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April 22, 2024

**VIA: ELECTRONIC FILING**

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

Re: Petition of Tampa Electric Company for Approval of Revisions to Standard Offer  
Contract and Rate Schedule COG-2  
Dkt. 20240052-EQ

Dear Mr. Teitzman:

Attached for filing in the above-styled matter is Tampa Electric Company's response to Staff's First Data Request (Nos. 1-3), propounded on April 4, 2024.

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  
Attachment

cc: TECO Regulatory  
Segundo Sanchez – [ssanchez@psc.state.fl.us](mailto:ssanchez@psc.state.fl.us)  
[discovery-gcl@psc.state.fl.us](mailto:discovery-gcl@psc.state.fl.us)

**TAMPA ELECTRIC COMPANY  
DOCKET NO. 20240052-EQ  
STAFF'S FIRST DATA REQUEST  
REQUEST NO. 1  
BATES PAGE(S): 1 - 2  
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1. Please refer to Sheet No. 8.422 and 8.424 of the Utility's revised standard offer contract. Explain why there is a decrease in the avoided unit capital costs and fixed O&M as compared to the previous year's avoided unit. As part of this explanation, describe the impact of any changes in financial assumptions, changes in unit type or capabilities, change in unit timing, or general industry trends on the unit cost.
  - A. There is a decrease in the avoided unit capital costs and fixed O&M on a per kW basis compared to the previous year's avoided unit because the unit in this year's filing is a different technology type relative to last year's filing. The previous year's filing had an 18.7 MW reciprocating engine while this year's filing has a 247 MW combustion turbine. The combustion turbine has a lower cost on a per kW basis, and it is needed to meet the growing peak and energy demands in 2030 and the subsequent years that follow.

The changes in financial assumptions can be seen on the AVOIDED UNIT INPUTS tab in the provided Excel document titled "(BS 2) 2024 Avoided Unit and SOC Model.xlsx". Aside from the Combustion Turbine having different costs on a per kW basis than a Reciprocating Engine, the company updated several other financial assumptions such as a lower construction escalation rate, a higher cost of debt, and a lower tax rate. In total, the higher cost of debt caused an increase to the discount rate for present worth which is the company's incremental after-tax cost of capital.

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- 2** Please refer to Sheet No. 8.426. Please provide a copy of the amended monthly capacity payment rate table in Excel format, with formulas intact.
  
- A.** Please see the SOC OPTIONS – online Tariff tab in the provided Excel document titled “(BS 2) 2024 Avoided Unit and SOC Model.xlsx”.

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3. Please complete the following table describing payments to a renewable provider based on the proposed tariffs included in the Utility's revised standard offer contract for each of the five scenarios listed below. For the calculations, assume a renewable generator with a 50 MW output providing firm capacity with an in-service date of January 1, 2025, operating at the minimum capacity factor required for full capacity payments and a contract duration of 20 years. As part of your response, state the capacity factor assumed for the calculations. Please calculate the total Net Present Value (NPV) of all payments in 2025 dollars, and also provide an explanation of the method and rate used to calculate the NPV.
- As-available energy (energy only payments)
  - Normal capacity payments
  - Levelized payments
  - Early payments
  - Early levelized payments

Year	Energy (MWh)	Capacity Rate (\$/kw-mo)	Total Capacity Payments (\$)	Energy Rate (\$/MWh)	Total Energy Payments (\$)	Total Payments (\$)
2025						
2026						
2027						
2028						
2029						
2030						
2031						
2032						
2033						
2034						
2035						
2036						
2037						
2038						
2039						
2040						
2041						
2042						
2043						
2044						
Total (Nominal)						
Total (NPV)						

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- A.** The payments for capacity and energy from a 50 MW renewable generator with an in-service date of January 1, 2025, under the various options (i.e., As available only, normal capacity, levelized, early and early levelized) are provided in the tables below.

The payments are based on the renewable generator operating at an 80% capacity factor which is the minimum performance standard.

To determine if the sums of the payment streams of the various payment methods were equal on a Net Present Value or Net Present Worth basis, the company multiplied the payment in each year by the Present Worth Factor which is calculated as follows:

$$\frac{1}{(1+i)^n}$$

Where:

**i** = Discount Rate = 7.407%

**n** = (Payment year – 2025)

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As-available energy (energy only payments)

