State of Florida

Public Service Commission
CAPITAL CIRCLE OFFICE CENTER ● 2540 SHUMARD OAK BOULEVARD
TALLAHASSEE, FLORIDA 32399-0850

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

DATE:	June 19, 2023
TO:	Adam Teitzman, Commission Clerk, Office of Commission Clerk
FROM:	Greg Davis, Engineering Specialist, Division of Engineering *GD LK* Phillip Ellis, Public Utilities Supervisor, Division of Engineering
RE:	Docket No. 20230000-OT - Undocketed filings for 2023.

Please file in the above mentioned docket file the attached document, Staff's Data Request #3, which was sent via email to each of the Ten-Year Site Plan utilities listed below:

Duke Energy Florida, Inc.
Florida Power & Light Company
Gainesville Regional Utilities
JEA
Lakeland Electric
Orlando Utilities Commission
Seminole Electric Cooperative
City of Tallahassee
Tampa Electric Company

GD/POE/pz

Attachment

June 19, 2023

Dear Utility Representatives,

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

Greg Davis
Office: (850) 413-6582
Email: GDavis@psc.state.fl.us
and
Phillip Ellis
Office: (850) 413-6626
Email: PEllis@psc.state.fl.us

Attached is Staff's Data Request #3. Please submit your responses to this data request to both the FPSC Division of Engineering and the FPSC Office of Commission Clerk by following the instructions below:

Submission to the FPSC Division of Engineering

Please email your responses to questions to Greg and Phillip by **Monday, July 3, 2023**. Please submit all **narrative** responses following their respective questions in a **single Microsoft Word** document, making sure to preserve question order.

Submission to the FPSC Office of Commission Clerk

1. Please convert the narrative responses sent to the FPSC Division of Engineering into a single PDF document.

2. Please electronically file this PDF document via the Commission's website no later than **Monday, July 3, 2023**.
    a. Navigate to www.floridapsc.com.
    b. At the top of the page, hover the mouse cursor over the "Clerk's Office" tab.
    c. Select from the drop-down menu "Electronic Filing Web Form."
    d. Please complete the form, referencing "Docket No. 20230000-OT."
    e. Attach to the form the PDF created in Step 1 as the "Primary PDF."
    f. Submit the form.

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

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

Enclosure

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

1. Please refer to DEF's 2023 TYSP, Schedule 8 and the list of proposed solar facilities.

    a. Did DEF determine whether solar facilities may shift the hour of system peak demand post solar contribution? If so, please explain the impact. If not, explain why not.

    b. Has DEF considered constructing any solar facilities that are co-located with other uses such as parking areas, waterways, or building rooftops? If not, explain why not. If so, explain whether an analysis selected any solar facilities of this type.

2. What reports or studies has DEF conducted to determine that the level of solar penetration included in their TYSP maintains system reliability and adequate firm capacity for customers?

3. Refer to DEF's 2023 TYSP, Chapter 2, and the last 2 sentences on page 2-1. Please explain why DEF did not obtain an updated load forecast after the Inflation Reduction Act was passed on August 16, 2022.

4. Refer to DEF's responses to Staff's First Data Request, No. 19. Please explain why commercial solar installation capacity are anticipated to be lower than residential installation capacity over the planning period. As part of this explanation, discuss what challenges exist with commercial installations over residential ones, and what efforts, if any, DEF has made to address them.

5. Refer to DEF's responses to Staff's First Data Request, No. 77 in the 2023 TYSP. Please explain the trend of coal consumption during 2030 through 2032 as compared to earlier in the planning period.

6. Please refer to DEF's 2023, 2022 and 2021 TYSPs, Schedules 2.2.1 and 2.3.1, for the questions below.

    a. As shown in Table 1 below, it appears that, for the forecasting horizon, DEF's 2023 TYSP projected a relatively higher growth rate of the Total Number of Customers (1.84 percent), compared with the growth rate of the Total Number of Customers (1.61 percent) projected in DEF's 2022 TYSP. This 2023 projection results in a 14.5 percent increase from what was projected in DEF's 2022 TYSP. Please explain why, and specify the major causes and drivers behind these forecasting results.

	2023 TYSP	2022 TYSP		2021 TYSP		2023 TYSP	2022 TYSP
Year	Schedule 2.3.1	Schedule 2.3.1	2023 vs. 2022	Schedule 2.3.1	2022 vs. 2021	Annual	Annual
	Column (6)	Column (6)	Forecast	Column (6)	Forecast	Growth Rate	Growth Rate
	(1)	(2)	(3) = (1) - (2)	(4)	(5) = (2) - (4)	(6)	(7)
2022		1,936,334		1,923,069	13,266		
2023	1,975,742	1,973,754	1,988	1,952,290	21,464		1.93%
2024	2,013,982	2,010,971	3,010	1,980,697	30,274	1.94%	1.89%
2025	2,051,615	2,048,074	3,542	2,008,458	39,616	1.87%	1.84%
2026	2,089,997	2,083,978	6,019	2,035,509	48,469	1.87%	1.75%
2027	2,129,060	2,117,851	11,209	2,061,747	56,104	1.87%	1.63%
2028	2,168,958	2,149,784	19,174	2,087,134	62,650	1.87%	1.51%
2029	2,209,391	2,179,734	29,657	2,111,638	68,095	1.86%	1.39%
2030	2,249,783	2,208,189	41,594	2,135,241	72,948	1.83%	1.31%
2031	2,289,479	2,235,216	54,263			1.76%	1.22%
2032	2,328,335					1.70%	
2022-2031 Growth Rate (based on 2022 TYSP data)							1.61%
2023-2032 Growth Rate (based on 2023 TYSP data)						1.84%	
Incremental Growth Rate (2023 TYSP vs. 2022 TYSP Forecasting Periods)						14.53%	

