



Matthew R. Bernier
SENIOR COUNSEL
Duke Energy Florida, LLC

April 19, 2016

via electronic delivery

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

Re: Petition for Approval of Amended Standard Offer Contract (Schedule COG-2); Docket No. 160073-EQ

Dear Ms. Stauffer:

Please find enclosed for electronic filing on behalf of Duke Energy Florida, LLC ("DEF"), DEF's Response to Staff's First Data Request (No. 1).

Thank you for your assistance in this matter. Should have any questions, please feel free to contact me at (850) 521-1428.

Sincerely,

s/ Matthew R. Bernier

Matthew R. Bernier

MRB/at
Enclosures

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that a true and correct copy of the foregoing has been furnished via electronic mail to the following this 19th day of April, 2016.

/s/ Matthew R. Bernier

Matthew R. Bernier

Charles Murphy, Esq.
Office of General Counsel
Florida Public Service Commission
2540 Shumard Oak Blvd.
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**DUKE ENERGY FLORIDA, LLC'S RESPONSES TO
STAFF'S FIRST DATA REQUEST (NO. 1)
Docket No. 160073-EI**

1. Please complete the following tables describing payments to a renewable provider based on the proposed tariffs included in DEF'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, 2017, 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 provide an Excel spreadsheet in support of the calculation, and provide the total Net Present Value (NPV) of all payments in 2017 dollars, with an explanation of the method and rate used to calculate the NPV.

Please provide the completed table for the following five scenarios:

- A. As-available energy (energy only payments)
- B. Normal capacity payments
- C. Levelized payments
- D. Early payments
- E. Early levelized payments

RESPONSE:

Year	Energy	Capacity Rate	Total Capacity Payments	Energy Rate	Total Energy Payments	Total Payments
	(MWh)	(\$/kw-mo)	(\$)	(\$/MWh)	(\$)	(\$)
2017						
2018						
2019						
2020						
2021						
2022						
2023						
2024						
2025						
2026						
2027						
2028						
2029						
2030						
2031						
2032						
2033						

2034						
2035						
2036						
Total (nominal)						
Total NPV (\$2017)						

Response:

See the tables below for the five scenarios.

As-available energy

	Energy	Capacity Rates	Total Capacity Payments	Energy Rates	Total Energy Payments	Total Payments
	(MWh)	(\$/kw-mo.)	(\$000)	(\$/MWh)	(\$000)	(\$000)
2017	416,100	\$ -	\$ -	\$ 36.26	\$ 15,088	\$ 15,088
2018	416,100	\$ -	\$ -	\$ 37.40	\$ 15,560	\$ 15,560
2019	416,100	\$ -	\$ -	\$ 37.71	\$ 15,690	\$ 15,690
2020	417,240	\$ -	\$ -	\$ 39.27	\$ 16,384	\$ 16,384
2021	416,100	\$ -	\$ -	\$ 43.47	\$ 18,086	\$ 18,086
2022	416,100	\$ -	\$ -	\$ 48.18	\$ 20,049	\$ 20,049
2023	416,100	\$ -	\$ -	\$ 50.48	\$ 21,004	\$ 21,004
2024	417,240	\$ -	\$ -	\$ 52.43	\$ 21,877	\$ 21,877
2025	416,100	\$ -	\$ -	\$ 54.08	\$ 22,502	\$ 22,502
2026	416,100	\$ -	\$ -	\$ 56.37	\$ 23,457	\$ 23,457
2027	416,100	\$ -	\$ -	\$ 56.60	\$ 23,553	\$ 23,553
2028	417,240	\$ -	\$ -	\$ 58.45	\$ 24,388	\$ 24,388
2029	416,100	\$ -	\$ -	\$ 61.14	\$ 25,442	\$ 25,442
2030	416,100	\$ -	\$ -	\$ 62.01	\$ 25,801	\$ 25,801
2031	416,100	\$ -	\$ -	\$ 64.44	\$ 26,813	\$ 26,813
2032	417,240	\$ -	\$ -	\$ 65.98	\$ 27,531	\$ 27,531
2033	416,100	\$ -	\$ -	\$ 68.51	\$ 28,505	\$ 28,505
2034	416,100	\$ -	\$ -	\$ 71.25	\$ 29,647	\$ 29,647
2035	416,100	\$ -	\$ -	\$ 74.08	\$ 30,825	\$ 30,825
2036	417,240	\$ -	\$ -	\$ 76.30	\$ 31,837	\$ 31,837
Total	8,327,700		-		464,040	464,040
NPV 2017\$			\$ -		\$ 235,340	\$ 235,340

