Company engages in to encourage production of renewable energy within its service territory.
45. **[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.
46. 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.
47. Please identify whether a declining trend in costs of energy storage technologies has been observed by the Company.
48. Briefly discuss any progress in the development and commercialization of non-lithium battery storage technology the Company has observed in recent years.
49. 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).

50. Please explain whether ratepayers have expressed interest in energy storage technologies. If so, how have their interests been addressed?
51. 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.
52. 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.
53. 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.
54. 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.
  - a. 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.
55. 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.
56. 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.

57. **[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.
58. 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.
59. 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.
60. 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.
61. **[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.
62. 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.
63. 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.
64. 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.

**Environmental**

65. 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.
66. 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.
67. 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.
  - g. Effluent Limitations Guidelines and Standards (ELGS) from the Steam Electric Power Generating Point Source Category.



68. 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.
69. 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.
70. 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.
71. 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**

72. 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.
73. Please discuss how the Company compares its fuel price forecasts to recognized, authoritative independent forecasts.
74. 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)

75. Please identify and discuss steps that the Company has taken to ensure natural gas supply availability and transportation over the current planning period.
76. 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.
77. 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.
78. Please identify and discuss the Company's plans for the use of firm natural gas storage during the current planning period.
79. 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.
80. 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.
81. 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.
82. Please identify and discuss expected uranium production industry trends and factors that will affect the Company during the current planning period.

**Existing Generating Unit Operating Performance**

| Plant Name | Unit No. | Planned Outage Factor<br>(POF) |           | Forced Outage Factor<br>(FOF) |           | Equivalent Availability Factor<br>(EAF) |           | Average Net Operating<br>Heat Rate (ANOHR) |           |
|------------|----------|--------------------------------|-----------|-------------------------------|-----------|---|-----------|--|-----------|
|            |          | Historical                     | Projected | Historical                    | Projected | Historical                              | Projected | Historical                                 | Projected |

---

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

**Nominal, Firm Purchases**

| Year             | Firm Purchases |              |
|------------------|----------------|--------------|
|                  | \$/MWh         | Escalation % |
| <b>HISTORY:</b>  |                |              |
| 2017             |                |              |
| 2018             |                |              |
| 2019             |                |              |
| <b>FORECAST:</b> |                |              |
| 2020             |                |              |
| 2021             |                |              |
| 2022             |                |              |
| 2023             |                |              |
| 2024             |                |              |
| 2025             |                |              |
| 2026             |                |              |
| 2027             |                |              |
| 2028             |                |              |
| 2029             |                |              |

**Financial Assumptions**

**Base Case**

AFUDC RATE \_\_\_\_\_ %  
CAPITALIZATION RATIOS:  
    DEBT \_\_\_\_\_ %  
    PREFERRED \_\_\_\_\_ %  
    EQUITY \_\_\_\_\_ %  
RATE OF RETURN  
    DEBT \_\_\_\_\_ %  
    PREFERRED \_\_\_\_\_ %  
    EQUITY \_\_\_\_\_ %  
INCOME TAX RATE:  
    STATE \_\_\_\_\_ %  
    FEDERAL \_\_\_\_\_ %  
    EFFECTIVE \_\_\_\_\_ %  
OTHER TAX RATE: \_\_\_\_\_ %  
DISCOUNT RATE: \_\_\_\_\_ %  
TAX  
DEPRECIATION RATE: \_\_\_\_\_ %

**Financial Escalation Assumptions**

|      | General   | Plant Construction | Fixed O&M | Variable O&M |
|------|-----------|--------------------|-----------|--------------|
|      | Inflation | Cost               | Cost      | Cost         |
| Year | %         | %                  | %         | %            |
| 2020 |           |                    |           |              |
| 2021 |           |                    |           |              |
| 2022 |           |                    |           |              |
| 2023 |           |                    |           |              |
| 2024 |           |                    |           |              |
| 2025 |           |                    |           |              |
| 2026 |           |                    |           |              |
| 2027 |           |                    |           |              |
| 2028 |           |                    |           |              |
| 2029 |           |                    |           |              |