Table 1: DEF's Forecasts of the Total Number of Customers

b. As shown in Table 2 below, it appears that, for the forecasting horizon, DEF's 2023 TYSP projected a significantly lower growth rate of the Total Sales to Ultimate Consumers (GWh) (0.57 percent), compared with the growth rate of the Total Sales to Ultimate Consumers (GWh) (0.76 percent) projected in DEF's 2022 TYSP. This 2023 projection results in a 26 percent reduction from what was projected in DEF's 2022 TYSP. Please explain why, and specify the major causes and drivers behind these forecasting results.

Year	2023 TYSP Schedule 2.2.1 Column (8)	2022 TYSP Schedule 2.2.1 Column (8)	2023 vs. 2022 Forecast	2021 TYSP Schedule 2.2.1 Column (8)	2022 vs. 2021 Forecast	2023 TYSP Growth Rate	2022 TYSP Growth Rate
	(1)	(2)	(3) = (1) - (2)	(4)	(5) = (2) - (4)	(6)	(7)
2022		39,582		39,568	14		
2023	39,511	39,840	-329	40,123	-283		0.65%
2024	40,068	40,020	48	40,543	-523	1.41%	0.45%
2025	40,257	40,381	-123	40,913	-532	0.47%	0.90%
2026	40,096	40,393	-297	40,893	-499	-0.40%	0.03%
2027	40,272	40,867	-595	41,250	-383	0.44%	1.17%
2028	40,467	41,206	-740	41,883	-676	0.48%	0.83%
2029	40,793	41,662	-869	42,202	-540	0.81%	1.11%
2030	41,094	41,969	-875	42,501	-532	0.74%	0.74%
2031	41,511	42,391	-879			1.02%	1.00%
2032	41,567					0.14%	
2022-2031 Growth Rate							0.76%
2023-2032 Growth Rate						0.57%	
Incremental Growth Rate (2023 TYSP vs. 2022 TYSP Forecasting Periods)						-26.06%	

Table 2: DEF's Forecasts of the Total Sales to Ultimate Consumers (GWh)

7. Please refer to DEF's responses to Staff's First Data Request, No. 11(c). Staff asked "[p]lease explain any historic and forecasted trends in Total Sales (GWh) to Ultimate Customers, identify the major factors (historically, currently, and in the forecasted period) that contribute to the growth/decline of the trends." DEF responded:

> "This series is defined as the aggregation of all retail, wholesale, 'company use' energy consumption. The resulting sum is grossed up to 'generation level requirements' by applying a line-loss factor which estimates transmission line-losses. Non-weather trends and variation in this series include all items listed in parts 'a.' and 'b.' above. A very significant item included in NEL is 'Sales for Resale' (SFR) MWh. SFR or Wholesale energy sales are bulk transactions to sell power through contractual obligations that typically include a maximum MW capacity."

a. The above cited response seems to imply that DEF's "Total Sales to Ultimate Customers GWh," includes wholesale and "company use" energy consumption. Is that correct? Please explain your response.

b. If your response to Question (a) is affirmative, please provide the reasons for doing so.

c. If your response to Question (a) is affirmative, please explain the discrepancy between the definition provided in the afore-cited response and the logic behind the formula used to calculate the GWh amounts presented in column (8) of Schedule

2.2.1, that is provided in DEF's response to Staff's First Data Request, Question 2, "DEF 2023 TYSP Schedules 1-10.xlsx."

    d. If your response to Question (a) is negative, please provide an update to DEF's response to Staff's First Data Request, Question 11(c).

8. Referring to DEF's 2023 TYSP, Schedule 2.2.1, column (8), Total Sales to Ultimate Consumers, please explain why the Utility forecasted a lower amount of total retail sales (39,511 GWh) for 2023, compared to its 2022 historical amount (40,512 GWh) and projected 2024 amount (40,068 GWh).

9. Page 2-3 of the Company's Ten-Year Site Plan filing states, in part, "Residential use per customer continues to decline due to the main driver of higher energy prices/inflation." Please answer the following to the extent known by the Company:

    a. What portion of the drop in average KWh consumption per customer is attributable to improved appliance efficiency?

    b. What portion of the drop in average KWh consumption per customer is attributable to improved building codes?

    c. What portion of the drop in average KWh consumption per customer is attributable to rooftop solar panels or other customer-owned self-generation resources?

10. Table 2.1, as shown on pages 2-43 of the Company's 2023 TYSP filing, shows that DEF achieved 16 MWs of residential summer peak demand reduction in 2022. Please explain how that achievement is reflected in the line entry for 2022 in Schedule 3.1.1, History and Forecast of Summer Peak Demand (MW).

11. Column 6 of Schedule 3.1.1, History and Forecast of Summer Peak Demand (MW), reflects that in 2022, the cumulative Summer Peak Demand for Residential Load Management decreased by 33 MWs (calculated by subtracting the cumulative 2022 figure of 361 MWs from the cumulative 2021 figure of 394 MWs). Please explain this mathematical result (i.e., how a cumulative amount of Summer Peak Demand from one year (2021) could decline in the next successive year (2022)).

