

AUSLEY & McMULLEN

ATTORNEYS AND COUNSELORS AT LAW

123 SOUTH CALHOUN STREET
P.O. BOX 391 (ZIP 32302)
TALLAHASSEE, FLORIDA 32301
(850) 224-9115 FAX (850) 222-7560

April 29, 2022

VIA: ELECTRONIC FILING

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

Re: Petition of Tampa Electric Company for Approval of Revisions to Standard Offer
Contract and Rate Schedule COG-2; Dkt. 20220070-EQ

Dear Mr. Teitzman:

Attached for filing in the above docket are Tampa Electric Company's responses to Staff's
First Data Request (No. 1), propounded on April 15, 2022.

Thank you for your assistance in connection with this matter.

Sincerely,



Malcolm N. Means

MNM/bmp
Attachment

cc: Donald Phillips (w/encl.)
Paula Brown (w/encl.)
Richard Gentry (w/encl.)
Mary Wessling (w/encl.)

**TAMPA ELECTRIC COMPANY
DOCKET NO. 20220070-EQ
STAFF'S FIRST DATA REQUEST
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1. 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, 2023, 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 2023 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

- A. The payments for capacity and energy from a 50 MW renewable generator with an in-service date of January 1, 2023, 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. The Monthly Capacity Factor for the period April 1st through October 31st shall be defined as the sum of 90% of the Monthly Average On-Peak Operating Factor plus 10% of the Monthly Average Off-Peak Operating Factor.

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 = 6.592%

n = (Payment year – 2023)

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As-Available Energy (Energy Only)

Year	Energy (MWh)	Capacity Rate (\$/kw-mo)	Total Capacity Payments (\$)	Energy Rate (\$/MWh)	Total Energy Payments (\$)	Total Payments (\$)
2023	350,400	-	-	27.53	9,645,547	9,645,547
2024	351,360	-	-	26.05	9,154,120	9,154,120
2025	350,400	-	-	26.49	9,283,453	9,283,453
2026	350,400	-	-	27.03	9,472,027	9,472,027
2027	350,400	-	-	28.01	9,814,227	9,814,227
2028	351,360	-	-	31.38	11,025,280	11,025,280
2029	350,400	-	-	32.75	11,475,733	11,475,733
2030	350,400	-	-	32.74	11,473,493	11,473,493
2031	350,400	-	-	36.52	12,797,933	12,797,933
2032	351,400	-	-	37.44	13,154,493	13,154,493
2033	350,400	-	-	38.20	13,383,613	13,383,613
2034	350,400	-	-	39.59	13,871,973	13,871,973
2035	350,400	-	-	41.33	14,482,227	14,482,227
2036	351,360	-	-	45.69	16,053,440	16,053,440
2037	350,400	-	-	53.41	16,326,253	16,326,253
2038	350,400	-	-	54.49	18,713,160	18,713,160
2039	350,400	-	-	57.52	19,094,973	19,094,973
2040	351,360	-	-	57.52	20,208,653	20,208,653
2041	350,400	-	-	59.13	20,719,080	20,719,080
2042	350,400	-	-	60.43	21,173,987	21,173,987
Total (nominal)	7,012,800	-	-		281,323,667	281,323,667
Total (NPV)					148,188,145	148,188,145

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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 (\$)
2023	350,400	-	-	27.53	9,645,547	9,645,547
2024	351,360	-	-	26.05	9,154,120	9,154,120
2025	350,400	-	-	26.49	9,283,453	9,283,453
2026	350,400	-	-	27.03	9,472,027	9,472,027
2027	350,400	-	-	28.01	9,814,227	9,814,227
2028	351,360	13.45	8,069,081	31.47	11,058,038	19,127,119
2029	350,400	13.72	8,232,947	32.88	11,522,571	19,755,519
2030	350,400	14.00	8,400,146	33.01	11,565,099	19,965,245
2031	350,400	14.28	8,570,744	36.79	12,892,802	21,463,547
2032	351,360	14.57	8,744,812	37.81	13,285,299	22,030,111
2033	350,400	14.87	8,922,419	38.56	13,512,106	22,434,525
2034	350,400	15.17	9,103,638	39.87	13,970,818	23,074,457
2035	350,400	15.48	9,288,543	41.65	14,593,084	23,881,626
2036	351,360	15.80	9,477,207	46.23	16,242,892	25,720,099
2037	350,400	16.12	9,669,709	46.98	16,460,067	26,129,776
2038	350,400	16.44	9,866,126	54.04	18,937,170	28,803,296
2039	350,400	16.78	10,066,538	55.91	19,590,459	29,656,997
2040	351,360	17.12	10,271,025	58.57	20,579,329	30,850,355
2041	350,400	17.47	10,479,672	60.32	21,135,140	31,614,813
2042	350,400	17.82	10,692,563	61.53	21,560,328	32,252,892
Total (nominal)	7,012,800		139,855,172		284,274,576	424,129,748
Total (NPV)			65,927,124		149,375,110	215,302,234

