DUKE ENERGY FLORIDA

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Duke Energy Florida, LLC

April 24, 2019

VIA ELECTRONIC DELIVERY

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

Re: *DEF Petition for Approval of Amended Standard Offer Contract (Schedule COG-2) and Amended Interconnection Agreement*; Docket 20190079-EQ

Dear Mr. Teitzman:

Please find enclosed for electronic filing Duke Energy Florida, LLC's Response to Staff's First Data Request (Nos. 1-6).

Thank you for your assistance in this matter. If you have any questions, please feel free to contact me at (727) 820-4692.

Sincerely,

/s/ Dianne M. Triplett

Dianne M. Triplett

DMT/cmk
Enclosures

cc: Charles Murphy
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Duke Energy Florida, LLC's Response to
Staff's First Data Request (Nos. 1-6) regarding Duke Energy Florida, LLC's
Petition for Approval of Amended Standard Offer Contract (Schedule COG-2)
and Amended Interconnection Agreement

Docket No. 20190079-EQ

1. Please refer to Sheet No. 9.416 of the standard offer contract. Provide the rationale for the additional language in sections 5(a)(iii) and 5(a)(viii).

RESPONSE:
The purpose of the additional language in sections of 5(a)(iii) and 5(a)(viii) on Sheet No. 9.416 was to provide additional protection to both DEF and its customers. The conditions will verify that the QF is financially viable and the project is technically viable, assuring the QF will satisfy its Committed Capacity obligations.

2. Please refer to Sheet Nos. 9.419 and 9.420 of the standard offer contract. Provide the rationale for the additional language in sections 7.6 through 7.6.4.

RESPONSE:
The purpose of the additional language in sections of 7.6 and 7.6.4 on Sheet Nos. 9.419 and 9.420 was to provide additional protection to both DEF and its customers. The conditions will verify that the project is technically viable and complies with the specifications and commitments made to DEF by the QF, assuring the QF will satisfy its Committed Capacity obligations.

3. Please refer to Sheet No. 9.425 of the standard offer contract. Provide the rationale for the revisions and additional language in section 11.4.

RESPONSE:
The revisions and additional language in section 11.4 was added to provide additional protection to both DEF and its customers in the form of a demonstration period as allowed under CFR 292.304(e)2(ii).

4. Please refer to Section No. 9.458 of the standard offer contract. Provide the rationale for the revision in the Delivery Voltage Adjustment section.

RESPONSE:
The revision in the Delivery Voltage Adjustment section was made to provide the most current delivery voltage adjustment factors should there be any changes in DEF's Open Access Tariff subsequent to the standard offer contract filing.

5. Please refer to Sheet No. 9.710 of the interconnection agreement. Provide the rationale for the deletion in section 8.1.

RESPONSE:
As technology has changed the frequency of testing and maintenance electrical relays has also changed. Modern relays require less testing and maintenance.

6. 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, 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. Please 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 ($)
2020						
2021						
2022						
2023						
2024						
2025						
2026						
2027						
2028						
2029						
2030						
2031						
2032						
2033						
2034						
2035						
2036						
2037						
2038						

2039						
Total (nominal)						
Total (NPV)						

RESPONSE:

Prior to 2017, DEF has used its system marginal costs as practical estimates of its QF as-available rates. When the volume of anticipated as-available QF purchases were low in this scenario, this proxy estimate was reasonable. However, with the large amount of solar projects in the various DEF interconnection queues, a greater volume of QF as-available purchases must be forecasted for customer protection. It is also important to note that current estimates are only valid and effective as of May 1, 2019 due to the steady QF activity. Along with these larger amounts of QF generators contributing to DEF's as-available block size, it is also anticipated that at some point DEF will have increasing amounts of time when required DEF system generation along with potential QF generation will exceed the forecasted DEF load levels and that excess energy may not have been fully captured in the estimates herein. These factors have contributed to DEF further refining its estimate of QF future rates as reflected below.

