Seminole Electric
COOPERATIVE, INC.

May 17, 2021

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

Dear Mr. Teitzman:

Pursuant to Staff's email request dated March 16, 2021, Seminole Electric Cooperative, Inc. hereby submits for electronic filing the response to 2021 Ten-Year Site Plans for Florida's Electric Utilities Supplemental #1.

Please do not hesitate to call me if you have any questions or comments.

Sincerely,

Joseph D. Clay
Manager of Resource Planning and Risk Control
813-739-1435 (office)
jclay@seminole-electric.com

Enclosure

cc: J. Diazgranados
J. Fuller
L. Johnson

General Items

1. Please provide an electronic copy of the Company's Ten-Year Site Plan (TYSP) for the period 2021-2030 (current planning period) in PDF format.

   Submitted electronically with 2021 TYSP.

2. Please provide an electronic copy of all schedules and tables in the Company's current planning period TYSP in Microsoft Excel format.

   Submitted electronically with 2021 TYSP.

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.

   Please see Excel tables.

Environmental Compliance Costs

4. Please explain if the Company assumes CO_2 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_2 compliance costs are first assumed to have a non-zero value.

      Seminole does not include CO_2 compliance costs in the resource planning process.

   b. **[Investor-Owned Utilities Only]** Please explain if the exclusion of CO_2 compliance costs would result in a different resource plan than that presented in the Company's current planning period TYSP.

      Not applicable.

   c. **[Investor-Owned Utilities Only]** Please provide a revised resource plan assuming no CO_2 compliance costs.

      Not applicable.

Flood Mitigation

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

   Each of SECI's generating sites were (and remain) licensed through regulatory programs associated with Florida's Power Plant Siting Act. Appropriate siting with respect to federally defined flood zones, along with local government review of applicable requirements are incorporated within the PPSA Certification process. The potential for flooding of a solely-owned transmission substation is evaluated during the design phase.

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.

   Not applicable.

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.

   Please see Excel tables.

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.

   The stations used to calculate Seminole's system-wide temperature are:
   - *K40J*
   - *KBKV*
   - *KBOW*
   - *KCTY*
   - *KGNV*
   - *KJAX*
   - *KLEE*
   - *KOCF*
   - *KPGD*

- *KRSW*
- *KSFB*
- *KSGJ*
- *KSRQ*
- *KTLH*
- *KVDF*
- *KVLD*
- *KVQQ*
- *KVVG*

Please note that Seminole's system-wide temperature is used for reporting only and is not utilized in the load forecasting process, since each Member Cooperative is forecasted separately.

Seminole purchases hourly weather data from AccuWeather for 25 stations in and around the Member service territory. Each Member has a unique combination of weather stations selected to create their weather statistics. The optimal set of weather stations are derived by ranking the predictive power of each station's temperature reading to estimate electricity load and then re-estimating load based on combinatory sets of stations ranked from lowest to highest mean average percentage error (MAPE). The set that achieves the lowest MAPE is chosen as the optimal combination. The analysis is conducted using generalized linear models and combinations are derived by the simple average of hourly station data. Please see 2021 Ten Year Site Plan section 3.3.2. for additional information.

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.

   See Ten-Year Site Plan, section 3.1 for general forecasting methodology, and sections 3.1.1, 3.1.2 and 3.1.3 for consumer, energy and demand forecast methodology, respectively.

   See-Ten Year Site Plan, section 3.3 for forecast assumptions.

   See Ten-Year Site Plan section, 3.2 for forecast data sources.

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.

    Not applicable.

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.

       Not applicable

    b. If your response is negative, please explain why.

       Seminole updated its forecast methodology beginning in 2014 and does not compare errors results of forecasts generated before that period. Seminole has developed ex-post forecast error analyses on load forecast studies since 2015. Seminole's "after-the-event" evaluation of model error with observed (actual) explanatory variable data removes the error associated with long-term forecasts of weather and economy, providing valuable insight into model improvements. Seminole conducts this analysis with all available information one year after the forecast origin. In other words, we re-forecast the model with actual, observed data, rather than the forecast data. This provides an indication of whether load forecast error is due to Seminole's forecasting methodology or simply due to the fact that weather and economy forecasts are never perfect. Seminole conducts this analysis on a monthly resolution, which provides a higher temporal resolution than focusing on one individual observation such as the winter or summer peak, or annual energy. Since 2015, Seminole has conducted ex-post analyses. Seminole calculates the error between actual load and ex-post load forecasts for each month and the Mean Absolute Percentage Error (MAPE) across all months. MAPE is a widely-used error measure in business forecasting, including load forecasting.

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.

       Not applicable.

b. If your response is negative, please explain why.

Seminole updated its forecast methodology beginning in 2014 and does not compare errors results of forecasts generated before that period. Seminole has developed ex-post forecast error analyses on load forecast studies since 2015. Seminole's "after-the-event" evaluation of model error with observed (actual) explanatory variable data removes the error associated with long-term forecasts of weather and economy, providing valuable insight into model improvements. Seminole conducts this analysis with all available information one year after the forecast origin. In other words, we re-forecast the model with actual, observed data, rather than the forecast data. This provides an indication of whether load forecast error is due to Seminole's forecasting methodology or simply due to the fact that weather and economy forecasts are never perfect. Seminole conducts this analysis on a monthly resolution, which provides a higher temporal resolution than focusing on one individual observation such as the winter or summer peak, or annual energy. Since 2015, Seminole has conducted ex-post analyses. Seminole calculates the error between actual load and ex-post load forecasts for each month and the Mean Absolute Percentage Error (MAPE) across all months. MAPE is a widely-used error measure in business forecasting, including load forecasting.

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.

    See Ten-Year Site Plan, section 3.3.1 for economic assumptions.

    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.

    See Ten-Year Site Plan, section 3.3.1 for usage 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.

    See Ten-Year Site Plan, sections 3.2, 3.3.1, and 5.9 for assumptions.

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.

Seminole developed projections of behind-the-meter solar output from future installations for each of its nine Members, and reduced energy and demand forecasts by these results. Outputs from existing behind-the-meter solar installations are reflected in actual energy and demand load history. Therefore, the solar forecasts reflect only future increases in solar output. Existing generation is almost exclusively residential and forecasts are assumed to reflect residential-scale adoption.

See Ten-Year Site Plan, section 3.1.5 for behind-the-meter solar details.

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.

See Ten-Year Site Plan, section 5.9 DSM Programs for an explanation of the types of programs Seminole employs with Members to reduce trends in cost of service

c. **Total Demand**, and identify the major factors (historically, currently, and in the forecasted period) that contribute to the growth/decline in the trends.

See Ten-Year Site Plan, section 3.3.1 for economic assumptions

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.

See Ten-Year Site Plan, section 3.3.1 for economic assumptions

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.

A former Member of Seminole, Lee County Electric Cooperative (LCEC), discontinued purchasing power from Seminole in 2014 and began purchasing from Florida Power and Light. The first phase of LCEC's withdrawal from the Seminole system began in 2010. The significant reduction in Seminole's load due to LCEC's departure must be considered when interpreting the results of the load forecast with respect to historical figures.

16. **[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.

Not applicable.

17. 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?

Electric vehicle loads are not modeled in the demand and energy forecasts for the 2021 Ten-Year Site Plan.

18. 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.

Not applicable

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

Not applicable

20. 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?

Seminole does not provide service to retail customers. Seminole continues to provide assistance to our Members with educating their consumer-members with respect to the feasibility of electricity as a light- and heavy-duty 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.

