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May 11, 2018

VIA: ELECTRONIC FILING

Ms. Carlotta S. Stauffer
Commission Clerk
Florida Public Service Commission
2540 Shumard Oak Boulevard
Tallahassee, Florida 32399-0850

Re: Petition for approval of revisions to standard offer contract and rate schedule
COG-2, by Tampa Electric Company; Docket No. 20180082-EQ.

Dear Ms. Stauffer:

Attached for filing is Tampa Electric Company's answer to Staff's First Data Request
(No. 1) marked "REVISED 5/11/2018". We would appreciate your circulating this revised
answer to the Commission recipients of the original April 30, 2018 filing.

Thank you for your assistance in connection with this matter.

Sincerely,

/s/ James D. Beasley

James D. Beasley

JDB/pp
Attachment

cc: William R. Ashburn (w/attachment)
TECO Regulatory (w/attachment)

**TAMPA ELECTRIC COMPANY
DOCKET NO. 20180082-EQ
STAFF'S FIRST DATA REQUEST
REQUEST NO. 1
PAGE 1 OF 7
FILED: APRIL 30, 2018
REVISED: MAY 11, 2018**

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, 2019, 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 2019 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
2019							
2020							
2021							
2022							
2023							
2024							
2025							
2026							
2027							
2028							
2029							
2030							
2031							
2032							
2033							
2034							
2035							
2036							
2037							
2038							
Total (nominal)							
Total (NPV)							

- A. The payments for capacity and energy from a 50 MW a renewable facility with an in-service date of January 1, 2019 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 = 7.080 %
n = (payment year – 2019)

**TAMPA ELECTRIC COMPANY
DOCKET NO. 20180082-EQ
STAFF'S FIRST DATA REQUEST
REQUEST NO. 1
PAGE 3 OF 7
FILED: APRIL 30, 2018
REVISED: MAY 11, 2018**

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)	(\$)	(\$)
2019	350,400	-	-	26.01	9,114,947	9,114,947
2020	351,360	-	-	28.84	10,134,533	10,134,533
2021	350,400	-	-	28.64	10,036,307	10,036,307
2022	350,400	-	-	29.88	10,469,453	10,469,453
2023	350,400	-	-	31.36	10,988,360	10,988,360
2024	351,360	-	-	31.92	11,216,107	11,216,107
2025	350,400	-	-	34.92	12,234,773	12,234,773
2026	350,400	-	-	36.42	12,763,040	12,763,040
2027	350,400	-	-	37.74	13,222,533	13,222,533
2028	351,360	-	-	41.98	14,749,240	14,749,240
2029	350,400	-	-	44.26	15,509,253	15,509,253
2030	350,400	-	-	48.47	16,982,200	16,982,200
2031	350,400	-	-	50.71	17,767,387	17,767,387
2032	351,360	-	-	55.43	19,476,173	19,476,173
2033	350,400	-	-	57.03	19,982,187	19,982,187
2034	350,400	-	-	62.13	21,771,893	21,771,893
2035	350,400	-	-	64.58	22,629,493	22,629,493
2036	351,360	-	-	66.20	23,258,840	23,258,840
2037	350,400	-	-	71.55	25,072,400	25,072,400
2038	350,400	-	-	70.37	24,657,547	24,657,547
Total (Nominal)	7,012,800		-		322,036,667	322,036,667
Total NPV (\$2018)					159,832,789	159,832,789

**TAMPA ELECTRIC COMPANY
DOCKET NO. 20180082-EQ
STAFF'S FIRST DATA REQUEST
REQUEST NO. 1
PAGE 4 OF 7
FILED: APRIL 30, 2018
REVISED: MAY 11, 2018**