12. Column 7 of Schedule 3.1.1, History and Forecast of Summer Peak Demand (MW), reflects that in 2022, the cumulative Summer Peak Demand for Residential Conservation decreased by 110 MWs (calculated by subtracting the cumulative 2022 figure of 513

MWs from the cumulative 2021 figure of 623 MWs). Please explain this mathematical result (i.e., how a cumulative amount of Summer Peak Demand from one year (2021) could decline in the next successive year (2022)).

13. Column 9 of Schedule 3.1.1, History and Forecast of Summer Peak Demand (MW), reflects that in 2022, the cumulative Summer Peak Demand for Commercial /Industrial Conservation decreased by 10 MWs (calculated by subtracting the cumulative 2022 figure of 441 MWs from the cumulative 2021 figure of 451 MWs). Please explain this mathematical result (i.e., how a cumulative amount of Summer Peak Demand from one year (2021) could decline in the next successive year (2022)).

14. Column 6 of Schedule 3.2.1, History and Forecast of Winter Peak Demand (MW), reflects that in 2021/2022, the cumulative Winter Peak Demand for Residential Load Management decreased by 3 MWs (calculated by subtracting the cumulative 2021/2022 figure of 668 MWs from the cumulative 2020/2021 figure of 671 MWs). Please explain this mathematical result (i.e., how a cumulative amount of Winter Peak Demand from one year (2020/2021) could decline in the next successive year (2021/2022)).

15. Column 6 of Schedule 3.2.1, History and Forecast of Winter Peak Demand (MW), reflects that for the 2022/2023 forecast, the cumulative Winter Peak Demand for Residential Load Management will fall by 27 MWs (calculated by subtracting the forecasted 2022/2023 figure of 641 MWs from the historic 2021/2022 figure of 668 MWs). Please explain this mathematical result (i.e., how a cumulative number from one year (2021/2022) is forecasted to decline in value in the next successive year (2022/2023)).

16. Column 4 of Schedule 3.3.1, History and Forecast of Annual Net Energy for Load (GWh), reflects that in 2022, the cumulative Net Energy for Load for Commercial / Industrial Conservation decreased by 41 GW hours (calculated by subtracting the historic cumulative 2022 figure of 986 GW hours from the historic cumulative 2021 figure of 1,027 GW hours). Please explain this mathematical result (i.e., how a cumulative number from one year (2021) could decline in the next successive year (2022)).

1. What difficulties does FPL foresee in its proposed plan to add 2,235 MW of solar annually beginning in 2026? Please identify and discuss each area of concern.

2. For each of its existing and proposed solar facilities, identify which have already received approval by the Commission, and by what method; such as, through Environmental Clause recovery, inclusion in base rates as part of a base rate case, the SolarTogether Program or its extension, or the Solar Base Rate Adjustments. As part of your response, provide a table by year identifying which facilities or capacity is associated with each approval, as well as any remaining unapproved capacity.

3. Please refer to FPL's 2023 TYSP, page 142. Describe in detail the methodology FPL uses to determine the firm capacity contribution of its solar facilities. As part of this discussion, please explain whether FPL's existing and/or future solar facilities shifts the hour of system peak demand for reliability planning purposes net of solar generation.

   a. Provide an example hourly contribution of FPL's generating units compared to the system demand for a typical seasonal peak day for each season (Summer and Winter). As part of this response, provide the typical hourly demand and contribution of solar, batteries, nuclear, natural gas, and all other generation/purchases or sales.

   b. For its projected resource plan, did FPL consider constructing any solar facilities that are co-located with other uses such as parking areas, waterways, or building rooftops? If not, explain why not. If so, explain whether the analysis selected any solar facilities of this type.

4. Please refer to FPL's 2023 TYSP, Executive Summary section II(i) on page 9. Verify that the 75 MW Solar Thermal Unit located at the Martin plant was retired in the 1st Quarter of 2023. If this unit was retired, why was it not reflected in the Schedule 8 report?

5. Refer to FPL's responses to Staff's First Data Request, No. 19(b). Please explain why commercial solar installations are anticipated to be lower than residential installations. As part of this explanation, discuss what challenges exist with commercial installations over residential ones, and what efforts, if any, FPL has made to address them.

6. Refer to FPL's responses to Staff's First Data Request, No. 43 and specifically the notes at the bottom of the table. The notes indicated that Manatee Unit 1 and Unit 2 are planned for retirement in 2026. The TYSP Schedule 1 list these units as extreme weather winter peaking only with 0 MW capacity. Please explain why these units are not identified in Schedule 8 as a planned retirement facility in 2026.

7. Please refer to FPL's 2023, 2022 and 2021 TYSPs, Schedules 2.2 and 2.3, for the questions below.

    a. As shown in Table 1 below, it appears that, for the forecasting horizon, FPL's 2023 TYSP projected a lower growth rate of the Total Average Number of Customers (1.16 percent), compared with the growth rate of the Total Average Number of Customers (1.24 percent) projected in FPL's 2022 TYSP. This 2023 projection results in a 6.4 percent reduction from what was projected in FPL's 2022 TYSP. Please explain why, and specify the major causes and drivers behind these forecasting results.