While Seminole does not offer any such program at this time, we are working with our Members to determine how they can capture and respond to such sentiments/expectations by their consumer-members.

In addition, Seminole, along with all of Florida's electric cooperatives, supported Florida DEP's Division of Air Resource Management's decision to apply the full fifteen percent (15%) of Florida's allocation of the Volkswagen Settlement. During both Phase 1 and Phase 2 of FDEP's Request for Applications (RFAs) for its competitive grant funding opportunity for electric vehicle charging infrastructure, several Seminole Members submitted applications for eligible EV infrastructure projects in their service territories.

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

Not applicable.

22. 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.

Not applicable.

23. 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.

Seminole established a strategic goal to develop and deliver an electric vehicle education program. To ensure the development of an effective program, Seminole has engaged in research activities with the Electric Power Research Institute (EPRI), participating in their Electric Transportation Advisory Council and Infrastructure Council meetings. As part of these activities, EPRI has provided Seminole insights in the area of Electric Vehicle (EV) registrations and future projection. The data is provided at a county level, i.e. it is not specifically tailored to our Member's service territories since some of our Members serve only county fractions. Also, there is no visibility into where the EVs are exactly (non-stationary load). The county-level data is an estimate based on new registrations of electric vehicles and modeling of the number of electric vehicles in operation (including the movement of used

electric vehicles and electric vehicles that are retired). The projections are also performed using approximations and several assumptions to simulate low, medium, and high EV penetration scenarios. Even though, the localized registration and projections estimates help Seminole and our distribution Members to understand the local adoption of plug-in EVs as part of our education program.

24. 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?

    Not applicable.

25. **[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.

    Not applicable.

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 usage information for 10 years prior to the current planning period. Please also provide a summary of all demand response using the table.

    Not applicable.

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 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.

    Not applicable.

Generation & Transmission

28. 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.

    Please see Excel tables.

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 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.

Please see Excel tables.

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

The Seminole Combined Cycle Facility (SCCF) project is progressing on schedule and on budget. The project is 33% complete overall with construction at 24% complete. Most of the General Electric equipment has arrived on site and is in the process of being installed. The subcontractors for the field erected tanks and Lube Oil Storage Building are complete and demobilized. The subcontractors for the Cooling Tower and field erected buildings (Admin/Control/Maintenance, Warehouse, and Hydrogen Storage) are nearing completion and expect to demobilize in the next few months. The switchyard expansion is trending on schedule with all foundations complete and equipment installation continuing. The 21-mile fuel gas lateral across Putman County is complete (15 months early) and fuel gas in now available. There have been no impacts from COVID on the project to date.

At this time, with respect to the Unnamed Combined Cycle Unit and the Unnamed Reciprocating Unit, it has not determined if the capacity need will be met via self-build, acquisition, and/or purchased power alternatives. The ultimate method, type, size and location (if necessary) will be determined subsequent to the completion of a request-for-proposal.

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 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.

Please see Excel tables.

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 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.

Please see Excel tables.

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

Seminole's long-term planning forecast does not contain planned utility-owned renewable resource.

32. 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?

Not applicable.

33. 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.

Please see Excel tables.

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 pursuant to which energy will begin to be delivered to the Company during the current planning period.

Please see Excel tables.

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

Oleander Power Project, Limited Partnership ("Oleander"), an indirect, wholly owned subsidiary of NextEra Energy Resources, LLC owns and operates a dual fuel, combustion turbine peaking facility in Cocoa, Florida. Oleander and Seminole Electric Cooperative ("Seminole") are currently parties to a power purchase agreement ("PPA") for the purchase of approximately 509 MW of capacity and energy from the Oleander facility that expires on December 31, 2021. Oleander and Seminole have agreed to an extension to the PPA for the sale of the capacity and energy at the facility for three years ending December 31, 2024; specifically, Units 2-3 for January 1, 2022 through December 31, 2024 and Unit 4 for January 1, 2023 through December 31, 2024.

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 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.

Please see Excel tables.

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 pursuant to which energy will begin to be delivered to the Company during the current planning period.

Please see Excel tables.

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

In late 2019, Seminole executed four separate 74.5 MW power purchase agreements with Florida Renewable Partners. Collectively, these agreements will provide Seminole with 298 MW of solar photovoltaic energy from four separate sites. All of these facilities are expected to be commercial and to begin selling energy to Seminole in 2023. The four facilities will be located in different counties within peninsular Florida, with one facility each in Putnam, Gadsden, Columbia and Gilchrist counties. Seminole will be the sole off-taker for all four facilities and will purchase the associated energy for 20-25 years, depending on the site.

37. 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?

There were no cancelled, delayed or reduced in scope purchased power agreements with a renewable generator within the past year.

38. 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.

Please see Excel tables.

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 pursuant to which energy will begin to be delivered from the Company to a third-party during the current planning period.

Please see Excel tables.

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

Seminole's long-term forecast does not include planned power sale agreements.

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

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

41. 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.

Please see Excel tables.

42. **[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.

Not applicable.

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

As reported in Seminole's Standards for the Promotion, Encouragement, and Expansion of the Use of Renewable Energy, Resources and Energy Conservation and Efficiency Measures, filed with the Florida Public Service Commission on 31 March 2021, Seminole maintains a commitment to use renewable energy resources to assist in planning and implementing a diverse power supply portfolio, while ensuring that the addition of new renewable resources does not adversely affect Seminole's wholesale electric rates.

Seminole engages in the following strategies to achieve continuing expansion of its renewable energy resource portfolio:

- *Member Educational Materials – Seminole provides Members with materials that can be distributed to end-use member-consumers including educational brochures, and a video on Cooperative Solar.*
- *Open Door Negotiation Policy – Seminole promotes an open-door policy for arm's-length negotiations with all renewable providers.*
- *Competitive Bid – Seminole continues to utilize competitive bidding as one of the tools for acquiring competitively-priced conventional and renewable resources. All of Seminole's future bid solicitations for non-peaking power supply resources will include the solicitation of renewable energy proposals.*

- *Price Point – Seminole continues to use projected avoided costs as the price point for evaluating proposals for renewable energy.*
- *Ease of Contracting – Seminole continues to offer a standard offer agreement as an option for renewable resource developers to sell their energy output to Seminole, which also includes performance guarantee terms.*
- *Seminole seeks state and federal grants, subsidies, and other financial incentives, to the extent such resources are available to reduce the cost of renewable energy resources.*
- *Seminole monitors the development and costs of new renewable energy resources and renewable energy technologies that can be utilized by Seminole and its Members.*
- *Consumer and Member-Owned Renewable Resources – Seminole's wholesale power contracts with its nine Members provide for net metering service for the Members' consumer-owned renewable generating resources. In addition, Seminole's Members have the ability under the wholesale power contract to own or lease renewable generation with certain limitations.*

44. **[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.

    Not applicable.

45. 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.

    For summer, Seminole counts 60% of each solar facility's anticipated output towards reserves. This percentage was derived by taking the median value of all forecasted hour-ending 16 values for the month of August (the historical summer peak hour during the expected peak month) compared to the max peak output from the facility.

    For winter, solar output does not contribute to reserves as the peak hour is expected to occur at a time when there is little to no sunlight.

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

    Generally, Seminole has monitored the decline in the cost of energy storage past several years. However, the cost has not yet reduced to a level sufficient to view this option as cost effective.