Year	Energy (MWh)	Capacity Rate (\$/kw-mo)	Total Capacity Payments (\$)	Energy Rate (\$/MWh)	Total Energy Payments (\$)	Total Payments (\$)
2025	350,400	-	-	32.56	11,408,404	11,408,404
2026	350,400	-	-	35.35	12,388,103	12,388,103
2027	350,400	-	-	39.52	13,847,220	13,847,220
2028	351,360	-	-	42.85	15,054,534	15,054,534
2029	350,400	-	-	43.12	15,109,518	15,109,518
2030	350,400	-	-	41.01	14,370,512	14,370,512
2031	350,400	-	-	40.58	14,220,434	14,220,434
2032	351,360	-	-	40.54	14,244,705	14,244,705
2033	350,400	-	-	40.37	14,147,080	14,147,080
2034	350,400	-	-	43.73	15,324,314	15,324,314
2035	350,400	-	-	45.41	15,910,635	15,910,635
2036	351,360	-	-	50.37	17,696,804	17,696,804
2037	350,400	-	-	55.53	19,458,217	19,458,217
2038	350,400	-	-	63.36	22,202,572	22,202,572
2039	350,400	-	-	67.35	23,600,619	23,600,619
2040	351,360	-	-	75.15	26,405,732	26,405,732
2041	350,400	-	-	75.28	26,379,443	26,379,443
2042	350,400	-	-	80.76	28,298,475	28,298,475
2043	350,400	-	-	78.44	27,486,697	27,486,697
2044	351,360	-	-	81.90	28,778,002	28,778,002
Total (Nominal)	7,012,800				376,332,017	376,332,017
Total (NPV)					184,845,260	184,845,260

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Normal capacity payments

Year	Energy (MWh)	Capacity Rate (\$/kw-mo)	Total Capacity Payments (\$)	Energy Rate (\$/MWh)	Total Energy Payments (\$)	Total Payments (\$)
2025	350,400	-	-	32.56	11,408,404	11,408,404
2026	350,400	-	-	35.35	12,388,103	12,388,103
2027	350,400	-	-	39.52	13,847,220	13,847,220
2028	351,360	-	-	42.85	15,054,534	15,054,534
2029	350,400	-	-	43.12	15,109,518	15,109,518
2030	350,400	8.02	4,810,791	42.47	14,881,077	19,691,868
2031	350,400	8.17	4,899,316	42.10	14,753,333	19,652,648
2032	351,360	8.32	4,989,474	42.13	14,803,130	19,792,604
2033	350,400	8.47	5,081,297	42.36	14,844,555	19,925,852
2034	350,400	8.62	5,174,815	45.27	15,862,419	21,037,235
2035	350,400	8.78	5,270,060	47.15	16,520,143	21,790,202
2036	351,360	8.95	5,367,063	52.11	18,309,254	23,676,317
2037	350,400	9.11	5,465,857	57.36	20,098,093	25,563,950
2038	350,400	9.28	5,566,475	65.83	23,068,400	28,634,875
2039	350,400	9.45	5,668,951	70.00	24,526,640	30,195,592
2040	351,360	9.62	5,773,320	78.28	27,503,072	33,276,392
2041	350,400	9.80	5,879,616	78.69	27,571,334	33,450,951
2042	350,400	9.98	5,987,876	83.88	29,390,371	35,378,247
2043	350,400	10.16	6,098,135	82.13	28,779,535	34,877,670
2044	351,360	10.35	6,210,430	85.77	30,134,799	36,345,229
Total (Nominal)	7,012,800		82,243,475		388,853,933	471,097,408
Total (NPV)			35,708,960		189,882,146	225,591,106

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Levelized payments

Year	Energy (MWh)	Capacity Rate (\$/kw-mo)	Total Capacity Payments (\$)	Energy Rate (\$/MWh)	Total Energy Payments (\$)	Total Payments (\$)
2025	350,400	-	-	32.56	11,408,404	11,408,404
2026	350,400	-	-	35.35	12,388,103	12,388,103
2027	350,400	-	-	39.52	13,847,220	13,847,220
2028	351,360	-	-	42.85	15,054,534	15,054,534
2029	350,400	-	-	43.12	15,109,518	15,109,518
2030	350,400	8.92	5,352,782	42.47	14,881,077	20,233,859
2031	350,400	8.92	5,352,782	42.10	14,753,333	20,106,114
2032	351,360	8.92	5,352,782	42.13	14,803,130	20,155,912
2033	350,400	8.92	5,352,782	42.36	14,844,555	20,197,337
2034	350,400	8.92	5,352,782	45.27	15,862,419	21,215,201
2035	350,400	8.92	5,352,782	47.15	16,520,143	21,872,924
2036	351,360	8.92	5,352,782	52.11	18,309,254	23,662,036
2037	350,400	8.92	5,352,782	57.36	20,098,093	25,450,875
2038	350,400	8.92	5,352,782	65.83	23,068,400	28,421,182
2039	350,400	8.92	5,352,782	70.00	24,526,640	29,879,422
2040	351,360	8.92	5,352,782	78.28	27,503,072	32,855,853
2041	350,400	8.92	5,352,782	78.69	27,571,334	32,924,116
2042	350,400	8.92	5,352,782	83.88	29,390,371	34,743,153
2043	350,400	8.92	5,352,782	82.13	28,779,535	34,132,317
2044	351,360	8.92	5,352,782	85.77	30,134,799	35,487,581
Total (Nominal)	7,012,800		80,291,727		388,853,933	469,145,660
Total (NPV)			35,708,960		189,882,146	225,591,106



