May 15, 2020

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 1, 2020, Seminole Electric Cooperative, Inc. hereby submits for electronic filing the response to 2020 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 2020-2029 (current planning period) in PDF format.

   Submitted electronically with 2020 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 2020 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.

TYSP Year	2020								
Staff's Data Request #	1								
Question No.	3								
Existing Generating Unit Operating Performance									
		Planned Outage Factor		Forced Outage Factor		Equivalent Availability Factor		Average Net Operating	
		(POF)		(FOF)		(EAF)		Heat Rate (ANOHR)	
Plant Name	Unit No.	Historical	Projected	Historical	Projected	Historical	Projected	Historical	Projected
SCCF	PLANT	N/A	5.79%	N/A	2.50%	N/A	91.71%	N/A	6,377
SGS	1	12.26%	6.11%	4.06%	4.29%	82.26%	88.56%	10,037	10,289
SGS	2	9.56%	9.83%	4.52%	5.10%	84.45%	85.07%	9,888	10,245
MGS	PLANT	8.62%	5.47%	0.64%	3.00%	90.73%	91.53%	7,168	7,049
MGS	CT1	2.52%	1.09%	0.08%	3.00%	84.42%	95.91%	11,428	10,893
MGS	CT2	2.61%	1.09%	0.50%	3.00%	93.26%	95.91%	11,428	10,894
MGS	CT3	2.74%	1.09%	0.11%	3.00%	92.37%	95.91%	11,428	14,460
MGS	CT4	3.76%	1.09%	0.29%	3.00%	90.14%	95.91%	11,428	0
MGS	CT5	2.40%	1.09%	0.11%	3.00%	97.25%	95.91%	11,428	0
NOTE:		Historical - average of past three years					SGS = Seminole Generating Station		
		Projected - average of next ten years					MGS = Midulla Generating Station		
							SCCF = Seminole Combined Cycle Facility		
		Historical ANOHR for MGS CTs 1-5 is an average of all five units.							

TYSP Year	2020	
Staff's Data Request #	1	
Question No.	3	

Nominal, Firm Purchases

	Firm Purchases	
Year	$/MWh	Escalation %
HISTORY:		
2017	83.84	
2018	84.14	0.35%
2019	75.16	-10.67%
FORECAST:		
2020	95.39	26.91%
2021	79.67	-16.47%
2022	55.79	-29.97%
2023	55.11	-1.23%
2024	54.58	-0.96%
2025	48.63	-10.90%
2026	48.26	-0.76%
2027	49.10	1.74%
2028	50.30	2.45%
2029	51.14	1.67%

TYSP Year	2020		
Staff's Data Request #	1		
Question No.	3		
Financial Assumptions			
Base Case			
AFUDC RATE		4.19	%
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:		5.64	%
TAX			
DEPRECIATION RATE:		N/A	%

TYSP Year	2020			
Staff's Data Request #	1			
Question No.	3			

Financial Escalation Assumptions

	General	Plant Construction	Fixed O&M	Variable O&M
	Inflation	Cost	Cost	Cost
Year	%	%	%	%
2020	2.12%	2.12%	2.12%	2.12%
2021	2.23%	2.23%	2.23%	2.23%
2022	2.29%	2.29%	2.29%	2.29%
2023	2.27%	2.27%	2.27%	2.27%
2024	2.30%	2.30%	2.30%	2.30%
2025	2.22%	2.22%	2.22%	2.22%
2026	2.22%	2.22%	2.22%	2.22%
2027	2.28%	2.28%	2.28%	2.28%
2028	2.34%	2.34%	2.34%	2.34%
2029	2.36%	2.36%	2.36%	2.36%

