

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 26, 2019

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; FPSC Docket No. 20190077-EQ

Dear Mr. Teitzman:

Attached for filing in the above docket are Tampa Electric Company's Second Revised Responses to Staff's First Data Request (No. 1) dated April 4, 2019. These responses further correct the revised responses the company submitted on April 17, 2019. O&M expenses were inadvertently omitted and, therefore, not escalated in the calculation of the company's responses. The attached revised responses correct this omission.

We would appreciate your circulating the attached revised responses to recipients of the earlier filings.

Thank you for your assistance in connection with this matter.

Sincerely,


James D. Beasley

JDB/pp
Attachment

**TAMPA ELECTRIC COMPANY
DOCKET NO. 20190077-EQ
STAFF'S FIRST DATA REQUEST
REQUEST NO. 1
PAGE 1 OF 7
FILED: APRIL 15, 2019
REVISED: APRIL 17, 2019
SECOND REVISED: APRIL 26, 2019**

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. Assume a renewable generator with a 50 MW output providing firm capacity with an in-service date of January 1, 2020, operating at the minimum capacity factor required for full capacity payments and a contract duration of 20 years. Please state the capacity factor assumed for the calculations. Calculate the total Net Present Value (NPV) of all payments in 2020 dollars, and also provide an explanation of the method and rate used to calculate the NPV.

Please provide the completed table for each of the following five scenarios:

- 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 (\$)	Year Energy
2020							
2021							
2022							
2023							
2024							
2025							
2026							
2027							
2028							
2029							
2030							
2031							
2032							
2033							
2034							
2035							
2036							
2037							
2038							
2039							
Total(nominal)							
Total (NPV)							

**TAMPA ELECTRIC COMPANY
DOCKET NO. 20190077-EQ
STAFF'S FIRST DATA REQUEST
REQUEST NO. 1
PAGE 2 OF 7
FILED: APRIL 15, 2019
REVISED: APRIL 17, 2019
SECOND REVISED: APRIL 26, 2019**

- A.** The payments for capacity and energy from a 50 MW a renewable facility with an in-service date of January 1, 2020 under the various options (i.e., as-available only, standard, levelized, early, and early levelized) are provided in the tables on Pages 3 through 7 of 7.

The payments are based on the renewable facility 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 80% of the Monthly Average On-Peak Operating Factor plus 20% of the Monthly Average Off-peak Operating Factor. The Monthly Capacity Factor for the period November 1st through March 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 = 7.012 %
n = (payment year – 2020)

**TAMPA ELECTRIC COMPANY
DOCKET NO. 20190077-EQ
STAFF'S FIRST DATA REQUEST
REQUEST NO. 1
PAGE 3 OF 7
FILED: APRIL 15, 2019
REVISED: APRIL 17, 2019
SECOND REVISED: APRIL 26, 2019**

Payment Type: As-Available (Energy Only)
Committed Capacity: 50 MW
Capacity Factor: 80%

Year	Energy	Capacity Rate	Total Capacity Payments	Energy Rate	Total Energy Payments	Total Payments
	(MWh)	(\$/kW-mo)	(\$)	(\$/MWh)	(\$)	(\$)
2020	350,400	-	-	28.12	9,851,760	9,851,760
2021	351,360	-	-	25.90	9,101,107	9,101,107
2022	350,400	-	-	26.35	9,234,147	9,234,147
2023	350,400	-	-	27.72	9,712,200	9,712,200
2024	350,400	-	-	27.57	9,662,267	9,662,267
2025	351,360	-	-	29.60	10,400,920	10,400,920
2026	350,400	-	-	31.05	10,880,627	10,880,627
2027	350,400	-	-	32.68	11,450,320	11,450,320
2028	350,400	-	-	35.45	12,421,707	12,421,707
2029	351,360	-	-	38.19	13,419,440	13,419,440
2030	350,400	-	-	40.05	14,034,933	14,034,933
2031	350,400	-	-	41.92	14,688,160	14,688,160
2032	350,400	-	-	43.72	15,320,613	15,320,613
2033	351,360	-	-	46.03	16,173,987	16,173,987
2034	350,400	-	-	48.53	17,003,307	17,003,307
2035	350,400	-	-	50.00	17,519,707	17,519,707
2036	350,400	-	-	54.01	18,925,427	18,925,427
2037	351,360	-	-	54.77	19,243,120	19,243,120
2038	350,400	-	-	58.23	20,402,960	20,402,960
2039	350,400	-	-	59.70	20,917,547	20,917,547
Total (Nominal)	7,012,800	-	-		280,364,253	280,364,253
Total NPV (\$2020)					164,768,480	164,768,480

**TAMPA ELECTRIC COMPANY
DOCKET NO. 20190077-EQ
STAFF'S FIRST DATA REQUEST
REQUEST NO. 1
PAGE 4 OF 7
FILED: APRIL 15, 2019
REVISED: APRIL 17, 2019
SECOND REVISED: APRIL 26, 2019**