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

| Year | Annual Isolated                          |   |                                      | Annual Assisted                          |   |                                      |
|------|--|---|--------------------------------------|--|---|--------------------------------------|
|      | Loss of Load<br>Probability<br>(Days/Yr) | Reserve Margin (%)<br>(Including Firm<br>Purchases) | Expected<br>Unserved Energy<br>(MWh) | Loss of Load<br>Probability<br>(Days/Yr) | Reserve Margin (%)<br>(Including Firm<br>Purchases) | Expected<br>Unserved Energy<br>(MWh) |
| 2020 |  |   |                                      |  |   |                                      |
| 2021 |  |   |                                      |  |   |                                      |
| 2022 |  |   |                                      |  |   |                                      |
| 2023 |  |   |                                      |  |   |                                      |
| 2024 |  |   |                                      |  |   |                                      |
| 2025 |  |   |                                      |  |   |                                      |
| 2026 |  |   |                                      |  |   |                                      |
| 2027 |  |   |                                      |  |   |                                      |
| 2028 |  |   |                                      |  |   |                                      |
| 2029 |  |   |                                      |  |   |                                      |









TYSP Year                    2020  
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| Year                 | Month | Actual<br>Peak<br>Demand | Demand<br>Response<br>Activated | Estimated<br>Peak<br>Demand | Day | Hour | System-<br>Average<br>Temperature |
|----------------------|-------|--------------------------|---------------------------------|-----------------------------|-----|------|-----------------------------------|
|                      |       | (MW)                     | (MW)                            | (MW)                        |     |      | (Degrees F)                       |
| 2019                 | 1     |                          |                                 |                             |     |      |                                   |
|                      | 2     |                          |                                 |                             |     |      |                                   |
|                      | 3     |                          |                                 |                             |     |      |                                   |
|                      | 4     |                          |                                 |                             |     |      |                                   |
|                      | 5     |                          |                                 |                             |     |      |                                   |
|                      | 6     |                          |                                 |                             |     |      |                                   |
|                      | 7     |                          |                                 |                             |     |      |                                   |
|                      | 8     |                          |                                 |                             |     |      |                                   |
|                      | 9     |                          |                                 |                             |     |      |                                   |
|                      | 10    |                          |                                 |                             |     |      |                                   |
|                      | 11    |                          |                                 |                             |     |      |                                   |
|                      | 12    |                          |                                 |                             |     |      |                                   |
| 2018                 | 1     |                          |                                 |                             |     |      |                                   |
|                      | 2     |                          |                                 |                             |     |      |                                   |
|                      | 3     |                          |                                 |                             |     |      |                                   |
|                      | 4     |                          |                                 |                             |     |      |                                   |
|                      | 5     |                          |                                 |                             |     |      |                                   |
|                      | 6     |                          |                                 |                             |     |      |                                   |
|                      | 7     |                          |                                 |                             |     |      |                                   |
|                      | 8     |                          |                                 |                             |     |      |                                   |
|                      | 9     |                          |                                 |                             |     |      |                                   |
|                      | 10    |                          |                                 |                             |     |      |                                   |
|                      | 11    |                          |                                 |                             |     |      |                                   |
|                      | 12    |                          |                                 |                             |     |      |                                   |
| 2017                 | 1     |                          |                                 |                             |     |      |                                   |
|                      | 2     |                          |                                 |                             |     |      |                                   |
|                      | 3     |                          |                                 |                             |     |      |                                   |
|                      | 4     |                          |                                 |                             |     |      |                                   |
|                      | 5     |                          |                                 |                             |     |      |                                   |
|                      | 6     |                          |                                 |                             |     |      |                                   |
|                      | 7     |                          |                                 |                             |     |      |                                   |
|                      | 8     |                          |                                 |                             |     |      |                                   |
|                      | 9     |                          |                                 |                             |     |      |                                   |
|                      | 10    |                          |                                 |                             |     |      |                                   |
|                      | 11    |                          |                                 |                             |     |      |                                   |
|                      | 12    |                          |                                 |                             |     |      |                                   |
| <b>Notes</b>         |       |                          |                                 |                             |     |      |                                   |
| (Include Notes Here) |       |                          |                                 |                             |     |      |                                   |