	Table 1: FPL's Forecasts of the Total Average Number of Customers						
Year	2023 TYSP Schedule 2.3 Column (21)	2022 TYSP Schedule 2.3 Column (21)	2023 vs. 2022 Forecast	2021 TYSP Schedule 2.3 Column (21)	2022 vs. 2021 Forecast	2023 TYSP Annual Growth Rate	2022 TYSP Annual Growth Rate
	(1)	(2)	(3) = (1) - (2)	(4)	(5) = (2) - (4)	(6)	(7)
2022		5,769,312		5,717,534	51,778		
2023	5,857,552	5,849,180	8,373	5,785,456	63,723		1.38%
2024	5,933,291	5,927,728	5,563	5,856,372	71,356	1.29%	1.34%
2025	6,007,718	6,004,346	3,372	5,924,300	80,047	1.25%	1.29%
2026	6,080,827	6,079,824	1,002	5,990,248	89,577	1.22%	1.26%
2027	6,152,580	6,154,797	-2,217	6,056,920	97,878	1.18%	1.23%
2028	6,223,409	6,228,906	-5,497	6,124,321	104,585	1.15%	1.20%
2029	6,292,601	6,301,883	-9,282	6,191,640	110,242	1.11%	1.17%
2030	6,361,450	6,374,242	-12,792	6,258,775	115,467	1.09%	1.15%
2031	6,429,798	6,446,153	-16,355			1.07%	1.13%
2032	6,498,576					1.07%	
2022-2031 Growth Rate (based on 2022 TYSP data)							1.24%
2023-2032 Growth Rate (based on 2023 TYSP data)						1.16%	
Incremental Growth Rate (2023 TYSP vs. 2022 TYSP Forecasting Periods)						-6.42%	

    b. As shown in Table 2 below, it appears that, for the forecasting horizon, FPL's 2023 TYSP projected a higher growth rate of the Sales to Ultimate Consumers (GWh) (1.24 percent), compared with the growth rate of the Sales to Ultimate Consumers (GWh) (1.13 percent) projected in FPL's 2022 TYSP. This 2023 projection results in a 9.6 percent increase from what was projected in FPL's 2022 TYSP. Please explain why, and specify the major causes and drivers behind these forecasting results.

	2023 TYSP	2022 TYSP		2021 TYSP		2023 TYSP	2022 TYSP
Year	Schedule 2.2	Schedule 2.2	2023 vs. 2022	Schedule 2.2	2022 vs. 2021		
	Column (16)	Column (16)	Forecast	Column (16)	Forecast	Growth Rate	Growth Rate
	(1)	(2)	(3) = (1) - (2)	(4)	(5) = (2) - (4)		
2022		122,936		122,233	702		
2023	124,046	124,181	-135	123,131	1,050		1.01%
2024	124,759	125,407	-649	124,136	1,272	0.57%	0.99%
2025	126,306	126,888	-582	125,240	1,648	1.24%	1.18%
2026	127,661	128,102	-441	126,172	1,931	1.07%	0.96%
2027	129,058	129,287	-229	127,404	1,882	1.09%	0.92%
2028	130,807	130,791	16	128,864	1,928	1.36%	1.16%
2029	132,661	132,489	173	130,401	2,088	1.42%	1.30%
2030	134,419	134,143	276	132,045	2,098	1.32%	1.25%
2031	136,326	136,000	326			1.42%	1.38%
2032	138,563					1.64%	
2022-2031 Growth Rate							1.13%
2023-2032 Growth Rate						1.24%	
Incremental Growth Rate (2023 TYSP vs. 2022 TYSP Forecasting Periods)						9.64%	

Table 2: FPL's Forecasts of the Sales to Ultimate Consumers (GWh)

8. Referring to FPL's 2023 TYSP, Schedule 2.2, column (16), Sales to Ultimate Consumers, please explain why the Utility forecasted a lower amount of total retail sales (124,046 GWh) for 2023, compared to its 2022 historical amount (126,450 GWh) and projected 2024 amount (124,759 GWh).

9. Please refer to FPL's responses to Staff's First Data Request, No. 77. Please explain the negative 20 GWh of usage for Residual Oil for FPL System reported for 2022.

10. Page 6 of the Company's 2023 TYSP filing states, in part, that "the resource plan . . . [is] based on analysis that assumes that FPL will meet its DSM Goals . . . through the end of 2024." In 2022, FPL only met 1 of 9 of its DSM Goals. Please provide support for this assumption, given the actual results for DSM goal achievement from the most recent period (2022).

11. Footnote 3, appearing on page 7 of the Company's 2023 TYSP filing states "Because EVs alter the demand for electricity, utility activities that address EV charging and discharging are also DSM activities." Please state what are the specific utility activities that address EV charging and discharging that the Company defines as "DSM activities," and why.

12. Page 32 of the Company's 2023 TYSP filing discusses the "next generation of DSM activities."

    a. For each year of the forecasted period (2023-2032), please state the projected quantity of megawatts (increases or decreases) of "next generation of DSM activities" that are incorporated in the values shown in Schedule 3.1, Forecast of Summer Peak Demand, as shown on page 60 of the Company's 2023 TYSP filing.

    b. For each year of the forecasted period (2023-2032), please state the projected quantity of megawatts (increases or decreases) of "next generation of DSM activities" that are incorporated in the values shown in Schedule 3.2, Forecast of Winter Peak Demand, as shown on page 62 of the Company's 2023 TYSP filing.

