Dianne M. Triplett
ASSOCIATE GENERAL COUNSEL
Duke Energy Florida, LLC

May 24, 2017

Via ELECTRONIC DELIVERY

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

Re: Docket 170072-EI; DEF Petition for Approval of Amended Standard Offer Contract and Amended Interconnection Agreement

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.

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

Sincerely,

Dianne M. Triplett

Dianne M. Triplett

DMT/at
Attachments
cc: Traci Matthews & Takira Thompson

Docket 170072-EI
Duke Energy Florida, LLC's Response to
Staff's First Data Request regarding Duke Energy Florida's
Petition for approval of amended standard offer contract and amended interconnection agreement

For the first three questions, please refer to Section 6.3 of the amended standard offer contract.

1. Please explain what DEF would consider to be a "reasonable opportunity" to provide an offer to purchase Environmental Attributes (EAs).

   RESPONSE:

   A reasonable opportunity means the same opportunity offered to any other potential purchaser of the EAs.

2. Please explain whether or not the avoided unit will generate EAs.

   a. Please provide an estimate of the market value of EAs, on a per MWh basis.

   RESPONSE:

   Based upon current law and regulations, the natural gas-fired combustion turbine that is the avoided unit would not generate any EAs.

3. Please describe or explain how this provision of the standard offer contract comports with the Commission's direction in Order No. PSC-09-0643-FOF-EI, issued September 22, 2009, in Docket No. 080501-EI, at page five, wherein the provision for the right of first refusal was specifically disallowed from inclusion in standard offer contracts.

   RESPONSE:

   The reasonable opportunity to purchase EAs does not rise to the level of a right of first refusal. The right of first refusal would provide that right holder the ability to match or better the best offer that the seller has received. A reasonable opportunity merely provides for the same opportunity to purchase the EAs at the same terms and conditions that any other potential purchaser would experience.

4. 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, 2018, 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 2018 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

RESPONSE:

Historically DEF has used its system marginal costs as practical estimates of its as-available rates. When the volume of anticipated as-available QF purchases were low in this scenario, this estimate was reasonable. However, with the large amount of solar projects in the various DEF interconnection queues, a greater volume of as-available purchases must be assumed. It is also important to note that current estimates are only valid and effective as of May 1, 2017 due to the steady activity in the QF market. Along with these larger amounts of QF generation contributing to DEF's as-available block size, it is also anticipated that DEF will have increasing amounts of time when system generation along with potential QF generation will be expected to 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 energy prices as reflected below.

See the attached spreadsheet. The NPV values were calculated using monthly values and the discount rate used 6.85% and an assumed capacity factor of 95%.

Year	Energy (MWh)	Capacity Rate ($/kw-mo)	Total Capacity Payments ($)	Energy Rate ($/MWh)	Total Energy Payments ($)	Total Payments ($)
2018						
2019						
2020						
2021						
2022						
2023						
2024						
2025						
2026						
2027						
2028						

2029						
2030						
2031						
2032						
2033						
2034						
2035						
2036						
2037						
Total (nominal)						
Total (NPV)						

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)
2018	416,100	$ -	$ -	$ 26.23	$ 10,914	$ 10,914
2019	416,100	$ -	$ -	$ 21.38	$ 8,896	$ 8,896
2020	417,240	$ -	$ -	$ 17.67	$ 7,374	$ 7,374
2021	416,100	$ -	$ -	$ 18.51	$ 7,703	$ 7,703
2022	416,100	$ -	$ -	$ 19.61	$ 8,159	$ 8,159
2023	416,100	$ -	$ -	$ 20.23	$ 8,417	$ 8,417
2024	417,240	$ -	$ -	$ 21.05	$ 8,784	$ 8,784
2025	416,100	$ -	$ -	$ 21.92	$ 9,122	$ 9,122
2026	416,100	$ -	$ -	$ 22.87	$ 9,518	$ 9,518
2027	416,100	$ -	$ -	$ 23.20	$ 9,654	$ 9,654
2028	417,240	$ -	$ -	$ 23.62	$ 9,856	$ 9,856
2029	416,100	$ -	$ -	$ 24.21	$ 10,073	$ 10,073
2030	416,100	$ -	$ -	$ 24.77	$ 10,307	$ 10,307
2031	416,100	$ -	$ -	$ 25.96	$ 10,801	$ 10,801
2032	417,240	$ -	$ -	$ 27.26	$ 11,373	$ 11,373
2033	416,100	$ -	$ -	$ 28.21	$ 11,738	$ 11,738
2034	416,100	$ -	$ -	$ 29.14	$ 12,126	$ 12,126
2035	416,100	$ -	$ -	$ 30.59	$ 12,728	$ 12,728
2036	417,240	$ -	$ -	$ 31.74	$ 13,245	$ 13,245
2037	416,100	$ -	$ -	$ 33.19	$ 13,811	$ 13,811
Total	8,327,700		-		204,600	204,600
NPV 2018$			$ -		$ 100,862	$ 100,862