Assumed capacity factor 95%
Discount Rate 6.92%

Normal capacity payments

	Energy	Capacity Rates	Total Capacity Payments	Energy Rates	Total Energy Payments	Total Payments
	(MWh)	(\$/kw-mo.)	(\$000)	(\$/MWh)	(\$000)	(\$000)
2017	416,100	\$ -	\$ -	\$ 36.26	\$ 15,088	\$ 15,088
2018	416,100	\$ -	\$ -	\$ 37.40	\$ 15,560	\$ 15,560
2019	416,100	\$ -	\$ -	\$ 37.71	\$ 15,690	\$ 15,690
2020	417,240	\$ -	\$ -	\$ 39.27	\$ 16,384	\$ 16,384
2021	416,100	\$ -	\$ -	\$ 43.47	\$ 18,086	\$ 18,086
2022	416,100	\$ -	\$ -	\$ 48.18	\$ 20,049	\$ 20,049
2023	416,100	\$ -	\$ -	\$ 50.48	\$ 21,004	\$ 21,004
2024	417,240	\$ 4.82	\$ 1,688	\$ 52.43	\$ 21,877	\$ 23,565
2025	416,100	\$ 4.94	\$ 2,967	\$ 54.08	\$ 22,502	\$ 25,469
2026	416,100	\$ 5.07	\$ 3,041	\$ 56.37	\$ 23,457	\$ 26,497
2027	416,100	\$ 5.19	\$ 3,117	\$ 56.60	\$ 23,553	\$ 26,670
2028	417,240	\$ 5.32	\$ 3,195	\$ 58.45	\$ 24,388	\$ 27,583
2029	416,100	\$ 5.46	\$ 3,275	\$ 61.14	\$ 25,442	\$ 28,716
2030	416,100	\$ 5.59	\$ 3,356	\$ 62.01	\$ 25,801	\$ 29,158
2031	416,100	\$ 5.73	\$ 3,440	\$ 64.44	\$ 26,813	\$ 30,254
2032	417,240	\$ 5.88	\$ 3,526	\$ 65.98	\$ 27,531	\$ 31,057
2033	416,100	\$ 6.02	\$ 3,614	\$ 68.51	\$ 28,505	\$ 32,120
2034	416,100	\$ 6.17	\$ 3,705	\$ 71.25	\$ 29,647	\$ 33,352
2035	416,100	\$ 6.33	\$ 3,797	\$ 74.08	\$ 30,825	\$ 34,622
2036	417,240	\$ 6.49	\$ 3,892	\$ 76.30	\$ 31,837	\$ 35,729
Total	8,327,700		42,614		464,040	506,654
NPV 2017\$			\$ 17,211		\$ 235,340	\$ 252,551