13. Page 59 of the Company's 2023 TYSP filing features Schedule 3.1, History of Summer Peak Demand (MW). Please answer the following:

    a. For the year 2022, Column 6 reflects that in 2022, the cumulative Summer Peak Demand for Residential Load Management decreased by 3 MWs (calculated by subtracting the cumulative 2022 figure of 827 MWs from the cumulative 2021 figure of 830 MWs). Please explain this mathematical result (i.e., how the cumulative amount of Summer Peak Demand from one year (2021) could decline in the next successive year (2022)).

    b. For the year 2022, Column 7 reflects that in 2022, the cumulative Summer Peak Demand for Residential Conservation decreased by 261 MWs (calculated by subtracting the cumulative 2022 figure of 1,613 MWs from the 2021 cumulative figure of 1,874 MWs). Please explain this mathematical result (i.e., how the cumulative amount of Summer Peak Demand from one year (2021) could decline in the next successive year (2022)).

    c. For the year 2022, Column 8 reflects that in 2022, the cumulative Summer Peak Demand for Commercial/Industrial Load Management decreased by 11 MWs (calculated by subtracting the cumulative 2022 figure of 871 MWs from the cumulative 2021 figure of 882 MWs). Please explain this mathematical result (i.e., how the cumulative amount of Summer Peak Demand from one year (2021) could decline in the next successive year (2022)).

    d. For the year 2022, Column 9 reflects that in 2022, the cumulative Summer Peak Demand for Commercial/Industrial Conservation decreased by 224 MWs

(calculated by subtracting the cumulative 2022 figure of 966 MWs from the 2021 cumulative figure of 1,190 MWs). Please explain this mathematical result (i.e., how the cumulative amount of Summer Peak Demand from one year (2021) could decline in the next successive year (2022)).

14. Page 60 of the Company's 2023 TYSP filing features Schedule 3.1, the 2023-2032 Forecast for Summer Peak Demand (MW). Please answer the following:

    a. Please explain why zero MWs of Summer Peak Demand from Residential Conservation (Column 7) are forecasted for the years 2024 through 2032.

    b. Please explain why zero MWs of Summer Peak Demand from Commercial/Industrial Conservation (Column 9) are forecasted for the years 2024 through 2032.

15. Page 61 of the Company's 2023 TYSP filing features Schedule 3.2, History of Winter Peak Demand (MW). Please answer the following:

    a. For the year 2022, Column 6 reflects that in 2022, the cumulative Winter Peak Demand for Residential Load Management decreased by 8 MWs (calculated by subtracting the cumulative 2022 figure of 681 MWs from the cumulative 2021 figure of 689 MWs). Please explain this mathematical result (i.e., how the cumulative amount of Winter Peak Demand from one year (2021) could decline in the next successive year (2022)).

    b. For the year 2022, Column 7 reflects that in 2022, the cumulative Winter Peak Demand for Residential Conservation decreased by 382 MWs (calculated by subtracting the cumulative 2022 figure of 874 MWs from the 2021 cumulative figure of 1,256 MWs). Please explain this mathematical result (i.e., how the cumulative amount of Winter Peak Demand from one year (2021) could decline in the next successive year (2022)).

    c. For the year 2022, Column 9 reflects that in 2022, the cumulative Winter Peak Demand for Commercial/Industrial Conservation decreased by 174 MWs (calculated by subtracting the cumulative 2022 figure of 406 MWs from the 2021 cumulative figure of 580 MWs). Please explain this mathematical result (i.e., how the cumulative amount of Winter Peak Demand from one year (2021) could decline in the next successive year (2022)).

16. Page 62 of the Company's 2023 TYSP filing features Schedule 3.2, the 2023-2032 Forecast for Winter Peak Demand (MW). Please answer the following:

    a. Please explain why zero MWs of Winter Peak Demand from Residential Conservation (Column 7) are forecasted for the years 2024 through 2032.

    b. Please explain why zero MWs of Winter Peak Demand from Commercial/Industrial Conservation (Column 9) are forecasted for the years 2024 through 2032.

17. Page 63 of the Company's 2023 TYSP filing features Schedule 3.3, History of Annual Net Energy for Load (GWh). Please answer the following:

    a. For the year 2022, Column 3 reflects that in 2022, the cumulative amount of Residential Conservation decreased by 621 GWh (calculated by subtracting the cumulative 2022 figure of 3,400 GWh from the cumulative 2021 figure of 4,021 GWh). Please explain this mathematical result (i.e., how the cumulative amount of Annual Net Energy for Load from one year (2021) could decline in the next successive year (2022)).

    b. For the year 2022, Column 4 reflects that in 2022, the cumulative amount of Commercial/Industrial Conservation decreased by 421 GWh (calculated by subtracting the cumulative 2022 figure of 2,815 GWh from the 2021 cumulative figure of 3,236 GWh). Please explain this mathematical result (i.e., how the cumulative amount of Annual Net Energy for Load from one year (2021) could decline in the next successive year (2022)).

18. Page 64 of the Company's 2023 TYSP filing features Schedule 3.3, the 2023-2032 Forecast for Annual Net Energy for Load (GWh). Please answer the following:

    a. Please explain why zero GWh of Annual Net Energy for Load from Residential Conservation (Column 3) are forecasted for the years 2024 through 2032.

    b. Please explain why zero GWh of Annual Net Energy for Load from Commercial/Industrial Conservation (Column 4) are forecasted for the years 2024 through 2032.

19. Page 89 of the Company's 2023 TYSP filing states that the Commercial/Industrial Load Control (CILC) program was closed to new participants on December 31, 2000. Please answer the following:

    a. How many participants were enrolled in the CILC program at the time the program was closed to new participants (December 31, 2000)?

    b. How many participants were enrolled in the CILC program at the end of 2022 (as of December 31, 2022)?

    c. Since this program is currently closed to new participants, what assumptions has FPL made regarding the number of participants that will remain enrolled in this program for the forecasted years of 2023 through 2032?