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

    Seminole has monitored different non-lithium solid-state battery chemistries, including sodium sulfur and nickel cadmium, as well as different flow battery technologies, such as vanadium

redox and zinc bromine batteries. There has been a sizable decline in the cost of energy storage over the last years, particularly for lithium-ion based batteries due in part to the proliferation of electric vehicles. However, the cost has not dropped to a level sufficient to view battery systems as cost effective. Both solid state and flow battery technologies are projected to see significant cost declines in the coming years. These cost declines coupled with policy incentives will drive increased demand for battery storage, leading to continued growth in the battery market in coming years. We also foresee that the higher penetration of intermittent solar photovoltaics generation will drive the need to store electricity generated during times it is not immediately needed.

48. 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).

Seminole understands the importance of energy storage systems when applied to different areas of the electrical network. Such applications may defer or reduce the need to build new transmission and distribution assets, new generation assets, or purchase generation capacity in the wholesale market. Application of storage systems in the transmission and distribution network can result in deferral of transformer upgrades or line reconductoring projects. The optimal locational placement for energy storage systems in our grid will vary vastly depending on numerous factors. Those factors include different applications of the energy storage, operational demands, transmission and distribution infrastructure capabilities and limitations, cost/benefits of various value streams, and others.

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

Seminole provides wholesale electric service to our nine not-for-profit distribution cooperative owners and does not serve end-use retail consumers.

50. 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.

Neither energy storage technologies nor energy storage pilot programs are reflected in Seminole's long-term forecast.

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 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.

Seminole currently has no energy storage technology as part of its portfolio of power supply resources, but keeps abreast of industry trends for potential evaluation.

52. 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.

Seminole is continuing a smart thermostat demand response pilot program with our members. While this conservation program does not include physical storage assets and equipment, it allows us to pre-heat and pre-cool homes at times of low energy demand so that the homes would not be running their heating and cooling units during times of high demand.

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.

In 2018, Seminole and its Members initiated a Smart Thermostat Cooperatives Rewards Pilot Program. Member consumers from all nine of Seminole's Member Systems were able to participate in this "bring your own"-style pilot program. Phase II of the pilot will begin in May 2021 and conclude April 30, 2022. Seminole will further analyze data from Phase II to determine if a full smart thermostat program is warranted in the future.

b. Please provide a brief assessment of how these benefits, risks, and operational limitations may change over the current planning period.

Seminole will continue to monitor the technological development of storage equipment. Part of this ongoing monitoring process will include reviews of the economic cost of utilizing such equipment and whether such equipment is economically prudent and justifiable for Seminole and our Members to acquire and/or utilize. While we will continue to be sensitive to matters related to economic feasibility, we will likewise

evaluate the operational risks/opportunities of utilizing storage equipment within our system.

c. Please identify and describe any plans to periodically update the Commission on the status of your energy storage pilot programs.

Seminole will continue to provide updates as part of the annual FPSC TYSP supplemental data collection process.

53. 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.

Seminole's long-term capacity plan, including the reserve margin planning requirement, is met with firm capacity and does not include non-firm capacity.

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.

Not applicable.

54. 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.

Seminole does not provide service to retail customers.

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

Not applicable.

55. 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.

Seminole's research and development activities include monitoring, preliminary evaluation, feasibility analysis (technical, economic, environmental, regulatory), recommendation, and promotion of several technologies applicable to the electric utility industry. We also investigate and evaluate services and practices for potential application within different sectors of the company including our Member distribution cooperatives. These efforts support

Seminole's strategic planning goals and facilitate knowledge transfer of emerging technologies from external stakeholders to functional areas inside of Seminole and within our Members.

Seminole actively participates in several research activities led by the Electric Power Research Institute (EPRI), associated with various committees and sub-committees within the National Rural Electric Cooperative Association (NRECA), also through the participation in interest groups at the Centre for Energy Advancement through Technological Innovation (CEATI International), as well as in partnership with local universities such as the University of South Florida and the University of Florida, among other stakeholders.

Seminole periodically updates its research and development plans to monitor and guide its research areas of focus. Currently, those areas include but are not limited to low-carbon and zero-carbon generation technologies and resources (including renewable energy technologies, small modular nuclear reactors, carbon capture and sequestration, hydrogen and synthetic fuels, and fuel cells), distributed generation resources, fast and flexible generation technologies (such as reciprocating engines and aero-derivative turbines), beneficial electrification (electric vehicle charging infrastructure, agriculture equipment and indoor food production technologies), energy efficiency and conservation, cybersecurity, as well as demand response strategies.

The potential benefits to our Members and member-consumers may include enhanced system reliability and resilience, improved efficiencies in generating facilities, transmission and distribution systems, lowered fuel costs through increased diversification of suppliers, enhanced power quality, improved productivity and/or energy and capacity savings, increased environmental sustainability, reduced environmental impacts, and support to economic development, among others.

56. **[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.

Not applicable

57. 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.

Please see Excel tables.

58. 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.

Seminole Combined Cycle Facility (SCCF):

A preliminary decision to construct the Seminole Combined Cycle Facility as described in Schedule 8 was made in September 2017. A final decision as to whether Seminole will construct the proposed SCCF was based upon regulatory approvals. The Determination of Need was approved in May 2018 and the Site Certification was also received in 2018. A natural gas lateral which will serve SCCF is under construction by a third party who will own and operate the lateral. Regulatory approval of this gas lateral was critical to the final decision to proceed with SCCF. For the SCCF, the "no later than" date for a decision on whether or not to construct 12/31/2019. All hold points were satisfied in October 2019. We started construction of the SCCF in November 2019 and that the facility will be commercially operable in October 2022.

Reciprocating ICs and Combined Cycle Facility:

At this time, it has not determined if either capacity need will be met via self-build, acquisition, and/or purchased power alternatives. The ultimate method, type, size and location (if necessary) will be determined subsequent to the completion of a request-for-proposal. Should Seminole proceed to construct a facility or enter into a PPA involving the construction of a facility, a drop dead date for the needed generation varies by site type and location.

For a Greenfield site, the estimated time with pre-construction planning, permitting and construction is 3-4 years, while using an existing site timeline is estimated at is 2-3 years. The difference in the sites is the permitting and pre-construction work that would have to be done on a Greenfield site which is estimated at 2-3 years versus on an existing site where it would

be estimated at 1-2 years. The interconnection point on both type of sites also plays into the pre-construction time depending on the location. The estimated time for construction on either type of site is 1-2 years from full notice to proceed to Commercial Operation Date due to the size of the facilities. Because it is undetermined for the exact location of the capacity to fill the need in 2025, a drop dead date for the decision would be needed in 2021. For the generation needed in 2030, a decision would need to be made in 2027.

59. 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.

Please see Excel tables.

60. **[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.

Not Applicable

61. 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.

Please see Excel tables.

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 fuel-switching.

Please see Excel tables.

63. 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.

Please see Excel tables.

Environmental

64. 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.

In 2020, Seminole operated in accordance with required regulatory permits and did not curtail its operations as a result of existing environmental regulations. Through 2030, Seminole does not anticipate unit dispatch impacts, curtailments or retirements as a result of existing environmental regulations.

65. 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?

The new Seminole Combined Cycle Facility (SCCF) will be compliant with the most recent applicable standards for new sources (111b). Seminole does not expect to be materially affected by the rule for new sources in any other way.

b. What compliance strategy does the Company anticipate employing for the rule?

SCCF is designed to operate in compliance with the applicable standards for new sources (specifically, the 1,000 lb. CO_2/MWh emission limit). Compliance will be demonstrated using continuous monitoring systems already required per 40 CFR Part 75 (Acid Rain Program).

c. If the strategy has not been completed, what is the Company's timeline for completing the compliance strategy?