Assumed capacity factor 95%
Discount Rate 6.92%

Levelized payments

	Energy	Capacity Rates	Total Capacity Payments	Energy Rates	Total Energy Payments	Total Payments
	(MWh)	(\$/kw-mo.)	(\$000)	(\$/MWh)	(\$000)	(\$000)
2017	416,100	\$ -	\$ -	\$ 36.26	\$ 15,088	\$ 15,088
2018	416,100	\$ -	\$ -	\$ 37.40	\$ 15,560	\$ 15,560
2019	416,100	\$ -	\$ -	\$ 37.71	\$ 15,690	\$ 15,690
2020	417,240	\$ -	\$ -	\$ 39.27	\$ 16,384	\$ 16,384
2021	416,100	\$ -	\$ -	\$ 43.47	\$ 18,086	\$ 18,086
2022	416,100	\$ -	\$ -	\$ 48.18	\$ 20,049	\$ 20,049
2023	416,100	\$ -	\$ -	\$ 50.48	\$ 21,004	\$ 21,004
2024	417,240	\$ 5.48	\$ 1,917	\$ 52.43	\$ 21,877	\$ 23,794
2025	416,100	\$ 5.48	\$ 3,291	\$ 54.08	\$ 22,502	\$ 25,793
2026	416,100	\$ 5.49	\$ 3,296	\$ 56.37	\$ 23,457	\$ 26,752
2027	416,100	\$ 5.50	\$ 3,301	\$ 56.60	\$ 23,553	\$ 26,854
2028	417,240	\$ 5.51	\$ 3,306	\$ 58.45	\$ 24,388	\$ 27,694
2029	416,100	\$ 5.52	\$ 3,311	\$ 61.14	\$ 25,442	\$ 28,753
2030	416,100	\$ 5.53	\$ 3,317	\$ 62.01	\$ 25,801	\$ 29,118
2031	416,100	\$ 5.54	\$ 3,323	\$ 64.44	\$ 26,813	\$ 30,136
2032	417,240	\$ 5.55	\$ 3,328	\$ 65.98	\$ 27,531	\$ 30,859
2033	416,100	\$ 5.56	\$ 3,334	\$ 68.51	\$ 28,505	\$ 31,840
2034	416,100	\$ 5.57	\$ 3,340	\$ 71.25	\$ 29,647	\$ 32,988
2035	416,100	\$ 5.58	\$ 3,347	\$ 74.08	\$ 30,825	\$ 34,171
2036	417,240	\$ 5.59	\$ 3,353	\$ 76.30	\$ 31,837	\$ 35,190
Total	8,327,700		41,764		464,040	505,804
NPV 2017\$			\$ 17,211		\$ 235,340	\$ 252,551

Assumed capacity factor 95%
Discount Rate 6.92%

Early payments

	Energy	Capacity Rates	Total Capacity Payments	Energy Rates	Total Energy Payments	Total Payments
	(MWh)	(\$/kw-mo.)	(\$000)	(\$/MWh)	(\$000)	(\$000)
2017	416,100	\$ -	\$ -	\$ 36.26	\$ 15,088	\$ 15,088
2018	416,100	\$ -	\$ -	\$ 37.40	\$ 15,560	\$ 15,560
2019	416,100	\$ -	\$ -	\$ 37.71	\$ 15,690	\$ 15,690
2020	417,240	\$ -	\$ -	\$ 39.27	\$ 16,384	\$ 16,384
2021	416,100	\$ -	\$ -	\$ 43.47	\$ 18,086	\$ 18,086
2022	416,100	\$ 3.64	\$ 2,185	\$ 48.18	\$ 20,049	\$ 22,233
2023	416,100	\$ 3.73	\$ 2,239	\$ 50.48	\$ 21,004	\$ 23,243
2024	417,240	\$ 3.83	\$ 2,295	\$ 52.43	\$ 21,877	\$ 24,172
2025	416,100	\$ 3.92	\$ 2,352	\$ 54.08	\$ 22,502	\$ 24,855
2026	416,100	\$ 4.02	\$ 2,411	\$ 56.37	\$ 23,457	\$ 25,868
2027	416,100	\$ 4.12	\$ 2,472	\$ 56.60	\$ 23,553	\$ 26,025
2028	417,240	\$ 4.22	\$ 2,533	\$ 58.45	\$ 24,388	\$ 26,922
2029	416,100	\$ 4.33	\$ 2,597	\$ 61.14	\$ 25,442	\$ 28,038
2030	416,100	\$ 4.44	\$ 2,662	\$ 62.01	\$ 25,801	\$ 28,463
2031	416,100	\$ 4.55	\$ 2,728	\$ 64.44	\$ 26,813	\$ 29,542
2032	417,240	\$ 4.66	\$ 2,796	\$ 65.98	\$ 27,531	\$ 30,327
2033	416,100	\$ 4.78	\$ 2,866	\$ 68.51	\$ 28,505	\$ 31,371
2034	416,100	\$ 4.90	\$ 2,938	\$ 71.25	\$ 29,647	\$ 32,585
2035	416,100	\$ 5.02	\$ 3,011	\$ 74.08	\$ 30,825	\$ 33,836
2036	417,240	\$ 5.14	\$ 3,087	\$ 76.30	\$ 31,837	\$ 34,923
Total	8,327,700		39,172		464,040	503,212
NPV 2017\$			\$ 17,211		\$ 235,340	\$ 252,551