20. Please refer to FPL's 2023 TYSP, Schedule 2.3, column (21), Total Average Number of Consumers. It appears that FPL's total average number of customers is anticipated to grow at an average annual rate of about 1.16 percent for the next 10-year period, compared to the 1.47 percent actual annual increase experienced during the 2013-2022 period. Please explain the major cause(s) for this projected reduction in the rate of growth of total average number of customers.

1. Refer to GRU's responses to Staff's First Data Request, No. 22. Please explain why the summer and winter demand appears to increase significantly slower than the rate of PEV ownership for the period after 2024.

2. Refer to GRU's responses to Staff's First Data Request, No. 32. Please complete the table by providing projected values for all existing generating units. These values were not included in the DR #1 response. If unable to provide a response, please explain why.

3. Please refer to GRU's responses to Staff's First Data Request, No. 77, for both the Company's 2022 Ten Year Site Plan (TYSP) and the 2023 TYSP. In the 2022 TYSP, GRU reported Residual Oil usage of 0.33 GWh for the year 2021, yet in the 2023 TYSP, GRU reported 6 GWh of Residual Oil usage for 2021. Please explain the discrepancy and confirm what amount of Residual Oil usage is correct for 2021.

4. Please refer to GRU's 2023 TYSP, Schedule 2.3, column (6), Total Average Number of Consumers. It appears that GRU's total number of customers is anticipated to grow at an average annual rate of about 0.58 percent for the next 10-year period, compared to the 0.91 percent actual annual increase experienced during the 2013-2022 period. Please explain the major cause(s) for this projected reduction in the rate of growth of total number of customers.

1. Refer to TYSP Chapter 1.1.2.2. Did JEA consider utility-owned solar generation instead of solar purchased power agreements? If so, please explain why JEA selected solar PPAs instead of utility owned generation. If not, explain why not.

2. Please refer to JEA's responses to the Staff's First Data Request, No. 77. Please explain why JEA is forecasting $0 and zero usage for Residual Oil for the years 2023-2032.

3. Please refer to JEA's response to Staff's First Data Request, No. 11(a) which reads "[a]s a results, we see a similar small growth of less than 1% for Residential, Commercial, and Industrial customers." Please specify the period associated with the said 1 percent growth.

4. Referring to JEA's response to Staff's First Data Request, No. 11(a):

   a. Please elaborate on the statement "[w]e see Residential sales as our higher rate because of the housing growth in our service territory per Moody's analytics forecast."

   b. Please explain to what the Residential sales are being compared with to arrive at the conclusion that Residential sales are JEA's higher rate.

   c. Based upon the aforementioned statement, is it correct to say that JEA expects housing growth in the Utility's service territory per Moody's analytics forecast, which is used to project the Utility's growth in Residential sales?

5. Based upon the data provided in JEA's Schedules 2.1 and 2.2, it appears that JEA has projected an average annual growth rate of 1.29 percent for Total Customers, and an average annual growth rate of 0.59 percent for Total Sales to Ultimate Customers over the current forecasting period 2023-2032. In comparison, JEA projected an average annual growth rate of 0.97 percent for Total Customers, and an average annual growth rate of 0.81 percent for Total Sales to Ultimate Customers over the 2022 TYSP forecasting period 2022-2031, according to the data presented in JEA's 2022 TYSP, Schedules 2.1 and 2.2. Please provide an explanation for, and the major drivers behind, the increased customer number forecast and the decreased sales forecast, respectively, in JEA's 2023 TYSP.

6. Please refer to JEA's response to Staff's First Data Request, No. 11(b). JEA reported that it sees "a small growth in the average KWh for Industrial customers for the forecasted 10-year period." Please identify the driver(s) behind the expected growth in the average energy consumption associated with Industrial customers over the forecasting horizon.

7. Please refer to JEA's 2023 TYSP, Schedule 2.2, column (18), Total Number of Consumers. It appears that JEA's total number of customers is anticipated to grow at an average annual rate of about 1.29 percent for the next 10-year period, compared to the 1.99 percent actual annual increase experienced during the 2013-2022 period. Please explain the major cause(s) for this projected reduction in the rate of growth of total number of customers.

1. Refer to LAK's responses to the Staff's First Data Request, No. 32. The projected average net operating heat rate (ANOHR) for is 905 compared to the historical 9.5 value. Please confirm if the 905 is a typographical error, and if so provide the proper value, and if not explain why not.

2. Please refer to LAK's responses to the Staff's First Data Request, No. 77, for both the 2022 Ten-Year Site Plan (TYSP) and the 2023 TYSP. In the 2022 TYSP, LAK reported zero Distillate Oil usage for the year 2021, yet in the 2023 TYSP, LAK reported 2.41 GWh of Distillate Oil usage for 2021. Please explain the discrepancy and confirm what amount of Distillate Oil usage is correct for 2021.

3. Please refer to LAK's 2023 TYSP, Schedule 2.3, column (6), Total Number of Consumers. It appears that LAK's total number of customers is anticipated to grow at an average annual rate of about 1.21 percent for the next 10-year period, compared to the 1.44 percent actual annual increase experienced during the 2013-2022 period. Please explain the major cause(s) for this projected reduction.