TYSP Year	2020					
Staff's Data Request #	1					
Question No.	3					

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

		Annual Isolated			Annual Assisted	
	Loss of Load	Reserve Margin (%)	Expected	Loss of Load	Reserve Margin (%)	Expected
	Probability	(Including Firm	Unserved Energy	Probability	(Including Firm	Unserved Energy
Year	(Days/Yr)	Purchases)	(MWh)	(Days/Yr)	Purchases)	(MWh)
2020	0.008	23.2%	0.0	0.008	23.2%	0.0
2021	0.050	15.8%	0.0	0.050	15.8%	0.0
2022	0.045	17.0%	0.0	0.045	17.0%	0.0
2023	0.008	19.5%	0.0	0.008	19.5%	0.0
2024	0.004	23.4%	0.0	0.004	23.4%	0.0
2025	0.006	19.3%	0.1	0.006	19.3%	0.1
2026	0.023	15.3%	0.0	0.023	15.3%	0.0
2027	0.026	15.3%	0.0	0.026	15.3%	0.0
2028	0.005	20.2%	0.0	0.005	20.2%	0.0
2029	0.003	21.5%	0.0	0.003	21.5%	0.0

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:

   Seminole does not include CO2 compliance costs in the resource planning process.

   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.

      Not applicable.

   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.

TYSP Year	2020
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)
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
2017	1	3018	51	3069	8	9	35
	2	2194	37	2231	17	8	41
	3	2696	45	2741	16	9	34
	4	2954	0	2954	28	17	92
	5	3098	0	3098	29	18	92
	6	3010	52	3062	24	17	91
	7	3114	54	3168	5	17	91
	8	3085	53	3138	23	17	89
	9	2948	51	2999	28	17	91
	10	2874	0	2874	10	17	89
	11	1992	0	1992	7	16	83
	12	2992	51	3043	11	8	36

Notes

(Include Notes Here)

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 2020 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, section 3.3.1 for economic 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.

Behind-the-meter solar installation and capacity records are collected from Customer-Owned Renewable Generation forms submitted by our individual Member cooperatives to the Florida Public Services Commission. Seminole also utilizes the end-use solar capacity forecasts published by the EIA in the AEO. Solar insolation data, which assume optimal conditions, are downloaded from an online calculator service operated by researchers at Arizona State University's Solar Power Lab, after inputting the geo-coordinates of each of Seminole's Member territories. AccuWeather provides Seminole with hourly weather data for a multitude of variables including temperature, solar irradiance, and minutes of sunshine for 25 selected stations in Florida and Georgia.

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.

The first component of the solar forecasts includes Member-level projections of total annual AC capacity growth. Linear and exponential models were trained with a five-year trend in capacity growth. These data are contained in net metering reports submitted by Members to the PSC and are publically available online. These capacity forecasts were presented individually to Members and reflect edits from feedback received during each consultation. Long-term growth in this analysis was

extrapolated at a monthly level from national end-use solar projections published in the EIA's AEO.

Using historic weather data from the unique station-combination created for each member, normalized statistics for minutes-of-sunshine by hour were combined with optimal-condition solar insolation data to create hourly solar potential profiles for each Member territory. These profiles reflect not just the quality of sunlight typical for each territory throughout the year, but also the quantity of this sunlight typically available during each hour of a normal year.

The final component of the solar forecasting model combines the hourly solar-potential index curve with the projected monthly solar installations to create hourly solar generation forecasts. Total energy projections are reduced by monthly aggregates of forecasted solar generation, and demand forecasts are reduced by solar output at the time of peak demand. For LFS winter/summer peak demand forecasts, unique solar potential index curves were derived for winter and summer, respectively. These unique curves incorporate ten years of actual winter-peak hour and summer-peak hour data to calculate the average number of minutes of sunshine, during each respective peak event.

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. 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.

The Company's growth rate of retail energy sales are driven by population, demographics, weather, and energy efficiency saturation. The growth rate in consumers is driven purely by population and demographics.

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.

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.

With respect to energy growth from 2016 to 2017, the Seminole-system service territory experienced milder temperatures in 2017 than the prior year.

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:

Not applicable.

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?

Electric vehicle loads are not modeled in the demand and energy forecasts for the 2020 Ten-Year Site Plan.

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.

Not applicable.