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)	(\$)	(\$)
2019	350,400	-	-	26.01	9,114,947	9,114,947
2020	351,360	-	-	28.84	10,134,533	10,134,533
2021	350,400	-	-	28.64	10,036,307	10,036,307
2022	350,400	-	-	29.88	10,469,453	10,469,453
2023	350,400	4.95	1,979,872	31.36	10,988,360	12,968,232
2024	351,360	5.07	3,017,325	31.92	11,216,107	14,233,431
2025	350,400	5.19	3,089,740	34.92	12,234,773	15,324,514
2026	350,400	5.31	3,163,894	36.42	12,763,040	15,926,934
2027	350,400	5.44	3,239,828	37.74	13,222,533	16,462,361
2028	351,360	5.57	3,317,584	41.98	14,749,240	18,066,824
2029	350,400	5.71	3,397,206	44.26	15,509,253	18,906,459
2030	350,400	5.84	3,478,738	48.47	16,982,200	20,460,938
2031	350,400	5.98	3,562,228	50.71	17,767,387	21,329,615
2032	351,360	6.13	3,647,722	55.43	19,476,173	23,123,895
2033	350,400	6.27	3,735,267	57.03	19,982,187	23,717,454
2034	350,400	6.43	3,824,913	62.13	21,771,893	25,596,807
2035	350,400	6.58	3,916,711	64.58	22,629,493	26,546,205
2036	351,360	6.74	4,010,712	66.20	23,258,840	27,269,552
2037	350,400	6.90	4,106,970	71.55	25,072,400	29,179,370
2038	350,400	7.06	4,205,537	70.37	24,657,547	28,863,083
Total (Nominal)	7,012,800		55,694,247		322,036,667	377,730,914
Total NPV (\$2018)			26,401,484		159,832,789	186,234,273

(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. 20180082-EQ
STAFF'S FIRST DATA REQUEST
REQUEST NO. 1
PAGE 5 OF 7
FILED: APRIL 30, 2018
REVISED: MAY 11, 2018**

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)	(\$)	(\$)
2019	350,400	-	-	26.01	9,114,947	9,114,947
2020	351,360	-	-	28.84	10,134,533	10,134,533
2021	350,400	-	-	28.64	10,036,307	10,036,307
2022	350,400	-	-	29.88	10,469,453	10,469,453
2023	350,400	5.67	2,266,045	31.36	10,988,360	13,254,405
2024	351,360	5.68	3,404,076	31.92	11,216,106.67	14,620,183
2025	350,400	5.69	3,411,708	34.92	12,234,773	15,646,482
2026	350,400	5.70	3,419,524	36.42	12,763,040	16,182,564
2027	350,400	5.72	3,427,527	37.74	13,222,533	16,650,060
2028	351,360	5.73	3,435,722	41.98	14,749,240	18,184,962
2029	350,400	5.74	3,444,113	44.26	15,509,253	18,953,367
2030	350,400	5.76	3,452,706	48.47	16,982,200	20,434,906
2031	350,400	5.77	3,461,506	50.71	17,767,387	21,228,892
2032	351,360	5.79	3,470,516	55.43	19,476,173	22,946,689
2033	350,400	5.80	3,479,743	57.03	19,982,187	23,461,930
2034	350,400	5.82	3,489,191	62.13	21,771,893	25,261,084
2035	350,400	5.84	3,498,866	64.58	22,629,493	26,128,359
2036	351,360	5.85	3,508,773	66.20	23,258,840	26,767,613
2037	350,400	5.87	3,518,918	71.55	25,072,400	28,591,318
2038	350,400	5.89	3,529,306	70.37	24,657,547	28,186,853
Total (Nominal)	7,012,800		54,218,240		322,036,667	376,254,907
Total NPV (\$2018)			26,401,444		159,832,789	186,234,233

(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. 20180082-EQ
STAFF'S FIRST DATA REQUEST
REQUEST NO. 1
PAGE 6 OF 7
FILED: APRIL 30, 2018
REVISED: MAY 11, 2018**

