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April 26, 2021

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. 20210063-EG

Dear Mr. Teitzman:

Attached for filing in the above docket are Tampa Electric Company's responses to Staff's
First Data Request (No. 1) dated April 13, 2021.

Thank you for your assistance in connection with this matter.

Sincerely,


James D. Beasley

JDB/bmp
Attachment

cc: Damian Kistner (w/encl.)
Paula Brown (w/encl.)

**TAMPA ELECTRIC COMPANY
DOCKET NO. 20210063-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. Please assume a renewable generator with a 50 MW output providing firm capacity with an in-service date of January 1, 2022, 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. Please calculate the total Net Present Value (NPV) of all payments in 2022 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 (\$) |
|-----------------|--------------|--------------------------|------------------------------|----------------------|----------------------------|---------------------|
| 2022 | | | | | | |
| 2023 | | | | | | |
| 2024 | | | | | | |
| 2025 | | | | | | |
| 2026 | | | | | | |
| 2027 | | | | | | |
| 2028 | | | | | | |
| 2029 | | | | | | |
| 2030 | | | | | | |
| 2031 | | | | | | |
| 2032 | | | | | | |
| 2033 | | | | | | |
| 2034 | | | | | | |
| 2035 | | | | | | |
| 2036 | | | | | | |
| 2037 | | | | | | |
| 2038 | | | | | | |
| 2039 | | | | | | |
| 2040 | | | | | | |
| 2041 | | | | | | |
| Total (nominal) | | | | | | |
| Total (NPV) | | | | | | |

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- A.** The payments for capacity and energy from a 50 MW a renewable facility with an in-service date of January 1, 2022 under the various options (i.e., as-available only, standard, levelized, early, and early levelized) are provided in the tables below.

The payments are based on the renewable facility achieving the minimum performance standard, which has two criteria. Those criteria are (i) maintaining at least a 90% monthly availability factor and (ii) operating at an 80% monthly capacity factor. The availability factor calculation is an expression of the amount of capacity the facility can provide relative to its contracted amount. The monthly capacity factor is a measure of how much energy the facility delivered to Tampa Electric relative to Tampa Electric's requested amount, and it is weighted by both on-peak and off-peak time periods. For the period April 1st through October 31st, the capacity factor weighting is 80% on-peak and 20% off-peak. For the period November 1st through March 31st, the capacity factor weighting is 90% on-peak and 10% off-peak.

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 = 6.703 %

n = (payment year – 2022)

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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) | (\$) | (\$) |
| 2022 | 350,400 | - | - | 27.10 | 9,495,160 | 9,495,160 |
| 2023 | 350,400 | - | - | 22.38 | 7,843,187 | 7,843,187 |
| 2024 | 350,400 | - | - | 24.09 | 8,440,608 | 8,440,608 |
| 2025 | 351,360 | - | - | 25.99 | 9,132,178 | 9,132,178 |
| 2026 | 350,400 | - | - | 27.97 | 9,801,627 | 9,801,627 |
| 2027 | 350,400 | - | - | 29.86 | 10,464,400 | 10,464,400 |
| 2028 | 350,400 | - | - | 33.42 | 11,709,705 | 11,709,705 |
| 2029 | 351,360 | - | - | 36.18 | 12,713,282 | 12,713,282 |
| 2030 | 350,400 | - | - | 34.42 | 12,062,480 | 12,062,480 |
| 2031 | 350,400 | - | - | 34.87 | 12,218,307 | 12,218,307 |
| 2032 | 350,400 | - | - | 37.39 | 13,101,572 | 13,101,572 |
| 2033 | 351,360 | - | - | 42.91 | 15,077,034 | 15,077,034 |
| 2034 | 350,400 | - | - | 42.08 | 14,744,613 | 14,744,613 |
| 2035 | 350,400 | - | - | 42.53 | 14,901,373 | 14,901,373 |
| 2036 | 350,400 | - | - | 44.75 | 15,680,932 | 15,680,932 |
| 2037 | 351,360 | - | - | 46.57 | 16,362,640 | 16,362,640 |
| 2038 | 350,400 | - | - | 52.11 | 18,260,133 | 18,260,133 |
| 2039 | 350,400 | - | - | 52.73 | 18,477,800 | 18,477,800 |
| 2040 | 350,400 | - | - | 47.24 | 16,553,129 | 16,553,129 |
| 2041 | 351,360 | - | - | 43.04 | 15,122,438 | 15,122,438 |
| 2042 | 350,400 | - | - | 51.46 | 18,029,987 | 18,029,987 |
| 2043 | 350,400 | - | - | 57.03 | 19,983,813 | 19,983,813 |
| 2044 | 350,400 | - | - | 55.38 | 19,405,621 | 19,405,621 |
| Total (Nominal) | 8,064,000 | - | - | | 319,582,020 | 319,582,020 |
| Total NPV (\$2022) | | | | | 153,681,168 | 153,681,168 |