Payment Type: Normal
Committed Capacity: 50 MW
Capacity Factor: 80%

Year	Energy	Capacity Rate	Total Capacity Payments ⁽¹⁾	Energy Rate	Total Energy Payments	Total Payments
	(MWh)	(\$/kW-mo)	(\$)	(\$/MWh)	(\$)	(\$)
2020	350,400	-	-	28.12	9,851,760	9,851,760
2021	351,360	-	-	25.90	9,101,107	9,101,107
2022	350,400	-	-	26.35	9,234,147	9,234,147
2023	350,400	4.66	2,798,645	27.72	9,712,200	12,510,845
2024	350,400	4.76	2,857,717	27.57	9,662,267	12,519,984
2025	351,360	4.86	2,918,037	29.60	10,400,920	13,318,957
2026	350,400	4.97	2,979,630	31.05	10,880,627	13,860,257
2027	350,400	5.07	3,042,524	32.68	11,450,320	14,492,844
2028	350,400	5.18	3,106,745	35.45	12,421,707	15,528,452
2029	351,360	5.29	3,172,322	38.19	13,419,440	16,591,762
2030	350,400	5.40	3,239,284	40.05	14,034,933	17,274,217
2031	350,400	5.51	3,307,659	41.92	14,688,160	17,995,819
2032	350,400	5.63	3,377,478	43.72	15,320,613	18,698,092
2033	351,360	5.75	3,448,772	46.03	16,173,987	19,622,758
2034	350,400	5.87	3,521,570	48.53	17,003,307	20,524,877
2035	350,400	5.99	3,595,905	50.00	17,519,707	21,115,612
2036	350,400	6.12	3,671,810	54.01	18,925,427	22,597,237
2037	351,360	6.25	3,749,318	54.77	19,243,120	22,992,438
2038	350,400	6.38	3,828,462	58.23	20,402,960	24,231,422
2039	350,400	6.52	3,909,276	59.70	20,917,547	24,826,823
Total (Nominal)	7,012,800		56,525,154		280,364,253	336,889,407
Total NPV (\$2020)			27,391,785		164,768,480	192,160,264

(1) The capacity payment under the Normal payment option begins January 1st of 2023 which is the in-service date of the avoided unit.

**TAMPA ELECTRIC COMPANY
DOCKET NO. 20190077-EQ
STAFF'S FIRST DATA REQUEST
REQUEST NO. 1
PAGE 5 OF 7
FILED: APRIL 15, 2019
REVISED: APRIL 17, 2019
SECOND REVISED: APRIL 26, 2019**

Payment Type: Levelized
Committed Capacity: 50 MW
Capacity Factor: 80%

Year	Energy	Capacity Rate	Total Capacity Payments ⁽¹⁾	Energy Rate	Total Energy Payments	Total Payments
	(MWh)	(\$/kW-mo)	(\$)	(\$/MWh)	(\$)	(\$)
2020	350,400	-	-	28.12	9,851,760	9,851,760
2021	351,360	-	-	25.90	9,101,107	9,101,107
2022	350,400	-	-	26.35	9,234,147	9,234,147
2023	350,400	5.28	3,168,525	27.72	9,712,200	12,880,725
2024	350,400	5.29	3,175,147	27.57	9,662,267	12,837,414
2025	351,360	5.30	3,181,915	29.60	10,400,920	13,582,835
2026	350,400	5.31	3,188,831	31.05	10,880,627	14,069,458
2027	350,400	5.33	3,195,900	32.68	11,450,320	14,646,220
2028	350,400	5.34	3,203,124	35.45	12,421,707	15,624,831
2029	351,360	5.35	3,210,507	38.19	13,419,440	16,629,947
2030	350,400	5.36	3,218,053	40.05	14,034,933	17,252,986
2031	350,400	5.38	3,225,765	41.92	14,688,160	17,913,925
2032	350,400	5.39	3,233,646	43.72	15,320,613	18,554,259
2033	351,360	5.40	3,241,701	46.03	16,173,987	19,415,687
2034	350,400	5.42	3,249,932	48.53	17,003,307	20,253,239
2035	350,400	5.43	3,258,345	50.00	17,519,707	20,778,052
2036	350,400	5.44	3,266,943	54.01	18,925,427	22,192,370
2037	351,360	5.46	3,275,731	54.77	19,243,120	22,518,851
2038	350,400	5.47	3,284,711	58.23	20,402,960	23,687,671
2039	350,400	5.49	3,293,889	59.70	20,917,547	24,211,436
Total (Nominal)	7,012,800		54,872,666		280,364,253	335,236,920
Total NPV (\$2020)			27,391,784		164,768,480	192,160,264

(1) The capacity payment under the Normal payment option begins January 1st of 2023 which is the in-service date of the avoided unit.