TYSP Year                    2020  
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| Year                 | Number of PEVs | Number of Public PEV Charging Stations | Number of Public "Quick-charge" PEV Charging Stations | Cumulative Impact of PEVs |               |               |
|----------------------|----------------|--|---|---------------------------|---------------|---------------|
|                      |                |  |   | Summer Demand             | Winter Demand | Annual Energy |
|                      |                |  |   | (MW)                      | (MW)          | (GWh)         |
| 2020                 |                |  |   |                           |               |               |
| 2021                 |                |  |   |                           |               |               |
| 2022                 |                |  |   |                           |               |               |
| 2023                 |                |  |   |                           |               |               |
| 2024                 |                |  |   |                           |               |               |
| 2025                 |                |  |   |                           |               |               |
| 2026                 |                |  |   |                           |               |               |
| 2027                 |                |  |   |                           |               |               |
| 2028                 |                |  |   |                           |               |               |
| 2029                 |                |  |   |                           |               |               |
| <b>Notes</b>         |                |  |   |                           |               |               |
| (Include Notes Here) |                |  |   |                           |               |               |

TYSP Year                    2020  
 Staff's Data Request #        1  
 Question No.                    26

| [Demand Response Source or All Demand Response Sources] |  |                         |     |                     |                     |     |                |                    |     |
|---|--|-------------------------|-----|---------------------|---------------------|-----|----------------|--------------------|-----|
| Year  | Beginning Year:<br>Number of Customers | Available Capacity (MW) |     | New Customers Added | Added Capacity (MW) |     | Customers Lost | Lost Capacity (MW) |     |
|   |  | Sum                     | Win |                     | Sum                 | Win |                | Sum                | Win |
| 2010  |  |                         |     |                     |                     |     |                |                    |     |
| 2011  |  |                         |     |                     |                     |     |                |                    |     |
| 2012  |  |                         |     |                     |                     |     |                |                    |     |
| 2013  |  |                         |     |                     |                     |     |                |                    |     |
| 2014  |  |                         |     |                     |                     |     |                |                    |     |
| 2015  |  |                         |     |                     |                     |     |                |                    |     |
| 2016  |  |                         |     |                     |                     |     |                |                    |     |
| 2017  |  |                         |     |                     |                     |     |                |                    |     |
| 2018  |  |                         |     |                     |                     |     |                |                    |     |
| 2019  |  |                         |     |                     |                     |     |                |                    |     |
| <b>Notes</b>  |  |                         |     |                     |                     |     |                |                    |     |
| (Include Notes Here)                                    |  |                         |     |                     |                     |     |                |                    |     |

TYSP Year                    2020  
 Staff's Data Request #        1  
 Question No.                    27

| [Demand Response Source or All Demand Response Sources] |                  |                    |                     |                    |                     |                  |                    |                     |                    |                     |
|---|------------------|--------------------|---------------------|--------------------|---------------------|------------------|--------------------|---------------------|--------------------|---------------------|
| Year  | Summer           |                    |                     |                    |                     | Winter           |                    |                     |                    |                     |
|   | Number of Events | Average Event Size |                     | Maximum Event Size |                     | Number of Events | Average Event Size |                     | Maximum Event Size |                     |
|   |                  | MW                 | Number of Customers | MW                 | Number of Customers |                  | MW                 | Number of Customers | MW                 | Number of Customers |
| 2010  |                  |                    |                     |                    |                     |                  |                    |                     |                    |                     |
| 2011  |                  |                    |                     |                    |                     |                  |                    |                     |                    |                     |
| 2012  |                  |                    |                     |                    |                     |                  |                    |                     |                    |                     |
| 2013  |                  |                    |                     |                    |                     |                  |                    |                     |                    |                     |
| 2014  |                  |                    |                     |                    |                     |                  |                    |                     |                    |                     |
| 2015  |                  |                    |                     |                    |                     |                  |                    |                     |                    |                     |
| 2016  |                  |                    |                     |                    |                     |                  |                    |                     |                    |                     |
| 2017  |                  |                    |                     |                    |                     |                  |                    |                     |                    |                     |
| 2018  |                  |                    |                     |                    |                     |                  |                    |                     |                    |                     |
| 2019  |                  |                    |                     |                    |                     |                  |                    |                     |                    |                     |
| Notes   |                  |                    |                     |                    |                     |                  |                    |                     |                    |                     |
| (Include Notes Here)                                    |                  |                    |                     |                    |                     |                  |                    |                     |                    |                     |