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)	(\$)	(\$)
2019	350,400	3.25	1,952,764	26.01	9,114,947	11,067,711
2020	351,360	3.33	1,999,631	28.84	10,134,533	12,134,164
2021	350,400	3.41	2,047,622	28.64	10,036,307	12,083,928
2022	350,400	3.49	2,096,765	29.88	10,469,453	12,566,218
2023	350,400	3.58	2,147,087	31.36	10,988,360	13,135,447
2024	351,360	3.66	2,198,617	31.92	11,216,107	13,414,724
2025	350,400	3.75	2,251,384	34.92	12,234,773	14,486,157
2026	350,400	3.84	2,305,417	36.42	12,763,040	15,068,457
2027	350,400	3.93	2,360,747	37.74	13,222,533	15,583,281
2028	351,360	4.03	2,417,405	41.98	14,749,240	17,166,645
2029	350,400	4.13	2,475,423	44.26	15,509,253	17,984,676
2030	350,400	4.22	2,534,833	48.47	16,982,200	19,517,033
2031	350,400	4.33	2,595,669	50.71	17,767,387	20,363,056
2032	351,360	4.43	2,657,965	55.43	19,476,173	22,134,138
2033	350,400	4.54	2,721,756	57.03	19,982,187	22,703,943
2034	350,400	4.65	2,787,078	62.13	21,771,893	24,558,972
2035	350,400	4.76	2,853,968	64.58	22,629,493	25,483,462
2036	351,360	4.87	2,922,463	66.20	23,258,840	26,181,303
2037	350,400	4.99	2,992,603	71.55	25,072,400	28,065,003
2038	350,400	5.11	3,064,425	70.37	24,657,547	27,721,972
Total (Nominal)	7,012,800		49,383,623		322,036,667	371,420,290
Total NPV (\$2018)			26,401,261		159,832,789	186,234,050

**TAMPA ELECTRIC COMPANY
DOCKET NO. 20180082-EQ
STAFF'S FIRST DATA REQUEST
REQUEST NO. 1
PAGE 7 OF 7
FILED: APRIL 30, 2018
REVISED: MAY 11, 2018**

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)	(\$)	(\$)
2019	350,400	3.83	2,300,800	26.01	9,114,947	11,415,747
2020	351,360	3.84	2,305,740	28.84	10,134,533	12,440,273
2021	350,400	3.85	2,310,798	28.64	10,036,307	12,347,105
2022	350,400	3.86	2,315,977	29.88	10,469,453	12,785,431
2023	350,400	3.87	2,321,281	31.36	10,988,360	13,309,641
2024	351,360	3.88	2,326,712	31.92	11,216,107	13,542,819
2025	350,400	3.89	2,332,273	34.92	12,234,773	14,567,047
2026	350,400	3.90	2,337,968	36.42	12,763,040	15,101,008
2027	350,400	3.91	2,343,799	37.74	13,222,533	15,566,333
2028	351,360	3.92	2,349,771	41.98	14,749,240	17,099,011
2029	350,400	3.93	2,355,886	44.26	15,509,253	17,865,139
2030	350,400	3.94	2,362,147	48.47	16,982,200	19,344,347
2031	350,400	3.95	2,368,559	50.71	17,767,387	20,135,945
2032	351,360	3.96	2,375,124	55.43	19,476,173	21,851,298
2033	350,400	3.97	2,381,848	57.03	19,982,187	22,364,034
2034	350,400	3.98	2,388,732	62.13	21,771,893	24,160,626
2035	350,400	3.99	2,395,782	64.58	22,629,493	25,025,275
2036	351,360	4.01	2,403,001	66.20	23,258,840	25,661,841
2037	350,400	4.02	2,410,393	71.55	25,072,400	27,482,793
2038	350,400	4.03	2,417,963	70.37	24,657,547	27,075,510
Total (Nominal)	7,012,800		47,104,555		322,036,667	369,141,222
Total NPV (\$2018)			26,401,202		159,832,789	186,233,990