1. Refer to OUC's 2023 TYSP Chapter 6.3.1 page 6-3 and Schedule 8. According to Chapter 6.3.1, Osceola Unit 1 will be commercial in November 2023 and Osceola Unit 3 will be commercial in November 2024. However, Schedule 8 shows both units commercial in service beginning June 2025. Please explain the discrepancy between the dates for each unit.

2. Please refer to OUC's 2023 TYSP, Schedule 2.3, column (6), Total Number of Consumers. It appears that OUC's total number of customers is anticipated to grow at an average annual rate of about 1.92 percent for the next 10-year period, compared to the 2.54 percent actual annual increase experienced during the 2013-2022 period. Please explain the major cause(s) for this projected reduction in the rate of growth of total number of customers.

1. Refer to SEC's 2023 TYSP Schedule 8. Please identify what unit alternatives were considered in the Utility's planning, such as natural gas-fired RICE, simple cycle combustion turbines, combined cycle systems, solar PV, batteries, etc.). For non-traditional sources (solar, batteries), please discuss what firm commitment, if any, SEC allocates to them.

1. Please refer to TAL's 2023 TYSP, Schedule 2.2. It appears that the Utility's 2022 Total Sales to Ultimate Customers, in the amount of 2,649 GWh, increases by 2.29 percent more than TAL's 2021 Total Sales, which is 2,590 GWh. Please explain the major contributors to this sales increase.

2. Please refer to TAL's 2023 TYSP, Schedule 2.3, column (6), Total Number of Consumers. It appears that TAL's total number of customers is anticipated to grow at an average annual rate of about 0.78 percent for the next 10-year period, compared to the 1.04 percent actual annual increase experienced during the 2013-2022 period. Please explain the major cause(s) for this projected reduction in the rate of growth of total number of customers.

1. Please refer to TECO's 2023 TYSP, Schedule 8 and list of proposed solar facilities.

   a. Did TECO determine whether solar facilities may shift the hour of system peak demand post solar contribution? If so, please explain the impact. If not, explain why not.

   b. Has TECO considered constructing any solar facilities that are co-located with other uses such as parking areas, waterways, or building rooftops? If not, explain why not. If so, explain whether an analysis selected any solar facilities of this type.

2. What reports or studies has TECO conducted to determine that the level of solar penetration included in their TYSP maintains system reliability and adequate firm capacity for customers?

3. Please refer to TECO's 2023, 2022 and 2021 TYSPs, Schedules 2.2 and 2.3, for the questions below.

   a. As shown in Table 1 below, it appears that, for the forecasting horizon, TECO's 2023 TYSP projected a relatively higher growth rate of the Total Number of Customers (1.30 percent), compared with the growth rate of the Total Number of Customers (1.32 percent) projected in TECO's 2022 TYSP. This 2023 projection results in a 1.3 percent reduction from what was projected in TECO's 2022 TYSP. Please explain why, and specify the major causes and drivers behind these forecasting results.

Table 1: TECO's Forecasts of the Total Customers							
Year	2023 TYSP Schedule 2.3 Column (6)	2022 TYSP Schedule 2.3 Column (6)	2023 vs. 2022 Forecast	2021 TYSP Schedule 2.3 Column (6)	2022 vs. 2021 Forecast	2023 TYSP Annual Growth Rate	2022 TYSP Annual Growth Rate
	(1)	(2)	(3) = (1) - (2)	(4)	(5) = (2) - (4)	(6)	(7)
2022		815,178		811,592	3,587		
2023	835,584	828,917	6,667	824,116	4,802		1.69%
2024	849,045	842,136	6,908	836,133	6,003	1.61%	1.59%
2025	861,823	854,689	7,133	847,627	7,062	1.50%	1.49%
2026	874,080	866,163	7,917	858,412	7,752	1.42%	1.34%
2027	885,837	876,988	8,849	868,773	8,215	1.35%	1.25%
2028	897,255	887,484	9,772	878,751	8,733	1.29%	1.20%
2029	908,282	897,725	10,557	888,371	9,354	1.23%	1.15%
2030	918,839	907,615	11,223	897,545	10,071	1.16%	1.10%
2031	928,839	916,948	11,891			1.09%	1.03%
2032	938,474					1.04%	
2022-2031 Growth Rate (based on 2022 TYSP data)							1.32%
2023-2032 Growth Rate (based on 2023 TYSP data)						1.30%	
Incremental Growth Rate (2023 TYSP vs. 2022 TYSP Forecasting Periods)						-1.30%	

b. As shown in Table 2 below, it appears that, for the forecasting horizon, TECO's 2023 TYSP projected a significantly lower growth rate of the Total Sales to Ultimate Consumers (GWh) (0.60 percent), compared with the growth rate of the Total Sales to Ultimate Consumers (GWh) (0.94 percent) projected in TECO's 2022 TYSP. This 2023 projection results a significant 57.3 percent increase from what was projected in TECO's 2022 TYSP. Please explain why, and specify the major causes and drivers behind these forecasting results.