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Payment Type: Normal
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) | (\$) | (\$) |
| 2022 | 350,400 | - | - | 27.10 | 9,495,160 | 9,495,160 |
| 2023 | 350,400 | - | - | 22.38 | 7,843,187 | 7,843,187 |
| 2024 | 350,400 | 12.33 | 7,395,628 | 24.09 | 8,440,608 | 15,836,237 |
| 2025 | 351,360 | 12.58 | 7,545,745 | 25.99 | 9,132,178 | 16,677,923 |
| 2026 | 350,400 | 12.83 | 7,698,912 | 27.97 | 9,801,627 | 17,500,539 |
| 2027 | 350,400 | 13.09 | 7,855,193 | 29.86 | 10,464,400 | 18,319,593 |
| 2028 | 350,400 | 13.36 | 8,014,649 | 33.42 | 11,709,705 | 19,724,354 |
| 2029 | 351,360 | 13.63 | 8,177,347 | 36.18 | 12,713,282 | 20,890,629 |
| 2030 | 350,400 | 13.91 | 8,343,351 | 34.42 | 12,062,480 | 20,405,831 |
| 2031 | 350,400 | 14.19 | 8,512,729 | 34.87 | 12,218,307 | 20,731,036 |
| 2032 | 350,400 | 14.48 | 8,685,551 | 37.39 | 13,101,572 | 21,787,122 |
| 2033 | 351,360 | 14.77 | 8,861,885 | 42.91 | 15,077,034 | 23,938,919 |
| 2034 | 350,400 | 15.07 | 9,041,803 | 42.08 | 14,744,613 | 23,786,417 |
| 2035 | 350,400 | 15.38 | 9,225,379 | 42.53 | 14,901,373 | 24,126,752 |
| 2036 | 350,400 | 15.69 | 9,412,687 | 44.75 | 15,680,932 | 25,093,619 |
| 2037 | 351,360 | 16.01 | 9,603,802 | 46.57 | 16,362,640 | 25,966,442 |
| 2038 | 350,400 | 16.33 | 9,798,803 | 52.11 | 18,260,133 | 28,058,936 |
| 2039 | 350,400 | 16.66 | 9,997,768 | 52.73 | 18,477,800 | 28,475,568 |
| 2040 | 350,400 | 17.00 | 10,200,778 | 47.24 | 16,553,129 | 26,753,907 |
| 2041 | 351,360 | 17.35 | 10,407,915 | 43.04 | 15,122,438 | 25,530,354 |
| 2042 | 350,400 | 17.70 | 10,619,264 | 51.46 | 18,029,987 | 28,649,251 |
| 2043 | 350,400 | 18.06 | 10,834,911 | 57.03 | 19,983,813 | 30,818,724 |
| 2044 | 350,400 | - | - | 55.38 | 19,405,621 | 19,405,621 |
| Total (Nominal) | 8,064,000 | | 180,234,099 | | 319,582,020 | 499,816,119 |
| Total NPV (\$2022) | | | 87,758,954 | | 153,681,168 | 241,440,122 |

Note: The capacity payment under the Normal payment option would begin as of the in-service date of the avoided unit.