SCCF is expected to comply with the applicable standards for new sources upon startup.

d. Will there be any regulatory approvals needed for implementing this compliance strategy? How will this affect the timeline?

No. The construction and operation of SCCF is currently authorized by Air Permit No. 1070025-028-AC (PSD-FL-443). Compliance with the applicable standards for new sources (NSPS Subpart TTTT) is required by the air permit. No other regulatory approvals are needed unless Seminole opts for alternative compliance demonstration methods.

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.

As a wholesale provider to its Members, Seminole does not anticipate any specific expenses related to this rule that would warrant cost recovery.

f. If the answer to any of the above questions is not available, please explain why.

Not Applicable

66. 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.

Retirements, curtailments, or other ongoing downtime periods are not expected due to the MATS Rule.

b. Cross-State Air Pollution Rule (CSAPR).

As of compliance year 2017, Florida sources are not subject to CSAPR.

c. Cooling Water Intake Structures (CWIS) Rule.

Retirements, curtailments, or other ongoing downtime periods are not expected due to the CWIS Rule.

d. Coal Combustion Residuals (CCR) Rule.

Retirements, curtailments, or other ongoing downtime periods are not expected due to the CCR Rule.

e. Standards of Performance for Greenhouse Gas Emissions for New Stationary Sources: Electric Utility Generating Units.

Retirements, curtailments, or other ongoing downtime periods are not expected due to NSPS Subpart TTTT.

f. Affordable Clean Energy Rule or its replacement.

For existing sources (111d), Seminole Generating Station (SGS) would have been materially impacted by the applicable portions of the Affordable Clean Energy (ACE) Rule, which was vacated by the D.C. Circuit on January 19, 2021. The existing combined cycle combustion turbines and simple cycle combustion turbines operated at the Midulla Generating Station (MGS) were not affected sources under the vacated rule. The ACE Rule would have likely required the remaining fossil fuel fired boiler operated at SGS to complete one or more heat rate improvement projects and comply with a CO_2 emission rate limit (lb. CO_2/MWh). Retirements, curtailments, or other ongoing downtime periods were not expected due to the ACE Rule. Impacts associated with any replacement to the ACE Rule are unknown.

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

Retirements, curtailments, or other ongoing downtime periods are not expected due to ELGS.

67. 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.

Please see Excel tables.

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 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.

Please see Excel tables.

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 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.

Please see Excel tables.

70. 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.

There are currently no approved costs for environmental compliance investments associated with any finalized or proposed EPA regulations.

Fuel Supply & Transportation

71. 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.

Please see Excel tables.

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

Seminole utilizes recognized, authoritative independent third party commodity price forecasts and/or NYMEX natural gas and oil commodity prices as a starting point for projecting the delivered price of fuel to its generating resources. Seminole also utilizes authoritative independent third party forecasts for escalation or economic market indices to adjust future prices of fuel related service costs, such as transportation or contractual fuel price adjustments. Forecasts are then adjusted to include known and measurable conditions from Seminole's long-term fuel supply, storage, and transportation agreements.

73. 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)

Please see Seminole's 2021 Ten-Year Site Plan pages 39-41.

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

Seminole maintains a diverse portfolio of active, industry standard natural gas contracts (GISB/NAESB) with approximately 46 suppliers, marketers and other Florida utilities that provide natural gas commodity and/or may have available transportation capacity for resale. Seminole maintains a balanced portfolio of long-term (1 to 10 years) natural gas supply arrangements for a portion of its projected baseload requirements and relies on shorter-term transactions to obtain the remaining requirements. To increase accessibility to onshore gas supply production, Seminole holds a firm transportation contract for capacity on Transcontinental Gas Pipe Line's ("Transco") Mobile Bay South Lateral portion of its system. Seminole's capacity of 25,000 Dth/day began in 2016 and provides a firm transportation path from the Transco Station-85 supply hub to interconnects with the Florida Gas Transmission ("FGT") and Gulfstream Natural Gas System ("Gulfstream") interstate pipelines that ultimately serve Seminole's power plants. Seminole also contracts for firm gas storage service to provide for year-round storage capacity for 450,000 Dths to supplement its supply purchases during periods of scarcity. Seminole's firm gas storage service increases at a later date.

For natural gas transportation, aside from the Transco capacity mentioned above, Seminole holds various contracts for firm and interruptible transportation capacity on both FGT and Gulfstream pipelines, as well as interruptible transportation service contracts on the Elba Express Company, Southern Natural Gas Company, Southeast Supply Header, LLC (SESH) and Sabal Trail Transmission pipelines. Seminole currently has agreements for 193,000 Dth/day of firm natural gas transportation capacity.

75. 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.

To support Seminole's planned generating resource additions, Seminole is aware of expansions of existing interstate pipelines delivering into Florida that will add incremental firm gas transportation capacity to peninsular Florida and increase the available capacity for use specifically at Seminole's proposed new plants. These expansions are projected to go into service in the 2022-2023 timeframe to align with the expected in-service dates of Seminole's new generating units. In addition, Seminole has contracted with a third-party gas transportation company in Florida to construct, own and operate a natural gas pipeline to interconnect Seminole's SGS power plant site with FGT's mainline transmission system. Seminole has contracted for firm transportation capacity on that pipeline to ensure adequate fuel delivery to its new combined cycle generation at the SGS site.

76. 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.

In general, LNG imports to the U.S. are expected to be minimal over the period because of global gas market economics. Sufficient domestic natural gas production is expected to keep gas prices too low in the U.S. relative to other global markets to attract cargoes of LNG. Conversely, companies are seeking to export LNG from the U.S. and exports are expected to occur during the period. While the incremental demand for U.S. gas production should result in some upward pressure on domestic gas prices, Seminole assumes that a) the export capacity from the U.S. will be small enough that its impact on U.S. prices will be minimal or b) continuing increases in production will also serve to partially offset price increases. Seminole has noticed shifts to traditional gas flows throughout the Southeast that will accommodate growing LNG exports, which is bullish in regards to future market prices for natural gas.

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

Seminole has a firm natural gas storage agreement with SG Resources Mississippi LLC for capacity through March of 2025. The arrangement provides for storage of natural gas supply year-round and associated daily injection and withdrawal rights. Seminole uses its firm storage capacity to mitigate the risk of supply unavailability and as a tool to balance its daily/monthly gas supply to demand. As Seminole continues to expand the use of natural gas

in our power supply portfolio, we will continue to evaluate both the volume and flexibility needed in our natural gas storage portfolio.

78. 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.

Seminole is a "Captive Shipper" to CSX Transportation ("CSXT") for all delivery of Seminole's coal requirements to the Seminole Generating Station. Seminole does not have, nor can we develop, any direct access to water transportation or other economic alternative modes of transportation. We could supply very small quantities of coal in an emergency through truck deliveries from other power stations in Florida which could receive our coal deliveries. There are no active coal terminals in the vicinity of Palatka, Florida to receive supplies through third party transactions.

Currently, Seminole has rail transportation through a CSXT transportation contract for service to our Seminole Generating Station. This contract provides access to multiple supply regions such as the Illinois Basin, including West Kentucky, Illinois and Indiana mines, and also to the northern Appalachian region.

79. 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.

During the period from 2021 through 2029, outside of the planned removing of service of one of our coal units in late 2022/early 2023, Seminole does not have any planned changes and/or construction projects necessitating changes to the coal handling, blending, unloading, and storage at Seminole Generating Station.