Table 2: TECO's Forecasts of the Total Sales to Ultimate Consumers (GWH)							
Year	2023 TYSP Schedule 2.2 Column (8)	2022 TYSP Schedule 2.2 Column (8)	2023 vs. 2022 Forecast	2021 TYSP Schedule 2.2 Column (8)	2022 vs. 2021 Forecast	2023 TYSP Growth Rate	2022 TYSP Growth Rate
	(1)	(2)	(3) = (1) - (2)	(4)	(5) = (2) - (4)	(6)	(7)
2022		19,812		19,776	36		
2023	19,975	19,965	10	19,980	-15		0.77%
2024	20,126	20,109	17	20,131	-22	0.76%	0.72%
2025	20,346	20,233	112	20,292	-58	1.09%	0.62%
2026	20,540	20,345	195	20,446	-101	0.96%	0.55%
2027	20,731	20,450	281	20,607	-157	0.93%	0.51%
2028	20,918	20,564	354	20,788	-224	0.90%	0.56%
2029	21,124	20,687	437	20,973	-286	0.99%	0.60%
2030	21,325	20,800	526	21,141	-342	0.95%	0.55%
2031	21,527	20,905	622			0.95%	0.51%
2032	21,733					0.96%	
2022-2031 Growth Rate							0.60%
2023-2032 Growth Rate						0.94%	
Incremental Growth Rate (2023 TYSP vs. 2022 TYSP Forecasting Periods)						57.30%	

4. Please refer to TECO's response to Staff's First Data Request, No. 11(b) and (c), which reads:

    b. "RESIDENTIAL: In 2022, average consumption per customer was slightly <u>lower than</u> in 2021, primarily from the offsetting effects of hotter weather and the returning to pre-Pandemic usage patterns."
"COMMERCIAL: In 2022, commercial consumption per customer was slightly higher than in 2021, primarily due to hotter weather […]."

    c. "TOTAL RETAIL NET ENERGY FOR LOAD (RNEL): RNEL in 2022 was 2.6 percent higher than in 2021, primarily due to record-breaking hot weather […]."

Regarding TECO's response to Question 11(b), please explain in more detail, separately, how the 2022 record-breaking hot weather affected the 2022 residential average consumption per customer and then, how returning to pre-Pandemic usage patterns affected the 2022 residential average consumption per customer. As the effect of each

influence is explained separately, please then explain the weather and pandemic's combined influence arriving at the "slightly lower than in 2021" trend for the residential average consumption per customer.

5. Referring to TECO's 2023 TYSP, Schedule 2.2, column (8), Total Sales to Ultimate Consumers, please explain why the Utility forecasted a lower amount of total retail sales (19,975 GWH) for 2023, compared to its 2022 historical amount (20,467 GWH) and projected 2024 amount (20,129 GWH).

6. Table III-1, as shown on page 17 of the Company's 2023 TYSP filing, reflects the Company's achieved MW and GWh Reductions for the Residential and Commercial/Industrial (C/I) classes as well as the total reductions for 2022. Please answer the following:

   a. Table III-1 indicates the Company achieved 11.1 MWs of summer peak reductions for the residential customer class in 2022. Column 7 of Schedule 3.1, reflects that 9 MWs (calculated by subtracting the cumulative 2022 figure of 183 MWs from the cumulative 2021 figure of 174 MWs) of incremental summer demand reductions for the residential customer class were achieved in 2022. Please explain the discrepancy in the amount reported in Table III-1 for 2022 (11.1 MWs) and the amount reported in Column 7 of Schedule 3.1 (9 MWs).

   b. Table III-1 indicates the Company achieved 12.3 MWs of summer peak reductions for the commercial/industrial customer class in 2022. The sum of the incremental values shown for 2022 in Columns 8 (6 MWs) and 9 (9 MWs) of Schedule 3.1, reflects that 15 MWs of incremental summer demand reductions for the commercial/industrial customer class were achieved in 2022. Please explain the discrepancy in the amount reported in Table III-1 for 2022 (12.3 MWs) and the amount reported in Columns 8 and 9 in Schedule 3.1 (15 MWs).

   c. Table III-1 indicates the Company achieved 30.4 GWhs of energy reductions for the residential customer class in 2022. Column 3 of Schedule 3.3, reflects that 23 GWhs (calculated by subtracting the cumulative 2022 figure of 679 GWhs from the cumulative 2021 figure of 656 GWhs) of incremental energy reductions for the residential customer class were achieved in 2022. Please explain the discrepancy in the amount reported in Table III-1 for 2022 (30.4 GWhs) and the amount reported in Column 3 of Schedule 3.3 (23 GWhs).

   d. Table III-1 indicates the Company achieved 26.6 GWhs of energy reductions for the commercial/industrial customer class in 2022. Column 4 of Schedule 3.3, reflects that 22 GWhs (calculated by subtracting the cumulative 2022 figure of

530 GWhs from the cumulative 2021 figure of 508 GWhs) of incremental energy reductions for the commercial/industrial customer class were achieved in 2022. Please explain the discrepancy in the amount reported in Table III-1 for 2022 (26.6 GWhs) and the amount reported in Column 4 of Schedule 3.3 (22 GWhs).

7. Please refer to Column 8 of Schedule 3.1, to answer this question. Please explain why there is no forecasted incremental summer peak demand reduction attributable to Commercial/Industrial Load Management between 2024 and 2026.

8. Please refer to Column 8 of Schedule 3.2, to answer this question. Please explain why there is no forecasted incremental winter peak demand reduction attributable to Commercial/Industrial Load Management between 2024 and 2026.

9. Please refer to TECO's 2023 TYSP, Schedule 2.3, column (6), Total Consumers. It appears that TECO's total customers is anticipated to grow at an average annual rate of about 1.30 percent for the next 10-year period, compared to the 1.86 percent actual annual increase experienced during the 2013-2022 period. Please explain the major cause(s) for this projected reduction in the rate of growth of total number of customers.