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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) | (\$) | (\$) |
| 2022 | 350,400 | - | - | 27.10 | 9,495,160 | 9,495,160 |
| 2023 | 350,400 | - | - | 22.38 | 7,843,187 | 7,843,187 |
| 2024 | 350,400 | 14.06 | 8,433,635 | 24.09 | 8,440,608 | 16,874,243 |
| 2025 | 351,360 | 14.10 | 8,457,879 | 25.99 | 9,132,178 | 17,590,057 |
| 2026 | 350,400 | 14.14 | 8,482,656 | 27.97 | 9,801,627 | 18,284,283 |
| 2027 | 350,400 | 14.18 | 8,507,979 | 29.86 | 10,464,400 | 18,972,379 |
| 2028 | 350,400 | 14.22 | 8,533,858 | 33.42 | 11,709,705 | 20,243,564 |
| 2029 | 351,360 | 14.27 | 8,560,307 | 36.18 | 12,713,282 | 21,273,590 |
| 2030 | 350,400 | 14.31 | 8,587,338 | 34.42 | 12,062,480 | 20,649,818 |
| 2031 | 350,400 | 14.36 | 8,614,963 | 34.87 | 12,218,307 | 20,833,270 |
| 2032 | 350,400 | 14.41 | 8,643,197 | 37.39 | 13,101,572 | 21,744,769 |
| 2033 | 351,360 | 14.45 | 8,672,051 | 42.91 | 15,077,034 | 23,749,085 |
| 2034 | 350,400 | 14.50 | 8,701,540 | 42.08 | 14,744,613 | 23,446,153 |
| 2035 | 350,400 | 14.55 | 8,731,678 | 42.53 | 14,901,373 | 23,633,051 |
| 2036 | 350,400 | 14.60 | 8,762,479 | 44.75 | 15,680,932 | 24,443,411 |
| 2037 | 351,360 | 14.66 | 8,793,958 | 46.57 | 16,362,640 | 25,156,598 |
| 2038 | 350,400 | 14.71 | 8,826,129 | 52.11 | 18,260,133 | 27,086,262 |
| 2039 | 350,400 | 14.77 | 8,859,008 | 52.73 | 18,477,800 | 27,336,808 |
| 2040 | 350,400 | 14.82 | 8,892,610 | 47.24 | 16,553,129 | 25,445,739 |
| 2041 | 351,360 | 14.88 | 8,926,951 | 43.04 | 15,122,438 | 24,049,389 |
| 2042 | 350,400 | 14.94 | 8,962,048 | 51.46 | 18,029,987 | 26,992,035 |
| 2043 | 350,400 | 15.00 | 8,997,917 | 57.03 | 19,983,813 | 28,981,731 |
| 2044 | 350,400 | - | - | 55.38 | 19,405,621 | 19,405,621 |
| Total (Nominal) | 7,012,800 | | 173,948,181 | | 319,582,020 | 493,530,200 |
| Total NPV (\$2022) | | | 87,758,995 | | 153,681,168 | 241,440,163 |

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**Payment Type: Early 2022
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) | (\$) | (\$) |
| 2022 | 350,400 | 10.22 | 6,133,039 | 27.10 | 9,495,160 | 15,628,199 |
| 2023 | 350,400 | 10.43 | 6,257,526 | 22.38 | 7,843,187 | 14,100,712 |
| 2024 | 350,400 | 10.64 | 6,384,542 | 24.09 | 8,440,608 | 14,825,150 |
| 2025 | 351,360 | 10.86 | 6,514,140 | 25.99 | 9,132,178 | 15,646,318 |
| 2026 | 350,400 | 11.08 | 6,646,371 | 27.97 | 9,801,627 | 16,447,998 |
| 2027 | 350,400 | 11.30 | 6,781,290 | 29.86 | 10,464,400 | 17,245,690 |
| 2028 | 350,400 | 11.53 | 6,918,952 | 33.42 | 11,709,705 | 18,628,657 |
| 2029 | 351,360 | 11.77 | 7,059,411 | 36.18 | 12,713,282 | 19,772,693 |
| 2030 | 350,400 | 12.00 | 7,202,725 | 34.42 | 12,062,480 | 19,265,205 |
| 2031 | 350,400 | 12.25 | 7,348,952 | 34.87 | 12,218,307 | 19,567,259 |
| 2032 | 350,400 | 12.50 | 7,498,152 | 37.39 | 13,101,572 | 20,599,724 |
| 2033 | 351,360 | 12.75 | 7,650,384 | 42.91 | 15,077,034 | 22,727,418 |
| 2034 | 350,400 | 13.01 | 7,805,711 | 42.08 | 14,744,613 | 22,550,325 |
| 2035 | 350,400 | 13.27 | 7,964,196 | 42.53 | 14,901,373 | 22,865,569 |
| 2036 | 350,400 | 13.54 | 8,125,902 | 44.75 | 15,680,932 | 23,806,834 |
| 2037 | 351,360 | 13.82 | 8,290,896 | 46.57 | 16,362,640 | 24,653,536 |
| 2038 | 350,400 | 14.10 | 8,459,244 | 52.11 | 18,260,133 | 26,719,378 |
| 2039 | 350,400 | 14.39 | 8,631,015 | 52.73 | 18,477,800 | 27,108,815 |
| 2040 | 350,400 | 14.68 | 8,806,278 | 47.24 | 16,553,129 | 25,359,407 |
| 2041 | 351,360 | 14.98 | 8,985,105 | 43.04 | 15,122,438 | 24,107,543 |
| 2042 | 350,400 | 15.28 | 9,167,568 | 51.46 | 18,029,987 | 27,197,554 |
| 2043 | 350,400 | 15.59 | 9,353,740 | 57.03 | 19,983,813 | 29,337,553 |
| 2044 | 350,400 | - | - | 55.38 | 19,405,621 | 19,405,621 |
| Total (Nominal) | 8,064,000 | | 167,985,141 | | 319,582,020 | 487,567,161 |
| Total NPV (\$2022) | | | 87,758,954 | | 153,681,168 | 241,440,122 |