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.

TYSP Year	2020					
Staff's Data Request	1					
Question No.	20					

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	Not Applicable					
2021						
2022						
2023						
2024						
2025						
2026						
2027						
2028						
2029						
Notes						
(Include Notes Here)						

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?

    While Seminole does not offer any programs or tariffs relating to EVs at this time, we are exploring ways in which these could be incorporated into our services in the future and ways in which we can assist 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, has been involved in monitoring the status of Florida DEP's participation in the Volkswagen

Settlement. In 2018, Florida's electric cooperatives (of which Seminole was one participant) submitted comments to DEP's Division of Air Resource Management expressing support for:

- *DEP applying fifteen percent (15%) of Florida's allocation of trust funds to the "Light Duty Zero Emission Vehicle Supply Equipment Eligible Mitigation Action" category;*

- *DEP adopting a fair approach to allocating trust funds to mitigation actions to rural communities in Florida.*

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

Not applicable.

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.

Not applicable.

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.

Not applicable.

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?

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 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.

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.

Not applicable.

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.

Not applicable.

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.

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	(%)
MIDULLA GENERATING STATION	4	HARDEE	GT	NG	12	2006	54	62	54	62	54	62	7%
MIDULLA GENERATING STATION	5	HARDEE	GT	NG	12	2006	54	62	54	62	54	62	6%
MIDULLA GENERATING STATION	6	HARDEE	GT	NG	12	2006	54	62	54	62	54	62	0%
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	171	195	169	193	169	193	56%
MIDULLA GENERATING STATION	CT2	HARDEE	CT	NG	1	2002	171	195	169	193	169	193	56%
MIDULLA GENERATING STATION	ST	HARDEE	CA	WH	1	2002	190	188	188	186	188	186	56%
SEMINOLE GENERATING STATION	1	PUTNAM	ST	BIT	2	1984	673	685	626	637	626	637	55%
SEMINOLE GENERATING STATION	2	PUTNAM	ST	BIT	12	1984	680	686	634	638	634	638	53%
Notes													
(Include Notes Here)													

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.

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	(%)
SEMINOLE CC FACILITY	TBD	PUTNAM	CC	NG	10	2022	1134	1149	1108	1122	1108	1122	71%
UNNAMED RECIPROCATING UNIT	1	UNKNOWN	IC	NG	12	2027	91.9	91.9	91.9	91.9	91.9	91.9	4%
UNNAMED RECIPROCATING UNIT	2	UNKNOWN	IC	NG	12	2028	91.9	91.9	91.9	91.9	91.9	91.9	2%
Notes													
(Include Notes Here)													

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

Seminole Combined Cycle Facility (SCCF):

The SCCF project is well under way with Engineering & Procurement approximately 50% complete and Construction approximately 8% complete. The design and engineering teams for TIC and GE continue to develop the detailed design in accordance with the contract requirements. Site clearing starting in February 2020 and completed in late March 2020. Grading and excavation is ongoing. Dewatering systems are installed and operational including the large retention pond. The power island excavation is complete. The circulating water pipe that carry water to the cooling tower from the condenser is approximately 60% complete. The first electrical duct bank is currently under construction. The waste water collection sump as well as the service water tank foundation work started. Construction trailer complex is complete and work continues on the craft parking and laydown areas.

The SGS switchyard expansion project was awarded in April 2020. Engineering work has started and this project will be executed as a change order to TIC.

The overall fuel gas lateral project is approximately 60% with 15 of 21 miles of pipe installed.

Reciprocating ICs:

Seminole has identified capacity needs in the winter of 2028 and winter of 2029 and currently assumes that these needs will be met with reciprocating engine technology.

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.

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	(%)
Not Applicable													
Notes													
All of the existing renewable resources in Seminole's portfolio are under purchased power contracts or leases.													

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.

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	(%)
Not Applicable													
Notes													
All of the planned renewable resources in Seminole's portfolio are under purchased power contracts or leases.													

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

Not applicable.

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?