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)
2018	416,100	$ -	$ -	$ 26.23	$ 10,914	$ 10,914
2019	416,100	$ -	$ -	$ 21.38	$ 8,896	$ 8,896
2020	417,240	$ -	$ -	$ 17.67	$ 7,374	$ 7,374
2021	416,100	$ -	$ -	$ 18.51	$ 7,703	$ 7,703
2022	416,100	$ -	$ -	$ 19.61	$ 8,159	$ 8,159
2023	416,100	$ -	$ -	$ 20.23	$ 8,417	$ 8,417
2024	417,240	$ 4.37	$ 1,529	$ 21.05	$ 8,784	$ 10,314
2025	416,100	$ 4.48	$ 2,687	$ 21.92	$ 9,122	$ 11,809
2026	416,100	$ 4.59	$ 2,754	$ 22.87	$ 9,518	$ 12,272
2027	416,100	$ 4.70	$ 2,823	$ 23.20	$ 9,654	$ 12,477
2028	417,240	$ 4.82	$ 2,894	$ 23.62	$ 9,856	$ 12,750
2029	416,100	$ 4.94	$ 2,966	$ 24.21	$ 10,073	$ 13,039
2030	416,100	$ 5.07	$ 3,040	$ 24.77	$ 10,307	$ 13,347
2031	416,100	$ 5.19	$ 3,116	$ 25.96	$ 10,801	$ 13,917
2032	417,240	$ 5.32	$ 3,194	$ 27.26	$ 11,373	$ 14,567
2033	416,100	$ 5.46	$ 3,274	$ 28.21	$ 11,738	$ 15,012
2034	416,100	$ 5.59	$ 3,356	$ 29.14	$ 12,126	$ 15,481
2035	416,100	$ 5.73	$ 3,440	$ 30.59	$ 12,728	$ 16,168
2036	417,240	$ 5.88	$ 3,526	$ 31.74	$ 13,245	$ 16,770
2037	416,100	$ 6.02	$ 3,614	$ 33.19	$ 13,811	$ 17,425
Total	8,327,700		42,211		204,600	246,811
NPV 2018$			$ 16,647		$ 100,862	$ 117,509

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)
2018	416,100	$ -	$ -	$ 26.23	$ 10,914	$ 10,914
2019	416,100	$ -	$ -	$ 21.38	$ 8,896	$ 8,896
2020	417,240	$ -	$ -	$ 17.67	$ 7,374	$ 7,374
2021	416,100	$ -	$ -	$ 18.51	$ 7,703	$ 7,703
2022	416,100	$ -	$ -	$ 19.61	$ 8,159	$ 8,159
2023	416,100	$ -	$ -	$ 20.23	$ 8,417	$ 8,417
2024	417,240	$ 5.00	$ 1,751	$ 21.05	$ 8,784	$ 10,536
2025	416,100	$ 5.01	$ 3,007	$ 21.92	$ 9,122	$ 12,129
2026	416,100	$ 5.02	$ 3,012	$ 22.87	$ 9,518	$ 12,530
2027	416,100	$ 5.03	$ 3,016	$ 23.20	$ 9,654	$ 12,670
2028	417,240	$ 5.04	$ 3,021	$ 23.62	$ 9,856	$ 12,878
2029	416,100	$ 5.04	$ 3,026	$ 24.21	$ 10,073	$ 13,099
2030	416,100	$ 5.05	$ 3,032	$ 24.77	$ 10,307	$ 13,339
2031	416,100	$ 5.06	$ 3,037	$ 25.96	$ 10,801	$ 13,838
2032	417,240	$ 5.07	$ 3,042	$ 27.26	$ 11,373	$ 14,415
2033	416,100	$ 5.08	$ 3,048	$ 28.21	$ 11,738	$ 14,787
2034	416,100	$ 5.09	$ 3,054	$ 29.14	$ 12,126	$ 15,180
2035	416,100	$ 5.10	$ 3,060	$ 30.59	$ 12,728	$ 15,788
2036	417,240	$ 5.11	$ 3,066	$ 31.74	$ 13,245	$ 16,310
2037	416,100	$ 5.12	$ 3,072	$ 33.19	$ 13,811	$ 16,883
Total	8,327,700		41,244		204,600	245,844
NPV 2018$			$ 16,647		$ 100,862	$ 117,509