TYSP Year                    2020  
 Staff's Data Request #        1  
 Question No.                    28

| [Demand Response Source or All Demand Response Sources] |                             |                        |                               |                    |                        |                               |                    |
|---|-----------------------------|------------------------|-------------------------------|--------------------|------------------------|-------------------------------|--------------------|
| Year  | Average Number of Customers | Summer Peak            |                               |                    | Winter Peak            |                               |                    |
|   |                             | Activated During Peak? | Number of Customers Activated | Capacity Activated | Activated During Peak? | Number of Customers Activated | Capacity Activated |
|   |                             | (Y/N)                  |                               | (MW)               | (Y/N)                  |                               | (MW)               |
| 2010  |                             |                        |                               |                    |                        |                               |                    |
| 2011  |                             |                        |                               |                    |                        |                               |                    |
| 2012  |                             |                        |                               |                    |                        |                               |                    |
| 2013  |                             |                        |                               |                    |                        |                               |                    |
| 2014  |                             |                        |                               |                    |                        |                               |                    |
| 2015  |                             |                        |                               |                    |                        |                               |                    |
| 2016  |                             |                        |                               |                    |                        |                               |                    |
| 2017  |                             |                        |                               |                    |                        |                               |                    |
| 2018  |                             |                        |                               |                    |                        |                               |                    |
| 2019  |                             |                        |                               |                    |                        |                               |                    |
| <b>Notes</b>  |                             |                        |                               |                    |                        |                               |                    |
| (Include Notes Here)                                    |                             |                        |                               |                    |                        |                               |                    |

TYSP Year 2020  
 Staff's Data Request # 1  
 Question No. 29

| 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>Notes</b>         |          |                 |           |              |                       |    |                     |     |                   |     |                    |     |                 |
| (Include Notes Here) |          |                 |           |              |                       |    |                     |     |                   |     |                    |     |                 |



TYSP Year                    2020  
 Staff's Data Request #        1  
 Question No.                    30

| 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>Notes</b>         |          |                 |           |              |                       |    |                     |     |                   |     |                    |     |                               |
| (Include Notes Here) |          |                 |           |              |                       |    |                     |     |                   |     |                    |     |                               |

TYSP Year                    2020  
 Staff's Data Request #        1  
 Question No.                    31

| 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>Notes</b>         |          |                 |           |              |                       |    |                     |     |                   |     |                    |     |                 |
| (Include Notes Here) |          |                 |           |              |                       |    |                     |     |                   |     |                    |     |                 |

TYSP Year                    2020  
 Staff's Data Request #        1  
 Question No.                    32

| 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>Notes</b>         |          |                 |           |              |                       |    |                     |     |                   |     |                    |     |                               |
| (Include Notes Here) |          |                 |           |              |                       |    |                     |     |                   |     |                    |     |                               |

TYSP Year                    2020  
 Staff's Data Request #        1  
 Question No.                    34

| 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>         |               |          |                 |           |              |                     |     |                   |     |                               |     |                             |     |
| (Include Notes Here) |               |          |                 |           |              |                     |     |                   |     |                               |     |                             |     |