Not applicable.

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.

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
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 Projec	Oleander CT	2	Brevard	CT	NG	154	183	153	182	169.8	169.8	01/10	12/21
Oleander Power Projec	Oleander CT	3	Brevard	CT	NG	154	183	153	182	169.8	169.8	01/10	12/21
Oleander Power Projec	Oleander CT	4	Brevard	CT	NG	154	183	153	182	169.8	169.8	01/10	12/21
Notes													
(Include Notes Here)													

Additionally, please see 2020 Ten-Year Site Plan, Table 1.2 for a description of existing and planned Purchase Power Agreements.

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.

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
Shady Hills Energy Center, LLC	Shady Hills Energy Center		Pasco	CC	NG	546	576	546	576	546	575	12/21	11/51
Notes													
(Include Notes Here)													

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

In 2017, Seminole contracted with a subsidiary of GE, Shady Hills Energy Center, LLC for the output of a new, to be constructed 1x1 combined cycle facility at GE's existing generation station in Pasco County, Florida. At this time, the Shady Hills Energy Center facility is still in the development/construction process. The existing contractual in-service date for the facility is December 2021.

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.

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)		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

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.

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.

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)		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

Each FRP Solar unit has a 74.5 MW MWac nameplate rating. Seminole assumes 60% of contracted capacity towards summer reserve margin and 0% capacity towards winter reserve margin.

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.

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?

In December 2019, with the mutual agreement of the parties, Seminole's agreement to purchase 40 MW of solar photovoltaic energy from Coronal Energy at the Leroy site was terminated. The expected commercial operation date for the Leroy facility was January 1, 2022. Several items led to the termination of the agreement, including ownership changes at

Coronal Energy following the execution of the agreement with Seminole, and study results from Coronal's interconnecting transmission provider that required network upgrades that were significantly higher than originally expected by the parties.

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.

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

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.

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
None													
Notes													
None													

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

Not applicable.

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

Not applicable.

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.

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	415	384	420	420	422	422	180	85	-	-	-
Purchase - Non-Firm	4	3	3	3	190	791	773	773	771	770	768
Purchase - Co-Firing	-	-	-	-	-	-	-	-	-	-	-
Customer - Owned	-	-	-	-	-	-	-	-	-	-	-
Total	419	387	423	423	612	1213	953	858	771	770	768
Notes											
Solar energy allocated as non-firm purchase											

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.

Not applicable.

44. 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 2020, 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 will continue 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 will continue to use projected avoided costs as the price point for evaluating proposals for renewable energy.*
- *Ease of Contracting – Seminole will continue 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 will seek 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 will keep abreast of 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.*

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.

Not applicable.

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.

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.

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

Generally, Seminole has seen a sizable decline in the cost of energy storage over the last 2-3 years. However, the cost has not yet reduced to a level sufficient to view this option as cost effective.

48. 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.

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).

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.

50. 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.

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.

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 (%)
Not Applicable					
Notes					
(Include Notes Here)					

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 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.

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 (%)
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					

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.

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.

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 the 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.

Seminole is conducting an analysis of the data collected to determine the cost-effectiveness of this pilot and whether to expand the program. In 2019, Seminole and its Member Systems opted to continue this program through the summer of 2021 in order to continue to collect and analyze the data produced by the program.

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.

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.

Not applicable.

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.

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.

Seminole is a wholesale provider to its Members and does not serve retail customers. All of our Members share in our portfolio of renewable resources.

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

Not applicable.

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.

Seminole's research and development efforts include the identification, evaluation, feasibility analysis (technical, economic, environmental, regulatory), and initial recommendation of utility power technologies. 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 efforts and facilitate knowledge transfer on emerging technologies from external stakeholders to functional areas inside of Seminole, including within our member distribution cooperatives.

Seminole actively participates in research activities led by the Electric Power Research Institute (EPRI), associated with various committees within the National Rural Electric Cooperative Association (NRECA), and through participation in Interest Groups at the Centre for Energy Advancement through Technological Innovation (CEATI International).