Please see the attached spreadsheet. The NPV values were calculated using monthly values and the discount rate used 7.15% and an assumed capacity factor of 95%.

As Available Only

	Energy (MWH)	Capacity Rates ($/kw-month)	Total Capacity Payments ($000)	Energy Rates ($/MWh)	Total Energy Payments ($000)	Total Payments to Renewable Provider ($000)
2020	417,503	$ -	$ -	$ 22.68	$ 9,469	$ 9,469
2021	416,362	$ -	$ -	$ 20.75	$ 8,638	$ 8,638
2022	416,362	$ -	$ -	$ 18.72	$ 7,796	$ 7,796
2023	416,362	$ -	$ -	$ 17.22	$ 7,172	$ 7,172
2024	417,503	$ -	$ -	$ 19.80	$ 8,266	$ 8,266
2025	416,362	$ -	$ -	$ 23.73	$ 9,878	$ 9,878
2026	416,362	$ -	$ -	$ 26.06	$ 10,851	$ 10,851
2027	416,362	$ -	$ -	$ 29.81	$ 12,413	$ 12,413
2028	417,503	$ -	$ -	$ 32.12	$ 13,409	$ 13,409
2029	416,362	$ -	$ -	$ 33.22	$ 13,833	$ 13,833
2030	416,362	$ -	$ -	$ 36.22	$ 15,079	$ 15,079
2031	416,362	$ -	$ -	$ 37.60	$ 15,656	$ 15,656
2032	417,503	$ -	$ -	$ 40.58	$ 16,942	$ 16,942
2033	416,362	$ -	$ -	$ 41.82	$ 17,411	$ 17,411
2034	416,362	$ -	$ -	$ 42.57	$ 17,725	$ 17,725
2035	416,362	$ -	$ -	$ 40.37	$ 16,807	$ 16,807
2036	417,503	$ -	$ -	$ 41.75	$ 17,429	$ 17,429
2037	416,362	$ -	$ -	$ 43.75	$ 18,218	$ 18,218
2038	416,362	$ -	$ -	$ 47.49	$ 19,774	$ 19,774
2039	416,362	$ -	$ -	$ 50.33	$ 20,956	$ 20,956
Total	8,332,945		-		277,721	277,721
NPV 2019$			$ -		$ 133,766	$ 133,766

Normal Capacity Payments

	Energy (MWH)	Capacity Rates ($/kw-month)	Total Capacity Payments ($000)	Energy Rates ($/MWh)	Total Energy Payments ($000)	Total Payments to Renewable Provider ($000)
2020	417,503	$ -	$ -	$ 22.68	$ 9,469	$ 9,469
2021	416,362	$ -	$ -	$ 20.75	$ 8,638	$ 8,638
2022	416,362	$ -	$ -	$ 18.72	$ 7,796	$ 7,796
2023	416,362	$ -	$ -	$ 17.22	$ 7,172	$ 7,172
2024	417,503	$ -	$ -	$ 19.80	$ 8,266	$ 8,266
2025	416,362	$ -	$ -	$ 23.73	$ 9,878	$ 9,878
2026	416,362	$ -	$ -	$ 26.06	$ 10,850	$ 10,850
2027	416,362	$ 4.78	$ 1,674	$ 29.81	$ 12,413	$ 14,087
2028	417,503	$ 4.85	$ 2,908	$ 32.12	$ 13,409	$ 16,317
2029	416,362	$ 4.91	$ 2,946	$ 33.22	$ 13,833	$ 16,779
2030	416,362	$ 4.97	$ 2,985	$ 36.22	$ 15,079	$ 18,064
2031	416,362	$ 5.04	$ 3,024	$ 37.60	$ 15,656	$ 18,680
2032	417,503	$ 5.11	$ 3,064	$ 40.58	$ 16,942	$ 20,006
2033	416,362	$ 5.17	$ 3,104	$ 41.82	$ 17,411	$ 20,515
2034	416,362	$ 5.24	$ 3,145	$ 42.57	$ 17,725	$ 20,870
2035	416,362	$ 5.31	$ 3,187	$ 40.37	$ 16,807	$ 19,993
2036	417,503	$ 5.38	$ 3,229	$ 41.75	$ 17,429	$ 20,657
2037	416,362	$ 5.45	$ 3,271	$ 43.75	$ 18,218	$ 21,489
2038	416,362	$ 5.52	$ 3,314	$ 47.49	$ 19,774	$ 23,088
2039	416,362	$ 5.60	$ 3,358	$ 50.33	$ 20,956	$ 24,314
Total	8,332,945		39,208		277,721	316,929
NPV 2019$			$ 15,549		$ 133,766	$ 149,315