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Levelized Payments

Year	Energy (MWh)	Capacity Rate (\$/kw-mo)	Total Capacity Payments (\$)	Energy Rate (\$/MWh)	Total Energy Payments (\$)	Total Payments (\$)
2023	350,400	-	-	27.53	9,645,547	9,645,547
2024	351,360	-	-	26.05	9,154,120	9,154,120
2025	350,400	-	-	26.49	9,283,453	9,283,453
2026	350,400	-	-	27.03	9,472,027	9,472,027
2027	350,400	-	-	28.01	9,814,227	9,814,227
2028	351,360	15.17	9,104,987	31.47	11,058,038	20,163,025
2029	350,400	15.17	9,104,987	32.88	11,522,571	20,627,558
2030	350,400	15.17	9,104,987	33.01	11,565,099	20,670,086
2031	350,400	15.17	9,104,987	36.79	12,892,802	21,997,789
2032	351,360	15.17	9,104,987	37.81	13,285,299	22,390,285
2033	350,400	15.17	9,104,987	38.56	13,512,106	22,617,093
2034	350,400	15.17	9,104,987	39.87	13,970,818	23,075,805
2035	350,400	15.17	9,104,987	41.65	14,593,084	23,698,070
2036	351,360	15.17	9,104,987	46.23	16,242,892	25,347,878
2037	350,400	15.17	9,104,987	46.98	16,460,067	25,565,053
2038	350,400	15.17	9,104,987	54.04	18,937,170	28,042,157
2039	350,400	15.17	9,104,987	55.91	19,590,459	28,695,446
2040	351,360	15.17	9,104,987	58.57	20,579,329	29,684,316
2041	350,400	15.17	9,104,987	60.32	21,135,140	30,240,127
2042	350,400	15.17	9,104,987	61.53	21,560,328	30,665,315
Total (nominal)	7,012,800		136,574,801		284,274,576	420,849,377
Total (NPV)			65,927,125		149,375,110	215,302,235

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Early Payments

Year	Energy (MWh)	Capacity Rate (\$/kw-mo)	Total Capacity Payments (\$)	Energy Rate (\$/MWh)	Total Energy Payments (\$)	Total Payments (\$)
2023	350,400	8.06	4,838,891	27.53	9,645,547	14,484,438
2024	351,360	8.23	4,937,155	26.05	9,154,120	14,091,275
2025	350,400	8.40	5,037,416	26.49	9,283,453	14,320,869
2026	350,400	8.57	5,139,716	27.03	9,472,027	14,611,743
2027	350,400	8.74	5,244,096	28.01	9,814,227	15,058,323
2028	351,360	8.92	5,350,599	31.47	11,058,038	16,408,637
2029	350,400	9.10	5,459,267	32.88	11,522,571	16,981,838
2030	350,400	9.28	5,570,145	33.01	11,565,099	17,135,244
2031	350,400	9.47	5,683,278	36.79	12,892,802	18,576,080
2032	351,360	9.66	5,798,712	37.81	13,285,299	19,084,010
2033	350,400	9.86	5,916,493	38.56	13,512,106	19,428,599
2034	350,400	10.06	6,036,669	39.87	13,970,818	20,007,488
2035	350,400	10.27	6,159,290	41.65	14,593,084	20,752,374
2036	351,360	10.47	6,284,405	46.23	16,242,892	22,527,297
2037	350,400	10.69	6,412,064	46.98	16,460,067	22,872,131
2038	350,400	10.90	6,542,320	54.04	18,937,170	25,479,490
2039	350,400	11.13	6,675,226	55.91	19,590,459	26,265,685
2040	351,360	11.35	6,810,834	58.57	20,579,329	27,390,164
2041	350,400	11.58	6,949,202	60.32	21,135,140	28,084,342
2042	350,400	11.82	7,090,384	61.53	21,560,328	28,650,712
Total (nominal)	7,012,800		117,936,162		284,274,576	402,210,738
Total (NPV)			65,927,124		149,375,110	215,302,234

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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 (\$)
2023	350,400	8.06	4,838,891	27.53	9,645,547	14,484,438
2024	351,360	8.23	4,937,155	26.05	9,154,120	14,091,275
2025	350,400	8.40	5,037,416	26.49	9,283,453	14,320,869
2026	350,400	8.57	5,139,716	27.03	9,472,027	14,611,743
2027	350,400	8.74	5,244,096	28.01	9,814,227	15,058,323
2028	351,360	8.92	5,350,599	31.47	11,058,038	16,408,637
2029	350,400	9.10	5,459,267	32.88	11,522,571	16,981,838
2030	350,400	9.28	5,570,145	33.01	11,565,099	17,135,244
2031	350,400	9.47	5,683,278	36.79	12,892,802	18,576,080
2032	351,360	9.66	5,798,712	37.81	13,285,299	19,084,010
2033	350,400	9.86	5,916,493	38.56	13,512,106	19,428,599
2034	350,400	10.06	6,036,669	39.87	13,970,818	20,007,488
2035	350,400	10.27	6,159,290	41.65	14,593,084	20,752,374
2036	351,360	10.47	6,284,405	46.23	16,242,892	22,527,297
2037	350,400	10.69	6,412,064	46.98	16,460,067	22,872,131
2038	350,400	10.90	6,542,320	54.04	18,937,170	25,479,490
2039	350,400	11.13	6,675,226	55.91	19,590,459	26,265,685
2040	351,360	11.35	6,810,834	58.57	20,579,329	27,390,164
2041	350,400	11.58	6,949,202	60.32	21,135,140	28,084,342
2042	350,400	11.82	7,090,384	61.53	21,560,328	28,650,712
Total (nominal)	7,012,800		117,936,162		284,274,576	402,210,738
Total (NPV)			65,927,124		149,375,110	215,302,234