**TAMPA ELECTRIC COMPANY
DOCKET NO. 20190077-EQ
STAFF'S FIRST DATA REQUEST
REQUEST NO. 1
PAGE 6 OF 7
FILED: APRIL 15, 2019
REVISED: APRIL 17, 2019
SECOND REVISED: APRIL 26, 2019**

Payment Type: Early
Committed Capacity: 50 MW
Capacity Factor: 80%

Year	Energy	Capacity Rate	Total Capacity Payments	Energy Rate	Total Energy Payments	Total Payments
	(MWh)	(\$/kW-mo)	(\$)	(\$/MWh)	(\$)	(\$)
2020	350,400	3.44	2,061,830	28.12	9,851,760	11,913,590
2021	351,360	3.51	2,105,350	25.90	9,101,107	11,206,457
2022	350,400	3.58	2,149,789	26.35	9,234,147	11,383,936
2023	350,400	3.66	2,195,166	27.72	9,712,200	11,907,366
2024	350,400	3.74	2,241,501	27.57	9,662,267	11,903,768
2025	351,360	3.81	2,288,814	29.60	10,400,920	12,689,734
2026	350,400	3.90	2,337,126	31.05	10,880,627	13,217,753
2027	350,400	3.98	2,386,458	32.68	11,450,320	13,836,778
2028	350,400	4.06	2,436,832	35.45	12,421,707	14,858,539
2029	351,360	4.15	2,488,269	38.19	13,419,440	15,907,709
2030	350,400	4.23	2,540,792	40.05	14,034,933	16,575,726
2031	350,400	4.32	2,594,424	41.92	14,688,160	17,282,584
2032	350,400	4.42	2,649,189	43.72	15,320,613	17,969,802
2033	351,360	4.51	2,705,109	46.03	16,173,987	18,879,096
2034	350,400	4.60	2,762,211	48.53	17,003,307	19,765,517
2035	350,400	4.70	2,820,517	50.00	17,519,707	20,340,224
2036	350,400	4.80	2,880,055	54.01	18,925,427	21,805,482
2037	351,360	4.90	2,940,850	54.77	19,243,120	22,183,970
2038	350,400	5.00	3,002,929	58.23	20,402,960	23,405,889
2039	350,400	5.11	3,066,318	59.70	20,917,547	23,983,865
Total (Nominal)	7,012,800		50,653,532		280,364,253	331,017,785
Total NPV (\$2020)			27,391,785		164,768,480	192,160,264

**TAMPA ELECTRIC COMPANY
DOCKET NO. 20190077-EQ
STAFF'S FIRST DATA REQUEST
REQUEST NO. 1
PAGE 7 OF 7
FILED: APRIL 15, 2019
REVISED: APRIL 17, 2019
SECOND REVISED: APRIL 26, 2019**

Payment Type: Early Levelized
Committed Capacity: 50 MW
Capacity Factor: 80%

Year	Energy	Capacity Rate	Total Capacity Payments	Energy Rate	Total Energy Payments	Total Payments
	(MWh)	(\$/kW-mo)	(\$)	(\$/MWh)	(\$)	(\$)
2020	350,400	3.96	2,378,243	28.12	9,851,760	12,230,003
2021	351,360	3.97	2,383,116	25.90	9,101,107	11,484,223
2022	350,400	3.98	2,388,098	26.35	9,234,147	11,622,244
2023	350,400	3.99	2,393,189	27.72	9,712,200	12,105,389
2024	350,400	4.00	2,398,391	27.57	9,662,267	12,060,658
2025	351,360	4.01	2,403,709	29.60	10,400,920	12,804,629
2026	350,400	4.02	2,409,143	31.05	10,880,627	13,289,769
2027	350,400	4.02	2,414,697	32.68	11,450,320	13,865,017
2028	350,400	4.03	2,420,373	35.45	12,421,707	14,842,079
2029	351,360	4.04	2,426,173	38.19	13,419,440	15,845,613
2030	350,400	4.05	2,432,102	40.05	14,034,933	16,467,035
2031	350,400	4.06	2,438,161	41.92	14,688,160	17,126,321
2032	350,400	4.07	2,444,353	43.72	15,320,613	17,764,966
2033	351,360	4.08	2,450,681	46.03	16,173,987	18,624,668
2034	350,400	4.10	2,457,149	48.53	17,003,307	19,460,456
2035	350,400	4.11	2,463,759	50.00	17,519,707	19,983,466
2036	350,400	4.12	2,470,514	54.01	18,925,427	21,395,941
2037	351,360	4.13	2,477,418	54.77	19,243,120	21,720,538
2038	350,400	4.14	2,484,474	58.23	20,402,960	22,887,434
2039	350,400	4.15	2,491,685	59.70	20,917,547	23,409,232
Total (Nominal)	7,012,800		48,625,428		280,364,253	328,989,681
Total NPV (\$2020)			27,391,785		164,768,480	192,160,265