TYSP Year                    2020  
 Staff's Data Request #        1  
 Question No.                    35

| 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>         |               |          |                 |           |              |                     |     |                   |     |                               |     |                             |     |
| (Include Notes Here) |               |          |                 |           |              |                     |     |                   |     |                               |     |                             |     |

TYSP Year                    2020  
 Staff's Data Request #       1  
 Question No.                   36

| 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>         |               |          |                 |           |              |                     |     |                   |     |                               |     |                             |     |
| (Include Notes Here) |               |          |                 |           |              |                     |     |                   |     |                               |     |                             |     |

TYSP Year                    2020  
 Staff's Data Request #       1  
 Question No.                   37

| 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>         |               |          |                 |           |              |                     |     |                   |     |                               |     |                             |     |
| (Include Notes Here) |               |          |                 |           |              |                     |     |                   |     |                               |     |                             |     |

TYSP Year                    2020  
 Staff's Data Request #        1  
 Question No.                    39

| 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 |
|                      |               |          |                 |           |              |                     |     |                   |     |                               |     |                             |     |
| <b>Notes</b>         |               |          |                 |           |              |                     |     |                   |     |                               |     |                             |     |
| (Include Notes Here) |               |          |                 |           |              |                     |     |                   |     |                               |     |                             |     |



TYSP Year                    2020  
 Staff's Data Request #        1  
 Question No.                    40

| 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 |
|                      |               |          |                 |           |              |                     |     |                   |     |                               |     |                             |     |
| <b>Notes</b>         |               |          |                 |           |              |                     |     |                   |     |                               |     |                             |     |
| (Include Notes Here) |               |          |                 |           |              |                     |     |                   |     |                               |     |                             |     |

TYSP Year                      2020  
 Staff's Data Request #        1  
 Question No.                    42

| Renewable Source     | Annual Renewable Generation (GWh) |           |      |      |      |      |      |      |      |      |      |  |
|----------------------|-----------------------------------|-----------|------|------|------|------|------|------|------|------|------|--|
|                      | Actual                            | Projected |      |      |      |      |      |      |      |      |      |  |
|                      | 2019                              | 2020      | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 |  |
| Utility - Firm       |                                   |           |      |      |      |      |      |      |      |      |      |  |
| Utility - Non-Firm   |                                   |           |      |      |      |      |      |      |      |      |      |  |
| Utility - Co-Firing  |                                   |           |      |      |      |      |      |      |      |      |      |  |
| Purchase - Firm      |                                   |           |      |      |      |      |      |      |      |      |      |  |
| Purchase - Non-Firm  |                                   |           |      |      |      |      |      |      |      |      |      |  |
| Purchase - Co-Firing |                                   |           |      |      |      |      |      |      |      |      |      |  |
| Customer - Owned     |                                   |           |      |      |      |      |      |      |      |      |      |  |
| Total                |                                   |           |      |      |      |      |      |      |      |      |      |  |
| Notes                |                                   |           |      |      |      |      |      |      |      |      |      |  |
| (Include Notes Here) |                                   |           |      |      |      |      |      |      |      |      |      |  |

TYSP Year 2020  
Staff's Data Request # 1  
Question No. 43

| Plant Name | Land Available<br>(Acres) | Potential Installed<br>Net Capacity<br>(MW) | Potential Obstacles to Installation |
|------------|---------------------------|---|-------------------------------------|
|            |                           |   |                                     |
|            |                           |   |                                     |
|            |                           |   |                                     |

TYSP Year 2020  
Staff's Data Request # 1  
Question No. 51

| Project Name | Pilot Program (Y/N) | In-Service/ Pilot Start Date (MM/YY) | Max Capacity Output (MW) | Max Energy Stored (MHh) | Conversion Efficiency (%) |
|--------------|---------------------|--------------------------------------|--------------------------|-------------------------|---------------------------|
|              |                     |                                      |                          |                         |                           |
|              |                     |                                      |                          |                         |                           |
|              |                     |                                      |                          |                         |                           |
|              |                     |                                      |                          |                         |                           |
|              |                     |                                      |                          |                         |                           |
|              |                     |                                      |                          |                         |                           |
|              |                     |                                      |                          |                         |                           |
|              |                     |                                      |                          |                         |                           |
|              |                     |                                      |                          |                         |                           |
|              |                     |                                      |                          |                         |                           |

