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July 3, 2023

VIA: ELECTRONIC FILING

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

Re: Review of Tampa Electric Company's 2023 Ten-Year Site Plan
Staff's Third Data Request (Nos. 1-9)
Undocketed 20230000-OT

Dear Mr. Teitzman:

Attached for filing are Tampa Electric Company's responses to Staff's Third Data Request (Nos. 1-9) regarding the company's 2023 Ten-Year Site Plan, propounded on June 19, 2023.

Thank you for your assistance in connection with this matter.

Sincerely,

A handwritten signature in blue ink that reads 'Malcolm N. Means'.

Malcolm N. Means

MNM/bml
Attachments

cc: Greg Davis (GDavis@psc.state.fl.us)
Phillip Ellis (PELLis@psc.state.fl.us)
TECO Regulatory Department

**TAMPA ELECTRIC COMPANY
UNDOCKETED: REVIEW OF TYSP'S
STAFF'S THIRD DATA REQUEST
REQUEST NO. 1
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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.

A.

- a. Yes, the solar facilities have shifted the net thermal peak demand to post solar ramp down with no detrimental impacts to the system.

The company's portfolio of existing and planned generating resources presented in the 2023 TYSP work in concert to effectively manage this shift in thermal generation demand, while providing adequate operational flexibility, reliability, and cost benefits for customers under the proposed solar expansion.

- b. Tampa Electric continues to evaluate solar on parking structures, waterways, and building rooftops. As the cost of these applications improve and technology advances, these options become more viable. We are evaluating several innovative ways to improve the cost effectiveness of these applications through pilot project and programs with the intent to expand our portfolio beyond utility scale solar.

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- 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?
 - A.** TEC has conducted reserve margin analyses with and without the planned solar expansion shown on Schedule 8 and the results demonstrate that the TEC system is able to satisfy and maintain the established 20% reserve margin criteria without the planned solar additions shown on Schedule 8.

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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	2022 TYSP	2023 vs. 2022 Forecast	2021 TYSP	2022 vs. 2021 Forecast	2023 TYSP	2022 TYSP	
	Schedule 2.3	Schedule 2.3		Schedule 2.3		Annual	Annual	
	Column (6)	Column (6)		Column (6)		Growth Rate	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.

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Table 2: TECO's Forecasts of the Total Sales to Ultimate Consumers (GWH)								
Year	2023 TYSP	2022 TYSP		2021 TYSP		2023 TYSP	2022 TYSP	
	Schedule 2.2	Schedule 2.2	2023 vs. 2022	Schedule 2.2	2022 vs. 2021			
	Column (8)	Column (8)	Forecast	Column (8)	Forecast	Growth Rate	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%	

- A.**
- a. TECO projected a relatively lower growth rate of the Total Number of Customers (1.30 percent) versus the prior year's projection of 1.32 percent due to updated population assumptions, which were slightly lower. The difference in growth of -0.02% is considered to be insignificant and will fluctuate up or down from one year to the next as models are recalibrated.
 - b. TECO projected a higher growth rate of the Total Sales to Ultimate Consumers (0.94 percent) versus the prior year's projection of 0.60 percent due to more optimistic economic assumptions, hotter trend in typical weather and stronger Electric Vehicle projections. The difference in growth rates will fluctuate up or down from one year to the next as assumptions are updated and models are recalibrated.

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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 lower than 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.

- A. Regarding the response to Question 11(b), the influence of record-breaking hotter weather and the change to pre-Pandemic levels is not quantified individually. It has been observed that since the height of the Pandemic in 2020, that residential usage per customer began its decent to more typical patterns. The statement regarding the "offsetting effects" is based on the expected outcome that the much hotter weather would increase residential usage over 2021 and since that was not the case, it was concluded that the post-Pandemic correction continued into 2022.

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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).
 - A. Total Sales to Ultimate Consumers in 2023 was lower compared to 2022's actual amount because 2022 benefitted from hotter weather as well as an upside in the Phosphate sector. The projections for 2023 are based on typical weather patterns over the past 20 years which were milder than the actual weather in 2022. The projections for 2024 are also based on typical weather patterns, but also include an additional year of customer growth, resulting in higher energy sales projections than in 2023.

**TAMPA ELECTRIC COMPANY
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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).

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- A.**
- a. The reason for the difference in residential summer peak amount in Table III-I and Schedule 3.1 is due to how the participants and their associated Demand Side Management (“DSM”) savings/contributions are recognized. In Table III-1, this reports the company actual DSM savings from the Commission approved DSM Plan, participant contributions are counted for the year regardless of the customers actual participation date (i.e. – a customer participating in January versus a customer participating in July will have the same DSM achievements recorded). In Schedule 3.1, the participation is averaged to closer reflect what the company will see in the load forecast for that given year.
 - b. The reason for the difference in commercial/industrial summer peak amount in Table III-I and Schedule 3.1 is the same reason as explained in Response No. 6a above.
 - c. The reason for the difference in residential annual energy amount in Table III-I and Schedule 3.3 is the same reason as explained in Response No. 6a above.
 - d. The reason for the difference in commercial/industrial annual energy amount in Table III-I and Schedule 3.3 is the same reason as explained in Response No. 6b above.

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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.
 - A. The forecasted incremental summer peak demand reduction attributable to Commercial/Industrial Load Management between 2024 and 2026 is growing at 0.3% each year. Since the MW values reported on Schedule 3.1 column (8) do not show decimal places and the rounded values are 107 MW for the years 2024 to 2026 it seems as there is no growth.

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- 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.

- A.** The forecasted incremental winter peak demand reduction attributable to Commercial/Industrial Load Management between 2024 and 2026 is growing at 0.6% each year. Since the MW values reported on Schedule 3.1 column (8) do not show decimal places and the rounded values are 107 MW for the years 2024 to 2026 it seems as there is no growth.

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- 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.
- A.** The higher average annual growth rate of about 1.86 percent compare to the next 10-year period (1.3 percent) is primarily due to the strong growth in recent years of the residential multi-family sector. The growth in the multi-family sector peaked in early 2023 and began to significantly slow down as these condominium, townhomes and apartment construction projects have been completed and occupied.