80. 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.

Not applicable.

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

Not applicable.

Weatherization

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

Please see Excel tables.

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

Please see Excel tables.

TYSP Year 2021
Staff's Data Request # 1
Question No. 3

Existing Generating Unit Operating Performance

Plant Name	Unit No.	Planned Outage Factor (POF) Historical	Planned Outage Factor (POF) Projected	Forced Outage Factor (FOF) Historical	Forced Outage Factor (FOF) Projected	Equivalent Availability Factor (EAF) Historical	Equivalent Availability Factor (EAF) Projected	Average Net Operating Heat Rate (ANOHR) Historical	Average Net Operating Heat Rate (ANOHR) Projected
SCCF	PLANT	N/A	7.77%	N/A	2.50%	N/A	89.73%	N/A	6,304
SGS	1	9.26%	8.90%	3.84%	4.12%	86.11%	86.60%	10,063	10,043
SGS	2	9.47%	9.28%	4.10%	4.50%	85.82%	86.22%	9,892	10,356
MGS	PLANT	7.79%	5.78%	1.33%	3.00%	91.02%	91.22%	7,043	6,882
MGS	CT4	2.39%	1.37%	0.04%	12.00%	92.43%	86.63%	11,289	11,288
MGS	CT5	2.47%	1.37%	0.50%	3.00%	95.43%	95.63%	11,289	11,300
MGS	CT6	2.50%	1.37%	0.10%	3.00%	95.21%	95.63%	11,289	11,668
MGS	CT7	2.26%	1.37%	0.14%	3.00%	96.32%	95.63%	11,289	0
MGS	CT8	2.33%	1.37%	0.14%	3.00%	92.73%	95.63%	11,289	0

NOTE: Historical - average of past three years
Projected - average of next ten years
Historical ANOHR for MGS CTs 1-5 is an average of all five units.

TYSP Year	2021
Staff's Data Request #	1
Question No.	3

Nominal, Firm Purchases

Year		Firm Purchases $/MWh	Escalation %
HISTORY:			
	2018	84.06	
	2019	75.16	-10.58%
	2020	70.69	-5.95%
FORECAST:			
	2021	67.02	-5.20%
	2022	72.75	8.56%
	2023	68.06	-6.44%
	2024	63.29	-7.02%
	2025	65.35	3.26%
	2026	68.91	5.45%
	2027	71.93	4.38%
	2028	74.00	2.88%
	2029	79.10	6.88%
	2030	74.67	-5.59%

The above values includes Solar PPA energy as SECI considers 60% of contracted capacity is available during Summer coincident peak.

TYSP Year	2021
Staff's Data Request #	1
Question No.	3

Financial Assumptions
Base Case

AFUDC RATE		3.22	%
CAPITALIZATION RATIOS:			
	DEBT	N/A	%
	PREFERRED	N/A	%
	EQUITY	N/A	%
RATE OF RETURN			
	DEBT	N/A	%
	PREFERRED	N/A	%
	EQUITY	N/A	%
INCOME TAX RATE:			
	STATE	N/A	%
	FEDERAL	N/A	%
	EFFECTIVE	N/A	%
OTHER TAX RATE:		N/A	%
DISCOUNT RATE:		5.63	%
TAX			
DEPRECIATION RATE:		N/A	%

TYSP Year	2021
Staff's Data Request #	1
Question No.	3

Financial Escalation Assumptions

Year	General Inflation %	Plant Construction Cost %	Fixed O&M Cost %	Variable O&M Cost %
2021	2.28%	2.28%	2.28%	2.28%
2022	2.89%	2.89%	2.89%	2.89%
2023	2.71%	2.71%	2.71%	2.71%
2024	2.62%	2.62%	2.62%	2.62%
2025	2.46%	2.46%	2.46%	2.46%
2026	2.34%	2.34%	2.34%	2.34%
2027	2.34%	2.34%	2.34%	2.34%
2028	2.39%	2.39%	2.39%	2.39%
2029	2.40%	2.40%	2.40%	2.40%
2030	2.38%	2.38%	2.38%	2.38%

TYSP Year	2021
Staff's Data Request #	1
Question No.	3

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

Year	Annual Isolated Loss of Load Probability (Days/Yr)	Annual Isolated Reserve Margin (%) (Including Firm Purchases)	Annual Isolated Expected Unserved Energy (MWh)	Annual Assisted Loss of Load Probability (Days/Yr)	Annual Assisted Reserve Margin (%) (Including Firm Purchases)	Annual Assisted Expected Unserved Energy (MWh)
2021	0.047	15.3%	0.0	0.047	15.3%	0.0
2022	0.036	15.2%	0.0	0.036	15.2%	0.0
2023	0.047	19.9%	0.0	0.047	19.9%	0.0
2024	0.003	21.6%	0.0	0.003	21.6%	0.0
2025	0.019	15.9%	0.0	0.019	15.9%	0.0
2026	0.023	15.3%	0.1	0.023	15.3%	0.1
2027	0.011	15.2%	0.0	0.011	15.2%	0.0
2028	0.019	19.6%	0.1	0.019	19.6%	0.1
2029	0.005	18.6%	0.0	0.005	18.6%	0.0
2030	0.009	17.7%	0.0	0.009	17.7%	0.0

LOLP

TYSP Year 2021
Staff's Data Request 1
Question No. 6

Date	Hourly System Load (MW)																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1/1/2020	Not applicable																						
1/2/2020																							
1/3/2020																							
1/4/2020																							
1/5/2020																							
1/6/2020																							
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TYSP Year 2021
Staff's Data Request # 1
Question No. 7

Year	Month	Actual Peak Demand (MW)	Demand Response Activated (MW)	Estimated Peak Demand (MW)	Day	Hour	System-Average Temperature (Degrees F)
2020	1	3225	80	3305	22	8	33
	2	2654	71	2725	28	8	41
	3	2885	63	2948	29	18	86
	4	2843	70	2913	12	18	88
	5	3211	75	3286	22	17	90
	6	3446	71	3517	29	18	91
	7	3345	70	3415	12	18	92
	8	3403	70	3473	4	17	91
	9	3391	71	3462	5	17	93
	10	2963	60	3023	8	16	87
	11	2382	50	2432	15	16	83
	12	3354	71	3425	27	8	35
2019	1	2993	75	3068	31	8	42
	2	2461	71	2532	14	8	42
	3	2613	68	2681	7	7	38
	4	2688	65	2753	30	18	86
	5	3342	85	3427	27	17	95
	6	3399	78	3477	25	17	94
	7	3272	76	3348	2	16	93
	8	3203	80	3283	24	17	92
	9	3268	79	3347	8	17	93
	10	3055	68	3123	4	17	91
	11	2317	66	2383	7	16	84
	12	2520	65	2585	19	8	40
2018	1	3939	85	4024	18	8	26
	2	2247	59	2306	1	8	45
	3	2474	62	2536	15	8	36
	4	2281	18	2299	29	18	82
	5	2782	15	2797	11	17	90
	6	3122	74	3196	24	16	90
	7	2983	72	3055	10	18	89
	8	3078	74	3152	8	16	91
	9	3107	73	3180	14	17	92
	10	2931	15	2946	16	17	90
	11	2492	14	2506	28	8	37
	12	2915	71	2986	12	8	37

Notes

(Include Notes Here)

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

Year	Number of PEVs	Number of Public PEV Charging Stations	Number of Public DCFC PEV Charging Stations.	Cumulative Impact of PEVs		
				Summer Demand	Winter Demand	Annual Energy
				(MW)	(MW)	(GWh)
2021	Not Applicable					
2022						
2023						
2024						
2025						
2026						
2027						
2028						
2029						
2030						
Notes						
No data available at this time.						