**Notes**  
(Include Notes Here)

TYSP Year                    2020  
Staff's Data Request #       1  
Question No.                 52

| Project Name | Pilot Program (Y/N) | In-Service/ Pilot Start Date (MM/YY) | Projected Max Capacity Output (MW) | Projected Max Energy Stored (MHh) | Projected Conversion Efficiency (%) |
|--------------|---------------------|--------------------------------------|------------------------------------|-----------------------------------|-------------------------------------|
|              |                     |                                      |                                    |                                   |                                     |
|              |                     |                                      |                                    |                                   |                                     |
|              |                     |                                      |                                    |                                   |                                     |
|              |                     |                                      |                                    |                                   |                                     |
|              |                     |                                      |                                    |                                   |                                     |
|              |                     |                                      |                                    |                                   |                                     |
|              |                     |                                      |                                    |                                   |                                     |
|              |                     |                                      |                                    |                                   |                                     |
|              |                     |                                      |                                    |                                   |                                     |
|              |                     |                                      |                                    |                                   |                                     |

**Notes**  
(Include Notes Here)

TYSP Year                    2020  
 Staff's Data Request #        1  
 Question No.                    57

| Year                 |      | As-Available<br>Energy<br>(\$/MWh) | On-Peak<br>Average<br>(\$/MWh) | Off-Peak<br>Average<br>(\$/MWh) |
|----------------------|------|------------------------------------|--------------------------------|---------------------------------|
| Actual               | 2010 |                                    |                                |                                 |
|                      | 2011 |                                    |                                |                                 |
|                      | 2012 |                                    |                                |                                 |
|                      | 2013 |                                    |                                |                                 |
|                      | 2014 |                                    |                                |                                 |
|                      | 2015 |                                    |                                |                                 |
|                      | 2016 |                                    |                                |                                 |
|                      | 2017 |                                    |                                |                                 |
|                      | 2018 |                                    |                                |                                 |
|                      | 2019 |                                    |                                |                                 |
| Projected            | 2020 |                                    |                                |                                 |
|                      | 2021 |                                    |                                |                                 |
|                      | 2022 |                                    |                                |                                 |
|                      | 2023 |                                    |                                |                                 |
|                      | 2024 |                                    |                                |                                 |
|                      | 2025 |                                    |                                |                                 |
|                      | 2026 |                                    |                                |                                 |
|                      | 2027 |                                    |                                |                                 |
|                      | 2028 |                                    |                                |                                 |
|                      | 2029 |                                    |                                |                                 |
| <b>Notes</b>         |      |                                    |                                |                                 |
| (Include Notes Here) |      |                                    |                                |                                 |

TYSP Year                    2020  
 Staff's Data Request #        1  
 Question No.                    58

| 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>            |                      |                                     |                |                         |
|  |                      |                                     |                |                         |
| <b>Combustion Turbine Unit Additions</b> |                      |                                     |                |                         |
|  |                      |                                     |                |                         |
| <b>Combined Cycle Unit Additions</b>     |                      |                                     |                |                         |
|  |                      |                                     |                |                         |
| <b>Steam Turbine Unit Additions</b>      |                      |                                     |                |                         |
|  |                      |                                     |                |                         |
| <b>Notes</b>                             |                      |                                     |                |                         |
| (Include Notes Here)                     |                      |                                     |                |                         |