Seminole periodically updates its research and development plans in order to guide and monitor its research areas of focus. Currently those areas include but are not limited to distributed generation (renewable energy, energy storage, as well as other fast and flexible technologies), beneficial electrification (e.g., electric vehicle (EV) charging, electric forklifts, agriculture equipment), efficiency, energy conservation and demand response strategies. The potential benefits for our customers may include enhanced system reliability and resilience, lowered fuel costs through increased diversification of suppliers, enhanced power quality, improved productivity and/or energy and capacity savings, increased environmental sustainability, and reduced environmental impacts, among others. In addition, Seminole is currently implementing, in coordination with its Members, a smart thermostat demand

response pilot program to evaluate the cost effectiveness of a potential larger scale smart thermostat program.

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.

Not applicable.

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.

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	
Nuclear Unit Additions				
None				
Combustion Turbine Unit Additions				
None				
Combined Cycle Unit Additions				
Seminole Combined Cycle Facility	1,108	05/18	07/18	10/22
Shady Hills Combined Cycle Facility	546	05/18	12/18	12/21
Steam Turbine Unit Additions				
None				
Notes				
Reciprocating IC	92	TBD	TBD	12/27
Reciprocating IC	92	TBD	TBD	12/28

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.

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:
When determining a drop dead date for deciding upon to construct or PPA 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 2027, a drop dead date for the decision would be needed in 2023. For the generation needed in 2028, a decision would need to be made in 2024.

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.

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
SGS	1	ST	BIT	61.5%	61.9%	65.0%	47.8%	11.3%	NI Service	NI Service	NI Service	NI Service	NI Service	NI Service
SGS	2	ST	BIT	65.6%	71.6%	69.2%	55.9%	43.2%	47.6%	47.7%	48.7%	49.0%	48.2%	48.2%
MGS CC	Plant	CC	NG	77.2%	88.1%	87.8%	65.2%	44.1%	37.2%	41.1%	50.9%	52.5%	45.2%	49.2%
MGS PW CT	4	CT	NG	6.9%	17.9%	25.5%	10.0%	3.0%	1.7%	2.7%	3.8%	4.0%	3.0%	2.1%
MGS PW CT	5	CT	NG	4.8%	16.3%	24.6%	9.2%	1.9%	1.1%	1.8%	2.6%	3.1%	2.3%	1.4%
MGS PW CT	6	CT	NG	5.7%	0.2%	0.3%	0.0%	0.1%	0.1%	0.2%	0.3%	0.5%	0.2%	0.2%
MGS PW CT	7	CT	NG	6.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
MGS PW CT	8	CT	NG	6.8%	0.0%	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	NI Service	12.0%	69.6%	70.9%	72.7%	69.0%	70.3%	74.1%	73.4%
Reciprocating IC1	Plant	IC	NG	NI Service	NI Service	NI Service	NI Service	NI Service	NI Service	NI Service	NI Service	0.4%	18.2%	18.8%
Reciprocating IC2	Plant	IC	NG	NI Service	NI Service	NI Service	NI Service	NI Service	NI Service	NI Service	NI Service	0.4%	18.2%	18.8%
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. One recirpocating unit online 12/1/2027 and an additiona reciprocating unit online 12/1/2028.														

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.

Not applicable.

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.

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

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)					

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.

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
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)					

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.

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

Transmission Line	Line Length (Miles)	Nominal Voltage (kV)	Date Need Approved	Date TLSA Certified	In-Service Date
None					
Notes					
(Include Notes Here)					

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.

In 2019, Seminole operated in accordance with required regulatory permits and did not curtail its operations as a result of existing environmental regulations. Through 2029, Seminole does

not anticipate unit dispatch impacts, curtailments or retirements as a result of existing environmental regulations.

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?

    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.

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	Not Applicable			
2020				
2021				
2022				
2023				
2024				
2025				
2026				
2027				
2028				
Notes				
(Include Notes Here)				

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

Not Applicable

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.