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)
2018	416,100	$ -	$ -	$ 26.23	$ 10,914	$ 10,914
2019	416,100	$ -	$ -	$ 21.38	$ 8,896	$ 8,896
2020	417,240	$ -	$ -	$ 17.67	$ 7,374	$ 7,374
2021	416,100	$ -	$ -	$ 18.51	$ 7,703	$ 7,703
2022	416,100	$ 3.34	$ 2,003	$ 19.61	$ 8,159	$ 10,162
2023	416,100	$ 3.42	$ 2,054	$ 20.23	$ 8,417	$ 10,471
2024	417,240	$ 3.51	$ 2,105	$ 21.05	$ 8,784	$ 10,889
2025	416,100	$ 3.60	$ 2,158	$ 21.92	$ 9,122	$ 11,279
2026	416,100	$ 3.69	$ 2,211	$ 22.87	$ 9,518	$ 11,730
2027	416,100	$ 3.78	$ 2,267	$ 23.20	$ 9,654	$ 11,921
2028	417,240	$ 3.87	$ 2,323	$ 23.62	$ 9,856	$ 12,180
2029	416,100	$ 3.97	$ 2,382	$ 24.21	$ 10,073	$ 12,454
2030	416,100	$ 4.07	$ 2,441	$ 24.77	$ 10,307	$ 12,748
2031	416,100	$ 4.17	$ 2,502	$ 25.96	$ 10,801	$ 13,303
2032	417,240	$ 4.27	$ 2,565	$ 27.26	$ 11,373	$ 13,937
2033	416,100	$ 4.38	$ 2,629	$ 28.21	$ 11,738	$ 14,367
2034	416,100	$ 4.49	$ 2,694	$ 29.14	$ 12,126	$ 14,820
2035	416,100	$ 4.60	$ 2,762	$ 30.59	$ 12,728	$ 15,490
2036	417,240	$ 4.72	$ 2,831	$ 31.74	$ 13,245	$ 16,075
2037	416,100	$ 4.84	$ 2,902	$ 33.19	$ 13,811	$ 16,713
Total	8,327,700		38,828		204,600	243,428
NPV 2018$			$ 16,647		$ 100,862	$ 117,509

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)
2018	416,100	$ -	$ -	$ 26.23	$ 10,914	$ 10,914
2019	416,100	$ -	$ -	$ 21.38	$ 8,896	$ 8,896
2020	417,240	$ -	$ -	$ 17.67	$ 7,374	$ 7,374
2021	416,100	$ -	$ -	$ 18.51	$ 7,703	$ 7,703
2022	416,100	$ 3.87	$ 2,321	$ 19.61	$ 8,159	$ 10,480
2023	416,100	$ 3.87	$ 2,324	$ 20.23	$ 8,417	$ 10,742
2024	417,240	$ 3.88	$ 2,328	$ 21.05	$ 8,784	$ 11,112
2025	416,100	$ 3.89	$ 2,332	$ 21.92	$ 9,122	$ 11,453
2026	416,100	$ 3.89	$ 2,335	$ 22.87	$ 9,518	$ 11,854
2027	416,100	$ 3.90	$ 2,339	$ 23.20	$ 9,654	$ 11,993
2028	417,240	$ 3.91	$ 2,343	$ 23.62	$ 9,856	$ 12,199
2029	416,100	$ 3.91	$ 2,347	$ 24.21	$ 10,073	$ 12,420
2030	416,100	$ 3.92	$ 2,351	$ 24.77	$ 10,307	$ 12,658
2031	416,100	$ 3.93	$ 2,356	$ 25.96	$ 10,801	$ 13,157
2032	417,240	$ 3.93	$ 2,360	$ 27.26	$ 11,373	$ 13,733
2033	416,100	$ 3.94	$ 2,365	$ 28.21	$ 11,738	$ 14,103
2034	416,100	$ 3.95	$ 2,369	$ 29.14	$ 12,126	$ 14,495
2035	416,100	$ 3.96	$ 2,374	$ 30.59	$ 12,728	$ 15,102
2036	417,240	$ 3.96	$ 2,379	$ 31.74	$ 13,245	$ 15,623
2037	416,100	$ 3.97	$ 2,384	$ 33.19	$ 13,811	$ 16,195
Total	8,327,700		37,606		204,600	242,206
NPV 2018$			$ 16,647		$ 100,862	$ 117,509