Levelized Capacity Payments

	Energy (MWH)	Capacity Rates ($/kw-month)	Total Capacity Payments ($000)	Energy Rates ($/MWh)	Total Energy Payments ($000)	Total Payments to Renewable Provider ($000)
2020	417,503	$ -	$ -	$ 22.68	$ 9,469	$ 9,469
2021	416,362	$ -	$ -	$ 20.75	$ 8,638	$ 8,638
2022	416,362	$ -	$ -	$ 18.72	$ 7,796	$ 7,796
2023	416,362	$ -	$ -	$ 17.22	$ 7,172	$ 7,172
2024	417,503	$ -	$ -	$ 19.80	$ 8,266	$ 8,266
2025	416,362	$ -	$ -	$ 23.73	$ 9,878	$ 9,878
2026	416,362	$ -	$ -	$ 26.06	$ 10,850	$ 10,850
2027	416,362	$ 5.11	$ 1,788	$ 29.81	$ 12,413	$ 14,201
2028	417,503	$ 5.11	$ 3,067	$ 32.12	$ 13,409	$ 16,476
2029	416,362	$ 5.12	$ 3,070	$ 33.22	$ 13,833	$ 16,903
2030	416,362	$ 5.12	$ 3,072	$ 36.22	$ 15,079	$ 18,151
2031	416,362	$ 5.13	$ 3,075	$ 37.60	$ 15,656	$ 18,731
2032	417,503	$ 5.13	$ 3,078	$ 40.58	$ 16,942	$ 20,020
2033	416,362	$ 5.13	$ 3,081	$ 41.82	$ 17,411	$ 20,492
2034	416,362	$ 5.14	$ 3,084	$ 42.57	$ 17,725	$ 20,809
2035	416,362	$ 5.14	$ 3,087	$ 40.37	$ 16,807	$ 19,894
2036	417,503	$ 5.15	$ 3,090	$ 41.75	$ 17,429	$ 20,519
2037	416,362	$ 5.16	$ 3,093	$ 43.75	$ 18,218	$ 21,311
2038	416,362	$ 5.16	$ 3,097	$ 47.49	$ 19,774	$ 22,871
2039	416,362	$ 5.17	$ 3,100	$ 50.33	$ 20,956	$ 24,056
Total	8,332,945		38,782		277,721	316,502
NPV 2019$			$ 15,549		$ 133,766	$ 149,315