Assumed capacity factor 95%
Discount Rate 6.92%

Early levelized payments

	Energy	Capacity Rates	Total Capacity Payments	Energy Rates	Total Energy Payments	Total Payments
	(MWh)	(\$/kw-mo.)	(\$000)	(\$/MWh)	(\$000)	(\$000)
2017	416,100	\$ -	\$ -	\$ 36.26	\$ 15,088	\$ 15,088
2018	416,100	\$ -	\$ -	\$ 37.40	\$ 15,560	\$ 15,560
2019	416,100	\$ -	\$ -	\$ 37.71	\$ 15,690	\$ 15,690
2020	417,240	\$ -	\$ -	\$ 39.27	\$ 16,384	\$ 16,384
2021	416,100	\$ -	\$ -	\$ 43.47	\$ 18,086	\$ 18,086
2022	416,100	\$ 4.18	\$ 2,510	\$ 48.18	\$ 20,049	\$ 22,558
2023	416,100	\$ 4.19	\$ 2,513	\$ 50.48	\$ 21,004	\$ 23,518
2024	417,240	\$ 4.20	\$ 2,517	\$ 52.43	\$ 21,877	\$ 24,394
2025	416,100	\$ 4.20	\$ 2,521	\$ 54.08	\$ 22,502	\$ 25,023
2026	416,100	\$ 4.21	\$ 2,525	\$ 56.37	\$ 23,457	\$ 25,981
2027	416,100	\$ 4.21	\$ 2,529	\$ 56.60	\$ 23,553	\$ 26,082
2028	417,240	\$ 4.22	\$ 2,533	\$ 58.45	\$ 24,388	\$ 26,921
2029	416,100	\$ 4.23	\$ 2,537	\$ 61.14	\$ 25,442	\$ 27,979
2030	416,100	\$ 4.24	\$ 2,542	\$ 62.01	\$ 25,801	\$ 28,343
2031	416,100	\$ 4.24	\$ 2,546	\$ 64.44	\$ 26,813	\$ 29,359
2032	417,240	\$ 4.25	\$ 2,551	\$ 65.98	\$ 27,531	\$ 30,082
2033	416,100	\$ 4.26	\$ 2,555	\$ 68.51	\$ 28,505	\$ 31,060
2034	416,100	\$ 4.27	\$ 2,560	\$ 71.25	\$ 29,647	\$ 32,207
2035	416,100	\$ 4.27	\$ 2,565	\$ 74.08	\$ 30,825	\$ 33,389
2036	417,240	\$ 4.28	\$ 2,570	\$ 76.30	\$ 31,837	\$ 34,407
Total	8,327,700		38,073		464,040	502,113
NPV 2017\$			\$ 17,211		\$ 235,340	\$ 252,551

Assumed capacity factor 95%
Discount Rate 6.92%