TYSP Year	2021
Staff's Data Request #	1
Question No.	25

[Demand Response Source or All Demand Response Sources]								
Year	**Beginning Year: Number of Customers**	**Available Capacity (MW)**		**New Customers Added**	**Added Capacity (MW)**		**Customers Lost**	**Lost Capacity (MW)**	
		Sum	Win		Sum	Win		Sum	Win
2011	Not Applicable								
2012									
2013									
2014									
2015									
2016									
2017									
2018									
2019									
2020									
Notes									
(Include Notes Here)									

TYSP Year 2021
Staff's Data Request # 1
Question No. 26

[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
2011	Not Applicable									
2012										
2013										
2014										
2015										
2016										
2017										
2018										
2019										
2020										
Notes										
(Include Notes Here)										

TYSP Year	2021
Staff's Data Request #	1
Question No.	27

[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)
2011	Not Applicable						
2012							
2013							
2014							
2015							
2016							
2017							
2018							
2019							
2020							
Notes							
(Include Notes Here)							

TYSP Year 2021
Staff's Data Request # 1
Question No. 28

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	(%)
MIDULLA GENERATING STATION	4	HARDEE	GT	NG	12	2006	54	62	54	62	54	62	4%
MIDULLA GENERATING STATION	5	HARDEE	GT	NG	12	2006	54	62	54	62	54	62	4%
MIDULLA GENERATING STATION	6	HARDEE	GT	NG	12	2006	54	62	54	62	54	62	2%
MIDULLA GENERATING STATION	7	HARDEE	GT	NG	12	2006	54	62	54	62	54	62	0%
MIDULLA GENERATING STATION	8	HARDEE	GT	NG	12	2006	54	62	54	62	54	62	0%
MIDULLA GENERATING STATION	CT1	HARDEE	CT	NG	1	2002	162	195	160	193	160	193	66%
MIDULLA GENERATING STATION	CT2	HARDEE	CT	NG	1	2002	162	195	160	193	160	193	66%
MIDULLA GENERATING STATION	ST	HARDEE	CA	WH	1	2002	186	188	184	186	184	186	66%
SEMINOLE GENERATING STATION	1	PUTNAM	ST	BIT	2	1984	673	687	626	639	626	639	56%
SEMINOLE GENERATING STATION	2	PUTNAM	ST	BIT	12	1984	680	688	634	640	634	640	31%
Notes													
(Include Notes Here)													

TYSP Year 2021
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)		Projected Capacity Factor
					Mo	Yr	Sum	Win	Sum	Win	Sum	Win	(%)
SEMINOLE CC FACILITY	CTG3	PUTNAM	CT	NG	10	2022	358.2	374.8	351	367.6	351	367.6	76%
SEMINOLE CC FACILITY	CTG5	PUTNAM	CT	NG	10	2022	358.2	374.8	351	367.6	351	367.6	
SEMINOLE CC FACILITY	STG4	PUTNAM	ST	WH	10	2022	406.4	402.9	397.4	394.5	397.4	394.5	
UNNAMED CC	1	UNKNOWN	CC	NG	1	2025	541.8	592.4	541.8	592.4	541.8	592.4	75%
UNNAMED RECIPROCATING UNIT	1	UNKNOWN	IC	NG	12	2030	92	92	92	92	92	92	23%
Notes													
(Include Notes Here)													

TYSP Year 2021
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)		Capacity Factor
					Mo	Yr	Sum	Win	Sum	Win	Sum	Win	(%)
Not Applicable													
Notes													
All of the existing renewable resources in Seminole's portfolio are under purchased power contracts or leases.													

TYSP Year 2021
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)		Projected Capacity Factor
					Mo	Yr	Sum	Win	Sum	Win	Sum	Win	(%)
Not Applicable													
Notes													
All of the planned renewable resources in Seminole's portfolio are under purchased power contracts or leases.													

TYSP Year 2021
Staff's Data Request # 1
Question No. 33

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
Hardee Power Partners	Hardee	CC1	Hardee	CC	NG	222	269	220	267	220.18	220.18	01/13	12/32
Hardee Power Partners	Hardee	CT 2A	Hardee	CT	NG	71	90	70	89	70.87	70.87	01/13	12/32
Hardee Power Partners	Hardee	CT 2B	Hardee	CT	NG	71	90	70	89	70.87	70.87	01/13	12/32
Oleander Power Project	Oleander CT	2	Brevard	CT	NG	154	183	153	182	169.8	169.8	01/10	12/21
Oleander Power Project	Oleander CT	3	Brevard	CT	NG	154	183	153	182	169.8	169.8	01/10	12/21
Oleander Power Project	Oleander CT	4	Brevard	CT	NG	154	183	153	182	169.8	169.8	01/10	12/21
Notes													
(Include Notes Here)													

TYSP Year 2021
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
Oleander Power Project	Oleander CT	2	Brevard	CT	NG	154	183	153	182	169.8	169.8	01/22	12/24
Oleander Power Project	Oleander CT	3	Brevard	CT	NG	154	183	153	182	169.8	169.8	01/22	12/24
Oleander Power Project	Oleander CT	4	Brevard	CT	NG	154	183	153	182	169.8	169.8	01/23	12/24
Notes													
(Include Notes Here)													

TYSP Year 2021
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
Farm Credit Leasing Services Corporation	MGS Solar Facility		Hardee	PV	SUN	2.2	2.2	2.2	2.2	0.7	0	08-17	08-27
Hillsborough County, Florida	Hillsborough WTE		Hillsborough	ST	MSW	38	38	38	38	38	38	03-10	02-25
City of Tampa, Florida	McKay Bay WTE		Hillsborough	ST	MSW	20	20	20	20	20	20	08-11	07-26

Notes

MGS Solar Facility nameplate rating is 2.2 MWac and Seminole assumes 32% capacity towards summer reserve margin and 0% capacity towards winter reserve margin. As this is a lease expiring 8/1/2027, Seminole assumes this unit will convert to Seminole ownership at contract end with retirement Nov 1, 2041.
In addition to the table above, Seminole's existing Renewable Purchased Power Agreements are summarized in Section 1.3 of Seminole's Ten Year Site Plan.

TYSP Year 2021
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
FRP GILCHRIST COUNTY SOLAR, LLC	GILCHRIST		GILCHRIST	PV	SUN	74.5	74.5	74.5	74.5	44.7	0	06/23	06/43
FRP PUTNAM COUNTY SOLAR, LLC	PUTNAM		PUTNAM	PV	SUN	74.5	74.5	74.5	74.5	44.7	0	12/23	12/48
FRP GADSDEN COUNTY SOLAR, LLC	GADSDEN		GADSDEN	PV	SUN	74.5	74.5	74.5	74.5	44.7	0	12/23	12/48
FRP COLUMBIA COUNTY SOLAR, LLC	COLUMBIA		COLUMBIA	PV	SUN	74.5	74.5	74.5	74.5	44.7	0	06/23	06/43
Notes													
FRP Solar units have 74.9 MW solar nameplate rating. Seminole assumes 60% capacity towards summer reserve margin and 0% capacity towards winter reserve margin.													