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Early payments

Year	Energy (MWh)	Capacity Rate (\$/kw-mo)	Total Capacity Payments (\$)	Energy Rate (\$/MWh)	Total Energy Payments (\$)	Total Payments (\$)
2025	350,400	4.71	2,825,244	32.56	11,408,404	14,233,648
2026	350,400	4.80	2,877,227	35.35	12,388,103	15,265,329
2027	350,400	4.88	2,930,169	39.52	13,847,220	16,777,389
2028	351,360	4.97	2,984,089	42.85	15,054,534	18,038,622
2029	350,400	5.07	3,039,003	43.12	15,109,518	18,148,522
2030	350,400	5.16	3,094,932	42.47	14,881,077	17,976,009
2031	350,400	5.25	3,151,893	42.10	14,753,333	17,905,226
2032	351,360	5.35	3,209,906	42.13	14,803,130	18,013,036
2033	350,400	5.45	3,268,989	42.36	14,844,555	18,113,544
2034	350,400	5.55	3,329,164	45.27	15,862,419	19,191,583
2035	350,400	5.65	3,390,450	47.15	16,520,143	19,910,592
2036	351,360	5.75	3,452,867	52.11	18,309,254	21,762,121
2037	350,400	5.86	3,516,437	57.36	20,098,093	23,614,530
2038	350,400	5.97	3,581,181	65.83	23,068,400	26,649,581
2039	350,400	6.08	3,647,121	70.00	24,526,640	28,173,762
2040	351,360	6.19	3,714,279	78.28	27,503,072	31,217,351
2041	350,400	6.30	3,782,678	78.69	27,571,334	31,354,012
2042	350,400	6.42	3,852,340	83.88	29,390,371	33,242,711
2043	350,400	6.54	3,923,289	82.13	28,779,535	32,702,824
2044	351,360	6.66	3,995,549	85.77	30,134,799	34,130,348
Total (Nominal)	7,012,800		67,566,808		388,853,933	456,420,740
Total (NPV)			35,708,960		189,882,146	225,591,106

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Early levelized payments

Year	Energy (MWh)	Capacity Rate (\$/kw-mo)	Total Capacity Payments (\$)	Energy Rate (\$/MWh)	Total Energy Payments (\$)	Total Payments (\$)
2025	350,400	5.40	3,238,198	32.56	11,408,404	14,646,602
2026	350,400	5.40	3,238,198	35.35	12,388,103	15,626,300
2027	350,400	5.40	3,238,198	39.52	13,847,220	17,085,417
2028	351,360	5.40	3,238,198	42.85	15,054,534	18,292,731
2029	350,400	5.40	3,238,198	43.12	15,109,518	18,347,716
2030	350,400	5.40	3,238,198	42.47	14,881,077	18,119,275
2031	350,400	5.40	3,238,198	42.10	14,753,333	17,991,530
2032	351,360	5.40	3,238,198	42.13	14,803,130	18,041,328
2033	350,400	5.40	3,238,198	42.36	14,844,555	18,082,753
2034	350,400	5.40	3,238,198	45.27	15,862,419	19,100,617
2035	350,400	5.40	3,238,198	47.15	16,520,143	19,758,340
2036	351,360	5.40	3,238,198	52.11	18,309,254	21,547,452
2037	350,400	5.40	3,238,198	57.36	20,098,093	23,336,290
2038	350,400	5.40	3,238,198	65.83	23,068,400	26,306,598
2039	350,400	5.40	3,238,198	70.00	24,526,640	27,764,838
2040	351,360	5.40	3,238,198	78.28	27,503,072	30,741,269
2041	350,400	5.40	3,238,198	78.69	27,571,334	30,809,532
2042	350,400	5.40	3,238,198	83.88	29,390,371	32,628,569
2043	350,400	5.40	3,238,198	82.13	28,779,535	32,017,733
2044	351,360	5.40	3,238,198	85.77	30,134,799	33,372,996
Total (Nominal)	7,012,800		64,763,954		388,853,933	453,617,886
Total (NPV)			35,708,960		189,882,146	225,591,106