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**Payment Type: Early Levelized 2022
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) | (\$) | (\$) |
| 2022 | 350,400 | 11.78 | 7,070,596 | 27.10 | 9,495,160 | 16,565,756 |
| 2023 | 350,400 | 11.82 | 7,090,677 | 22.38 | 7,843,187 | 14,933,864 |
| 2024 | 350,400 | 11.85 | 7,111,201 | 24.09 | 8,440,608 | 15,551,809 |
| 2025 | 351,360 | 11.89 | 7,132,176 | 25.99 | 9,132,178 | 16,264,354 |
| 2026 | 350,400 | 11.92 | 7,153,612 | 27.97 | 9,801,627 | 16,955,239 |
| 2027 | 350,400 | 11.96 | 7,175,520 | 29.86 | 10,464,400 | 17,639,920 |
| 2028 | 350,400 | 12.00 | 7,197,910 | 33.42 | 11,709,705 | 18,907,615 |
| 2029 | 351,360 | 12.03 | 7,220,792 | 36.18 | 12,713,282 | 19,934,075 |
| 2030 | 350,400 | 12.07 | 7,244,178 | 34.42 | 12,062,480 | 19,306,658 |
| 2031 | 350,400 | 12.11 | 7,268,079 | 34.87 | 12,218,307 | 19,486,385 |
| 2032 | 350,400 | 12.15 | 7,292,505 | 37.39 | 13,101,572 | 20,394,077 |
| 2033 | 351,360 | 12.20 | 7,317,468 | 42.91 | 15,077,034 | 22,394,502 |
| 2034 | 350,400 | 12.24 | 7,342,981 | 42.08 | 14,744,613 | 22,087,595 |
| 2035 | 350,400 | 12.28 | 7,369,055 | 42.53 | 14,901,373 | 22,270,429 |
| 2036 | 350,400 | 12.33 | 7,395,703 | 44.75 | 15,680,932 | 23,076,635 |
| 2037 | 351,360 | 12.37 | 7,422,937 | 46.57 | 16,362,640 | 23,785,577 |
| 2038 | 350,400 | 12.42 | 7,450,770 | 52.11 | 18,260,133 | 25,710,903 |
| 2039 | 350,400 | 12.47 | 7,479,215 | 52.73 | 18,477,800 | 25,957,015 |
| 2040 | 350,400 | 12.51 | 7,508,287 | 47.24 | 16,553,129 | 24,061,416 |
| 2041 | 351,360 | 12.56 | 7,537,997 | 43.04 | 15,122,438 | 22,660,436 |
| 2042 | 350,400 | 12.61 | 7,568,362 | 51.46 | 18,029,987 | 25,598,349 |
| 2043 | 350,400 | 12.67 | 7,599,394 | 57.03 | 19,983,813 | 27,583,208 |
| 2044 | 350,400 | - | - | 55.38 | 19,405,621 | 19,405,621 |
| Total (Nominal) | 8,064,000 | | 160,949,415 | | 319,582,020 | 480,531,435 |
| Total NPV (\$2022) | | | 87,758,954 | | 153,681,168 | 241,440,122 |