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.

For existing sources (111d), Seminole Generating Station (SGS) would be materially impacted by the applicable portions of the Affordable Clean Energy (ACE) Rule. The existing combined cycle combustion turbines and simple cycle combustion turbines operated at the Midulla Generating Station (MGS) are not affected sources under the final rule. The ACE Rule will likely require 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) by 2024. Retirements, curtailments, or other ongoing downtime periods are not expected due to the ACE Rule.

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.

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.

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
SCCF	Combined Cycle Combustion Turbine	Natural Gas	1108							
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	263							
MGS Unit 2	Combined Cycle Combustion Turbine	Natural Gas / Distillate Oil	263							
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)										

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.

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
SCCF	Combined Cycle Combustion Turbine	Natural Gas	1108							
SGS Unit 1	Wall fired boiler	Coal	626	0.25	Unknown	<0.125/year		<0.1/year	<0.075/year	
SGS Unit 2	Wall fired boiler	Coal	634	0.25	Unknown	<0.125/year		<0.1/year	<0.075/year	
MGS Unit 1	Combined Cycle Combustion Turbine	Natural Gas / Distillate Oil	263							
MGS Unit 2	Combined Cycle Combustion Turbine	Natural Gas / Distillate Oil	263							
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)										

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.

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
SCCF	Combined Cycle Combustion Turbine	Natural Gas	1108	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	263	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	263	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)										

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.

The ACE Rule will likely require 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) by 2024. There are currently no approved costs for environmental compliance investments, such as energy efficiency measures, which would mitigate the need for future investments or be associated with the overall compliance plan for the ACE Rule. The compliance plan for the ACE Rule is under development.

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

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.

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	158*	0*	9,142	3.4	6,981	5.39	43	10.09	267	16.67
	2011	128*	0*	8,663	3.34	6,310	5.43	0	N/A	86	21.58
	2012	0	0	7,754	3.6	7,000	4.39	0	N/A	66	23.07
	2013	0	0	7,725	3.58	7,071	5.76	0	N/A	54	23.17
	2014	0	0	8,159	3.62	4,737	6.17	0	N/A	35	21.94
	2015	0	0	7,803	3.55	5,333	4.71	0	N/A	36	15.09
	2016	0	0	7,488	3.53	6,015	4.2	0	N/A	37	11.27
	2017	0	0	7,528	3.42	6,180	4.62	0	N/A	36	13.19
	2018	0	0	7,623	3.50	6,642	4.43	0	N/A	37	16.08
	2019	0	0	6,959	3.29	7,510	3.85	0	N/A	31	15.60
Projected	2020	0	0	7,394	2.63	7,073	2.47	0	N/A	39	22.49
	2021	0	0	7,409	2.70	7,283	2.62	0	N/A	34	21.73
	2022	0	0	5,724	2.80	9,142	2.53	0	N/A	31	20.76
	2023	0	0	2,549	3.06	12,333	2.52	0	N/A	23	20.25
	2024	0	0	2,647	3.14	11,831	2.57	0	N/A	22	20.08
	2025	0	0	2,649	3.22	12,290	2.61	0	N/A	23	20.43
	2026	0	0	2,701	3.29	12,523	2.66	0	N/A	23	20.82
	2027	0	0	2,723	3.37	12,794	2.75	0	N/A	22	21.44
	2028	0	0	2,681	3.45	13,036	2.81	0	N/A	21	21.53
	2029	0	0	2,677	3.53	13,239	2.90	0	N/A	19	22.05

Notes

*** In 2010 & 2011, The total uranium fuel usage represents alternative energy provided to Seminole during CR3 unscheduled outage for those years.**

73. 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.

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)

Please see Seminole's 2020 Ten-Year Site Plan pages 39-41.

75. 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 60 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.

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.

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.

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.

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.

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.

78. 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 2021, and is currently reviewing its future needs. 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.

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.

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.

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.

During the period from 2020 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.

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.

Not applicable.

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

Not applicable.