TYSP Year                    2020  
 Staff's Data Request #       1  
 Question No.                   60

| Plant                | Unit No. | Unit Type | Fuel Type | Capacity Factor (%) |           |      |      |      |      |      |      |      |      |      |  |  |
|----------------------|----------|-----------|-----------|---------------------|-----------|------|------|------|------|------|------|------|------|------|--|--|
|                      |          |           |           | Actual              | Projected |      |      |      |      |      |      |      |      |      |  |  |
|                      |          |           |           | 2019                | 2020      | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 |  |  |
|                      |          |           |           |                     |           |      |      |      |      |      |      |      |      |      |  |  |
| <b>Notes</b>         |          |           |           |                     |           |      |      |      |      |      |      |      |      |      |  |  |
| (Include Notes Here) |          |           |           |                     |           |      |      |      |      |      |      |      |      |      |  |  |



TYSP Year                    2020  
Staff's Data Request #        1  
Question No.                    62

| Plant Name           | Fuel Type | Summer Capacity (MW) | In-Service Date (MM/YYYY) | Potential Conversion | Potential Issues |
|----------------------|-----------|----------------------|---------------------------|----------------------|------------------|
|                      |           |                      |                           |                      |                  |
|                      |           |                      |                           |                      |                  |
|                      |           |                      |                           |                      |                  |
| <b>Notes</b>         |           |                      |                           |                      |                  |
| (Include Notes Here) |           |                      |                           |                      |                  |

TYSP Year                    2020  
Staff's Data Request #        1  
Question No.                    63

| Plant Name           | Fuel Type | Summer Capacity (MW) | In-Service Date (MM/YYY) | Potential Conversion | Potential Issues |
|----------------------|-----------|----------------------|--------------------------|----------------------|------------------|
|                      |           |                      |                          |                      |                  |
|                      |           |                      |                          |                      |                  |
|                      |           |                      |                          |                      |                  |
| <b>Notes</b>         |           |                      |                          |                      |                  |
| (Include Notes Here) |           |                      |                          |                      |                  |

TYSP Year                    2020  
 Staff's Data Request #        1  
 Question No.                    64

| Transmission Line    | Line Length | Nominal Voltage | Date Need | Date TLSA | In-Service Date |
|----------------------|-------------|-----------------|-----------|-----------|-----------------|
|                      | (Miles)     | (kV)            | Approved  | Certified |                 |
|                      |             |                 |           |           |                 |
|                      |             |                 |           |           |                 |
|                      |             |                 |           |           |                 |
| <b>Notes</b>         |             |                 |           |           |                 |
| (Include Notes Here) |             |                 |           |           |                 |

TYSP Year                                  2020  
 Staff's Data Request #                    1  
 Question No.                                 66 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 |
| 2019                 |   |           |            |             |
| 2020                 |   |           |            |             |
| 2021                 |   |           |            |             |
| 2022                 |   |           |            |             |
| 2023                 |   |           |            |             |
| 2024                 |   |           |            |             |
| 2025                 |   |           |            |             |
| 2026                 |   |           |            |             |
| 2027                 |   |           |            |             |
| 2028                 |   |           |            |             |
| <b>Notes</b>         |   |           |            |             |
| (Include Notes Here) |   |           |            |             |

TYSP Year                    2020  
 Staff's Data Request #        1  
 Question No.                    68

| Unit                 | Unit Type | Fuel Type | Net Summer Capacity (MW) | Estimated EPA Rule Impacts: Operational Effects |     |      |            |      |                     |               |
|----------------------|-----------|-----------|--------------------------|---|-----|------|------------|------|---------------------|---------------|
|                      |           |           |                          | ELGS  | ACE | MATS | CSAPR/CAIR | CWIS | CCR                 |               |
|                      |           |           |                          |   |     |      |            |      | Non-Hazardous Waste | Special Waste |
|                      |           |           |                          |   |     |      |            |      |                     |               |
|                      |           |           |                          |   |     |      |            |      |                     |               |
| <b>Notes</b>         |           |           |                          |   |     |      |            |      |                     |               |
| (Include Notes Here) |           |           |                          |   |     |      |            |      |                     |               |