Early Capacity Payments

	Energy (MWH)	Capacity Rates ($/kw-month)	Total Capacity Payments ($000)	Energy Rates ($/MWh)	Total Energy Payments ($000)	Total Payments to Renewable Provider ($000)
2020	417,503	$ -	$ -	$ 22.68	$ 9,469	$ 9,469
2021	416,362	$ -	$ -	$ 20.75	$ 8,638	$ 8,638
2022	416,362	$ -	$ -	$ 18.72	$ 7,796	$ 7,796
2023	416,362	$ -	$ -	$ 17.22	$ 7,172	$ 7,172
2024	417,503	$ -	$ -	$ 19.80	$ 8,266	$ 8,266
2025	416,362	$ 3.62	$ 2,173	$ 23.73	$ 9,878	$ 12,051
2026	416,362	$ 3.67	$ 2,201	$ 26.06	$ 10,850	$ 13,052
2027	416,362	$ 3.72	$ 2,230	$ 29.81	$ 12,413	$ 14,643
2028	417,503	$ 3.77	$ 2,260	$ 32.12	$ 13,409	$ 15,669
2029	416,362	$ 3.82	$ 2,289	$ 33.22	$ 13,833	$ 16,123
2030	416,362	$ 3.87	$ 2,319	$ 36.22	$ 15,079	$ 17,398
2031	416,362	$ 3.92	$ 2,350	$ 37.60	$ 15,656	$ 18,006
2032	417,503	$ 3.97	$ 2,381	$ 40.58	$ 16,942	$ 19,323
2033	416,362	$ 4.02	$ 2,412	$ 41.82	$ 17,411	$ 19,823
2034	416,362	$ 4.07	$ 2,444	$ 42.57	$ 17,725	$ 20,169
2035	416,362	$ 4.13	$ 2,476	$ 40.37	$ 16,807	$ 19,283
2036	417,503	$ 4.18	$ 2,509	$ 41.75	$ 17,429	$ 19,938
2037	416,362	$ 4.24	$ 2,542	$ 43.75	$ 18,218	$ 20,760
2038	416,362	$ 4.29	$ 2,576	$ 47.49	$ 19,774	$ 22,350
2039	416,362	$ 4.35	$ 2,610	$ 50.33	$ 20,956	$ 23,565
Total	8,332,945		35,772		277,721	313,493
NPV 2019$			$ 15,549		$ 133,766	$ 149,315

Early Levelized Capacity Payments

	Energy (MWH)	Capacity Rates ($/kw-month)	Total Capacity Payments ($000)	Energy Rates ($/MWh)	Total Energy Payments ($000)	Total Payments to Renewable Provider ($000)
2020	417,503	$ -	$ -	$ 22.68	$ 9,469	$ 9,469
2021	416,362	$ -	$ -	$ 20.75	$ 8,638	$ 8,638
2022	416,362	$ -	$ -	$ 18.72	$ 7,796	$ 7,796
2023	416,362	$ -	$ -	$ 17.22	$ 7,172	$ 7,172
2024	417,503	$ -	$ -	$ 19.80	$ 8,266	$ 8,266
2025	416,362	$ 3.89	$ 2,333	$ 23.73	$ 9,878	$ 12,212
2026	416,362	$ 3.89	$ 2,335	$ 26.06	$ 10,850	$ 13,186
2027	416,362	$ 3.90	$ 2,337	$ 29.81	$ 12,413	$ 14,750
2028	417,503	$ 3.90	$ 2,339	$ 32.12	$ 13,409	$ 15,748
2029	416,362	$ 3.90	$ 2,341	$ 33.22	$ 13,833	$ 16,175
2030	416,362	$ 3.91	$ 2,343	$ 36.22	$ 15,079	$ 17,422
2031	416,362	$ 3.91	$ 2,346	$ 37.60	$ 15,656	$ 18,002
2032	417,503	$ 3.91	$ 2,348	$ 40.58	$ 16,942	$ 19,290
2033	416,362	$ 3.92	$ 2,350	$ 41.82	$ 17,411	$ 19,761
2034	416,362	$ 3.92	$ 2,352	$ 42.57	$ 17,725	$ 20,077
2035	416,362	$ 3.92	$ 2,355	$ 40.37	$ 16,807	$ 19,161
2036	417,503	$ 3.93	$ 2,357	$ 41.75	$ 17,429	$ 19,786
2037	416,362	$ 3.93	$ 2,360	$ 43.75	$ 18,218	$ 20,577
2038	416,362	$ 3.94	$ 2,362	$ 47.49	$ 19,774	$ 22,136
2039	416,362	$ 3.94	$ 2,365	$ 50.33	$ 20,956	$ 23,321
Total	8,332,945		35,224		277,721	312,945
NPV 2019$			$ 15,549		$ 133,766	$ 149,315