TYSP Year 2021
Staff's Data Request # 1
Question No. 38

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
City of Homestead	NA	NA	NA	NA	NA	15	15	15	15	15	15	10/15	05/21
Notes													
(Include Notes Here)													

TYSP Year 2021
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
Not Applicable													
Notes													
(Include Notes Here)													

TYSP Year 2021
Staff's Data Request # 1
Question No. 41

Renewable Source	Annual Renewable Generation (GWh)										
	Actual	Projected									
	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Utility - Firm	-	-	-	-	-	-	-	-	-	-	-
Utility - Non-Firm	-	-	-	-	-	-	-	-	-	-	-
Utility - Co-Firing	-	-	-	-	-	-	-	-	-	-	-
Purchase - Firm	584	420	421	420	422	180	85	-	-	-	-
Purchase - Non-Firm	4	3	3	190	791	773	773	771	770	768	767
Purchase - Co-Firing	-	-	-	-	-	-	-	-	-	-	-
Customer - Owned	-	-	-	-	-	-	-	-	-	-	-
Total	588	423	424	610	1213	953	858	771	770	768	767
Notes											
Solar energy allocated as non-firm purchase											

TYSP Year	2021
Staff's Data Request #	1
Question No.	42

Plant Name	Land Available (Acres)	Potential Installed Net Capacity (MW)	Potential Obstacles to Installation
Not Applicable			

TYSP Year 2021
Staff's Data Request # 1
Question No. 50

Project Name	Pilot Program (Y/N)	In-Service/ Pilot Start Date (MM/YY)	Max Capacity Output (MW)	Max Energy Stored (MHh)	Conversion Efficiency (%)
Not Applicable					

Notes

(Include Notes Here)

TYSP Year	2021
Staff's Data Request #	1
Question No.	51

Project Name	Pilot Program (Y/N)	In-Service/ Pilot Start Date (MM/YY)	Projected Max Capacity Output (MW)	Projected Max Energy Stored (MHh)	Projected Conversion Efficiency (%)
Not Applicable					

Notes

Seminole currently has no energy storage technology as part of its system portfolio, but keeps abreast of industry trends for potential evaluation.

TYSP Year	2021
Staff's Data Request #	1
Question No.	56

Year		As-Available Energy ($/MWh)	On-Peak Average ($/MWh)	Off-Peak Average ($/MWh)
Actual	2011	Not Applicable		
	2012			
	2013			
	2014			
	2015			
	2016			
	2017			
	2018			
	2019			
	2020			
Projected	2021			
	2022			
	2023			
	2024			
	2025			
	2026			
	2027			
	2028			
	2029			
	2030			

Notes
(Include Notes Here)

TYSP Year 2021
Staff's Data Request # 1
Question No. 57

Generating Unit Name	Summer Capacity (MW)	Certification Dates (if Applicable)		In-Service Date (MM/YY)
		Need Approved (Commission)	PPSA Certified	
Nuclear Unit Additions				
Combustion Turbine Unit Additions				
Combined Cycle Unit Additions				
Seminole Combined Cycle Facility	1,099	05/18	07/18	10/22
Unnamed CC	542	NA	NA	01/25
Steam Turbine Unit Additions				
Other				
Unnamed Reciprocating Unit	92	NA	NA	12/30
Notes				
(Include Notes Here)				

TYSP Year 2021
Staff's Data Request # 1
Question No. 59

Plant	Unit No.	Unit Type	Fuel Type	Capacity Factor (%)										
				Actual	Projected									
				2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
SGS	1	ST	BIT	54.0%	54.0%	58.6%	NI Service	NI Service	NI Service	NI Service	NI Service	NI Service	NI Service	NI Service
SGS	2	ST	BIT	65.6%	65.4%	56.0%	30.3%	24.3%	20.4%	21.1%	22.3%	24.4%	22.9%	22.8%
MGS CC	Plant	CC	NG	87.7%	91.7%	85.0%	73.9%	73.6%	53.4%	55.8%	50.7%	56.3%	52.3%	62.7%
MGS PW CT	4	CT	NG	6.9%	4.2%	4.4%	7.3%	5.4%	3.2%	3.5%	3.2%	3.7%	3.0%	6.1%
MGS PW CT	5	CT	NG	4.8%	3.9%	3.4%	6.6%	4.3%	3.1%	3.0%	2.4%	4.1%	2.3%	6.0%
MGS PW CT	6	CT	NG	5.7%	1.8%	1.1%	3.5%	2.5%	1.6%	1.8%	1.2%	2.4%	1.2%	3.4%
MGS PW CT	7	CT	NG	6.9%	0.3%	0.0%	0.2%	0.1%	0.1%	0.1%	0.1%	0.1%	0.0%	0.1%
MGS PW CT	8	CT	NG	6.8%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
SCCF	Plant	CC	NG	NI Service	NI Service	90.8%	78.2%	79.6%	72.3%	72.9%	77.3%	72.5%	78.8%	71.5%
Generic Recip 1	Plant	CC	NG	NI Service	NI Service	NI Service	NI Service	NI Service	70.6%	71.7%	73.3%	74.5%	74.7%	77.7%
Generic Recip 1	Plant	CC	NG	NI Service	NI Service	NI Service	NI Service	NI Service	NI Service	NI Service	NI Service	NI Service	NI Service	2.9%

Notes

MGS PW CTs 7 & 8 are withheld in the long-term forecast for contingency reserves.
SCCF online 10/2022.
One coal unit removed from service in 2023.

TYSP Year	2021
Staff's Data Request #	1
Question No.	61

Plant Name	Fuel Type	Summer Capacity (MW)	In-Service Date (MM/YYY)	Potential Conversion	Potential Issues
Neither SGS U1 or U2 are candidates for repowering as CC units.					

Notes
(Include Notes Here)

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

Plant Name	Fuel Type	Summer Capacity (MW)	In-Service Date (MM/YYY)	Potential Conversion	Potential Issues
SGS U1 & U2 can potentially convert to dual fire with coal & natural gas however the cost to convert exceeds the associated savings.					

Notes
(Include Notes Here)

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

Transmission Line	Line Length (Miles)	Nominal Voltage (kV)	Date Need Approved	Date TLSA Certified	In-Service Date
Seminole's long-term forecast does not include proposed transmission lines.					

Notes
(Include Notes Here)

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

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

TYSP Year 2021
Staff's Data Request # 1
Question No. 67

Unit	Unit Type	Fuel Type	Net Summer Capacity (MW)	Estimated EPA Rule Impacts: Operational Effects						
				ELGS	ACE or replacement	MATS	CSAPR/ CAIR	CWIS	CCR	
									Non-Hazardous Waste	Special Waste
SCCF	Combined Cycle Combustion Turbine	Natural Gas	1099.4							
SGS Unit 1	Wall fired boiler	Coal	626	x	x	x		x	x	x
SGS Unit 2	Wall fired boiler	Coal	634	x	x	x		x	x	x
MGS Unit 1	Combined Cycle Combustion Turbine	Natural Gas / Distillate Oil	252							
MGS Unit 2	Combined Cycle Combustion Turbine	Natural Gas / Distillate Oil	252							
MGS Unit 4A/4B	Simple Cycle Combustion Turbine	Natural Gas / Distillate Oil	54							
MGS Unit 5A/5B	Simple Cycle Combustion Turbine	Natural Gas / Distillate Oil	54							
MGS Unit 6A/6B	Simple Cycle Combustion Turbine	Natural Gas / Distillate Oil	54							
MGS Unit 7A/7B	Simple Cycle Combustion Turbine	Natural Gas / Distillate Oil	54							
MGS Unit 8A/8B	Simple Cycle Combustion Turbine	Natural Gas / Distillate Oil	54							
Notes										
(Include Notes Here)										