TYSP Year                    2020  
 Staff's Data Request #       1  
 Question No.                 69

| Unit                 | Unit Type | Fuel Type | Net Summer Capacity (MW) | Estimated EPA Rule Impacts: Cost Effects (CPVRR \$ millions) |     |      |            |      |                     |               |
|----------------------|-----------|-----------|--------------------------|--|-----|------|------------|------|---------------------|---------------|
|                      |           |           |                          | ELGS   | ACE | MATS | CSAPR/CAIR | CWIS | CCR                 |               |
|                      |           |           |                          |  |     |      |            |      | Non-Hazardous Waste | Special Waste |
|                      |           |           |                          |  |     |      |            |      |                     |               |
|                      |           |           |                          |  |     |      |            |      |                     |               |
|                      |           |           |                          |  |     |      |            |      |                     |               |
| <b>Notes</b>         |           |           |                          |  |     |      |            |      |                     |               |
| (Include Notes Here) |           |           |                          |  |     |      |            |      |                     |               |

TYSP Year                    2020  
 Staff's Data Request #       1  
 Question No.                 70

| Unit                 | Unit Type | Fuel Type | Net Summer Capacity (MW) | Estimated EPA Rule Impacts: Unit Availability (Month/Year - Duration) |     |      |            |      |                     |               |
|----------------------|-----------|-----------|--------------------------|---|-----|------|------------|------|---------------------|---------------|
|                      |           |           |                          | ELGS  | ACE | MATS | CSAPR/CAIR | CWIS | CCR                 |               |
|                      |           |           |                          |   |     |      |            |      | Non-Hazardous Waste | Special Waste |
|                      |           |           |                          |   |     |      |            |      |                     |               |
|                      |           |           |                          |   |     |      |            |      |                     |               |
| <b>Notes</b>         |           |           |                          |   |     |      |            |      |                     |               |
| (Include Notes Here) |           |           |                          |   |     |      |            |      |                     |               |

TYSP Year                    2020  
 Staff's Data Request #        1  
 Question No.                    72

| Year                 |      | Uranium |          | Coal |          | Natural Gas |          | Residual Oil |          | Distillate Oil |          |
|----------------------|------|---------|----------|------|----------|-------------|----------|--------------|----------|----------------|----------|
|                      |      | GWh     | \$/MMBTU | GWh  | \$/MMBTU | GWh         | \$/MMBTU | GWh          | \$/MMBTU | GWh            | \$/MMBTU |
| Actual               | 2010 |         |          |      |          |             |          |              |          |                |          |
|                      | 2011 |         |          |      |          |             |          |              |          |                |          |
|                      | 2012 |         |          |      |          |             |          |              |          |                |          |
|                      | 2013 |         |          |      |          |             |          |              |          |                |          |
|                      | 2014 |         |          |      |          |             |          |              |          |                |          |
|                      | 2015 |         |          |      |          |             |          |              |          |                |          |
|                      | 2016 |         |          |      |          |             |          |              |          |                |          |
|                      | 2017 |         |          |      |          |             |          |              |          |                |          |
|                      | 2018 |         |          |      |          |             |          |              |          |                |          |
| Projected            | 2019 |         |          |      |          |             |          |              |          |                |          |
|                      | 2020 |         |          |      |          |             |          |              |          |                |          |
|                      | 2021 |         |          |      |          |             |          |              |          |                |          |
|                      | 2022 |         |          |      |          |             |          |              |          |                |          |
|                      | 2023 |         |          |      |          |             |          |              |          |                |          |
|                      | 2024 |         |          |      |          |             |          |              |          |                |          |
|                      | 2025 |         |          |      |          |             |          |              |          |                |          |
|                      | 2026 |         |          |      |          |             |          |              |          |                |          |
|                      | 2027 |         |          |      |          |             |          |              |          |                |          |
|                      | 2028 |         |          |      |          |             |          |              |          |                |          |
| 2029                 |      |         |          |      |          |             |          |              |          |                |          |
| Notes                |      |         |          |      |          |             |          |              |          |                |          |
| (Include Notes Here) |      |         |          |      |          |             |          |              |          |                |          |