TYSP Year 2021
Staff's Data Request # 1
Question No. 68

Unit	Unit Type	Fuel Type	Net Summer Capacity (MW)	Estimated EPA Rule Impacts: Cost Effects (CPVRR $ millions)						
				ELGS	ACE or replacement	MATS	CSAPR/ CAIR	CWIS	CCR	
									Non-Hazardous Waste	Special Waste
SCCF	Combined Cycle Combustion Turbine	Natural Gas	1099.4							
SGS Unit 1	Wall fired boiler	Coal	626		Unknown	<125k/year		<100k/year	<75k/year	
SGS Unit 2	Wall fired boiler	Coal	634		Unknown	<125k/year		<100k/year	<75k/year	
MGS Unit 1	Combined Cycle Combustion Turbine	Natural Gas / Distillate Oil	252							
MGS Unit 2	Combined Cycle Combustion Turbine	Natural Gas / Distillate Oil	252							
MGS Unit 4A/4B	Simple Cycle Combustion Turbine	Natural Gas / Distillate Oil	54							
MGS Unit 5A/5B	Simple Cycle Combustion Turbine	Natural Gas / Distillate Oil	54							
MGS Unit 6A/6B	Simple Cycle Combustion Turbine	Natural Gas / Distillate Oil	54							
MGS Unit 7A/7B	Simple Cycle Combustion Turbine	Natural Gas / Distillate Oil	54							
MGS Unit 8A/8B	Simple Cycle Combustion Turbine	Natural Gas / Distillate Oil	54							
Notes										
(Include Notes Here)										

TYSP Year 2021
Staff's Data Request # 1
Question No. 69

Unit	Unit Type	Fuel Type	Net Summer Capacity (MW)	Estimated EPA Rule Impacts: Unit Availability (Month/Year - Duration)						
				ELGS	ACE or replacement	MATS	CSAPR/ CAIR	CWIS	CCR	
									Non-Hazardous Waste	Special Waste
SCCF	Combined Cycle Combustion Turbine	Natural Gas	1099.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SGS Unit 1	Wall fired boiler	Coal	626	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SGS Unit 2	Wall fired boiler	Coal	634	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MGS Unit 1	Combined Cycle Combustion Turbine	Natural Gas / Distillate Oil	252	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MGS Unit 2	Combined Cycle Combustion Turbine	Natural Gas / Distillate Oil	252	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MGS Unit 4A/4B	Simple Cycle Combustion Turbine	Natural Gas / Distillate Oil	54	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MGS Unit 5A/5B	Simple Cycle Combustion Turbine	Natural Gas / Distillate Oil	54	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MGS Unit 6A/6B	Simple Cycle Combustion Turbine	Natural Gas / Distillate Oil	54	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MGS Unit 7A/7B	Simple Cycle Combustion Turbine	Natural Gas / Distillate Oil	54	N/A	N/A	N/A	N/A	N/A	N/A	N/A
MGS Unit 8A/8B	Simple Cycle Combustion Turbine	Natural Gas / Distillate Oil	54	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Notes										
(Include Notes Here)										

TYSP Year 2021
Staff's Data Request # 1
Question No. 71

Year		Uranium		Coal		Natural Gas		Residual Oil		Distillate Oil	
		GWh	$/MMBTU	GWh	$/MMBTU	GWh	$/MMBTU	GWh	$/MMBTU	GWh	$/MMBTU
Actual	2011	128*	0*	8663	3.34	6310	5.43	0	N/A	86	21.58
	2012	0	0	7754	3.6	7000	4.39	0	N/A	66	23.07
	2013	0	0	7725	3.58	7071	5.76	0	N/A	54	23.17
	2014	0	0	8159	3.62	4737	6.17	0	N/A	35	21.94
	2015	0	0	7803	3.55	5333	4.71	0	N/A	36	15.09
	2016	0	0	7488	3.53	6015	4.2	0	N/A	37	11.27
	2017	0	0	7528	3.42	6180	4.62	0	N/A	36	13.19
	2018	0	0	7623	3.5	6642	4.43	0	N/A	37	16.08
	2019	0	0	6959	3.29	7510	3.85	0	N/A	31	15.60
	2020	0	0	6,591	3.34	8,445	3.29	0	N/A	38	11.27
Projected	2021	0	0	6,607	2.74	8,059	2.87	0	N/A	51	20.90
	2022	0	0	6,337	2.73	8,455	2.76	0	N/A	35	20.33
	2023	0	0	1,683	3.02	13,107	2.57	0	N/A	24	19.65
	2024	0	0	1,354	3.09	12,991	2.59	0	N/A	21	19.25
	2025	0	0	1,126	3.16	13,663	2.60	0	N/A	12	18.59
	2026	0	0	1,169	3.23	13,887	2.63	0	N/A	12	18.80
	2027	0	0	1,235	3.31	14,086	2.67	0	N/A	11	18.76
	2028	0	0	1,355	3.39	14,150	2.70	0	N/A	13	19.06
	2029	0	0	1,268	3.47	14,411	2.75	0	N/A	10	19.25
	2030	0	0	1,261	3.55	14,575	2.81	0	N/A	12	19.35

Notes

*** In 2011, the total uranium fuel usage represents alternative energy provided to Seminole during CR3 unscheduled outage for those years.**

TYSP Year 2021
Staff's Data Request # 1
Question No. 82

Plant Name	Fuel Type	Summer Capacity (MW)	In-Service Date (MM/YYY)	Potential Issues
SGS 1	Coal and Oil	673 MW	Feb-84	SGS 1 has developed Operating Plan(s) to mitigate and prepare for operating Emergencies;, and these Operating Plans are coordinated within a Reliability Coordinator Area.
SGS 2	Coal and Oil	680 MW	Jan-85	SGS 2 has developed Operating Plan(s) to mitigate and prepare for operating Emergencies;, and these Operating Plans are coordinated within a Reliability Coordinator Area.
MGS Combined Cycle	Natural Gas and Oil	510 MW	Jan-20	MGS has developed Operating Plan(s) to mitigate and prepare for operating Emergencies;, and these Operating Plans are coordinated within a Reliability Coordinator Area.
MGS Peaking Units	Natural Gas and Oil	270 MW	Dec-06	MGS has developed Operating Plan(s) to mitigate and prepare for operating Emergencies;, and these Operating Plans are coordinated within a Reliability Coordinator Area.
Notes				
(Include Notes Here)				

TYSP Year 2021
Staff's Data Request # 1
Question No. 83

Plant Name	Fuel Type	Summer Capacity (MW)	In-Service Date (MM/YYY)	Potential Issues
SGS 1	Coal and Oil	673 MW	Feb-84	SGS 1 has developed Operating Plan(s) to mitigate and prepare for operating Emergencies
SGS 2	Coal and Oil	680 MW	Jan-85	SGS 2 has developed Operating Plan(s) to mitigate and prepare for operating Emergencies
MGS Combined Cycle	Natural Gas and Oil	510 MW	Jan-20	MGS 1 has developed Operating Plan(s) to mitigate and prepare for operating Emergencies
MGS Peaking Units	Natural Gas and Oil	270 MW	Dec-06	MGS 1 has developed Operating Plan(s) to mitigate and prepare for operating Emergencies
Notes				
(Include Notes Here)				