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December 20, 2019

VIA ELECTRONIC FILING

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

Re: *Petition for Approval of Modifications to DEF's Rate Schedule SOL-1 – Shared Solar Rider – Experimental Pilot Program by Duke Energy Florida, LLC.*; Docket No. 20190198-EI

Dear Mr. Teitzman:

On behalf of Duke Energy Florida, LLC ("DEF"), please find enclosed for electronic filing in the above-referenced docket, DEF's Response to Staff's Second Data Request (Nos. 1-16).

Thank you for your attention to this matter. Please feel free to call me at (727) 820-4692 should you have any questions concerning this filing.

Sincerely,

/s/ Dianne M. Triplett

Dianne M. Triplett

DMT/cmck
Enclosure

cc: Walter Trierweiler, FPSC

**Duke Energy Florida, LLC's (DEF) Response to Staff's Second Data Request
(Nos. 1-16) Regarding DEF's Petition for Approval of Modifications to
DEF's Rate Schedule SOL-1 – Shared Solar Rider – Experimental Pilot Program**

Docket No. 20190198-EI

Data Requests

1. Please confirm if the subscription fee is based on the revenue requirement for any units approved in the first and second SoBRA.

RESPONSE:

Both the existing subscription fee as well as the proposed updated subscription fee are based on revenue requirements associated with DEF solar assets as well as program costs (see DEF's response to DR1 Q2). All of the revenue requirements associated with these assets are or will be recovered through base rates. All revenues received from the subscription fees as well as costs associated with the program are being accounted for through base rates. The revenues are above the line and are incorporated into DEF surveillance reports.

2. Please explain how the PV facilities supported by the Shared Solar Rider tariff differ from the SoBRA projects approved by the commission in Order No. PSC-2019-0159-FOF-EI and Order No. PSC-2019-0292-FOF-EI.

RESPONSE:

DEF's pilot program has not assigned specific quantities of any of the existing solar facilities but rather ensures adequate solar energy is available from the solar assets cumulatively to serve customer demand under the program. As described in response to Staff's First Data Request question number 1, the purpose of this program is to research customer interest through defined participation in small block solar energy subscriptions.

3. The following questions are in reference to the response to question 3 in staff's first data request.
 - a) What is the line "Bill Fees-Solar Costs" referring to and what cost and fees are included in this amount?

RESPONSE:

The line refers to customer participation fees.

- b) Is the number provided, \$8,757.00, supposed to be the total revenues from January 2019 to October 2019 for the total number of revenue received from participants? If so,

please explain the \$46 discrepancy between the revenue received from participants listed in the response to question 6 from staff’s first data request and the number labeled “Bill Fees-Solar Costs” in the response to question 3.

RESPONSE:

It is supposed to be the total revenues from January 2019 to October 2019. The table in question 3 should have read \$8711. The table in 6a showed the correct values.

4. What are the utility’s 2020 forecasted administrative costs? Please provide a breakdown and list the categories that are being calculated into the number.

RESPONSE:

While piloting this updated fee and testing interest, the Company forecasts 2020 administrative costs to be \$95,000. The labor cost will be \$45,000 and the marketing cost will be \$50,000.

5. In response to staff’s first data request question number 2, the utility provided a chart titled “DEF shared solar-fees and credits,” footnote 2(B) makes reference to block price for program overhead. Please explain what costs are included in overhead and provide a list of all overhead cost for 2019 and forecasted 2020 cost.

RESPONSE:

2019 Overhead Expenses:

Category	Type	Amount	Total
Administrative	Labor	\$ 26,216.99	
Administrative	Travel, Meals	\$ 211.79	
Administrative	Personal Mobile Device	\$ 90.00	\$ 26,518.78
Marketing	Labor	\$ 2,402.48	
Marketing	Campaigns	\$ 75.08	\$ 2,477.56

Administrative labor represents the Program Manager’s time spent in direct support of the program. Marketing labor represents the time the Marketing staff such as copywriters and visual designers spend developing the email campaigns and website.

The forecasted 2020 cost is \$95,000. Administrative costs are forecasted to be \$45,000 and marketing costs are forecasted to be \$50,000.

6. The following questions refer to the utility’s response to question 5 in staff’s first data request.

- a) Do the dates provided in the list for each facility represent the in-service dates? If not, what does the date signify?

RESPONSE:

The dates provided in the list for each facility represent the in-service dates.

- b) Please state if Duke recovers the total installed costs of the solar facilities listed in the response through base rates. If not, please explain.

RESPONSE:

Yes, DEF recovers the cost of its solar assets through base rates. Appropriately, DEF will also account for the program overhead costs and subscription fees through base rates and revenues associated with this program are included in Earnings Surveillance and will be included in DEF’s next rate case. This is not a change from the existing program.

- 7. Referring to the utility’s response to question 8 in staff’s first data request, in the last sentence of the first paragraph, the utility states “Participating customers will be paying toward the recovery of the development and maintenance of the DEF Solar projects, instead of the charges associated with fueling traditional means of generation.” Please list the exact solar projects that the utility is referring to in this sentence. Please explain in detail how this is different from solar projects recovered through the SoBRA mechanism.

RESPONSE:

Please see DEF’s response to Questions 1 and 2, above.

- 8. Please explain how the utility calculates the avoided fuel charges for this program.

RESPONSE:

Pursuant to DEF’s Petition for Approval of Modifications to DEF’s Rate Schedule SOL-1 Shared Solar Rider filed on November 1, 2019, the customer bill credit will be based on DEF’s Levelized Fuel Factor at Secondary metering (Schedule E1-D, Line 8), as submitted in DEF’s annual Fuel Projection Filing. This factor is calculated by dividing DEF’s Total Jurisdictional Fuel Amount (Schedule E1-D, Line 4) by the Effective Jurisdictional Sales (Schedule E1-D, Line 7); this rate is then divided by 10 to convert to cents/kWh.

- 9. Please calculate the bill credits for participants, using historic data from January 2019 through October 2019 using the proposed methodology, levelized fuel factor, using the table below.

Participants			
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Month	Residential	Commercial	Total Participants	Total credits paid
Jan-19				
Feb-19				
March-19				
April-19				
May-19				
June-19				
July-19				
Aug-19				
Sept-19				
Oct-19				

RESPONSE:

DEF used the data provided in its responses to Staff’s First Data Request #6 & #7, for Participants and Blocks, respectively, to calculate the bill credits applying DEF’s 2019 Levelized Fuel Factor at Secondary metering amount of \$0.03974/kWh.

Month	Residential	Commercial	Total Participants	Total credits paid
19-Jan	\$ 5.96	\$ 298.05	3	\$ 304.01
19-Feb	\$ 85.44	\$ -	14	\$ 85.44
19-Mar	\$ 107.30	\$ -	21	\$ 107.30
19-Apr	\$ 154.99	\$ -	30	\$ 154.99
19-May	\$ 168.90	\$ -	31	\$ 168.90
19-Jun	\$ 174.86	\$ -	34	\$ 174.86
19-Jul	\$ 218.57	\$ -	42	\$ 218.57
19-Aug	\$ 333.82	\$ -	51	\$ 333.82
19-Sep	\$ 363.62	\$ -	54	\$ 363.62
19-Oct	\$ 333.82	\$ -	55	\$ 333.82

10. Please provide the schedule and line in the utility’s projection filing in Docket No. 20190001-EI that included the avoided fuel credit for this program.

RESPONSE:

Please refer to DEF’s Response to Staff’s Second Data Request #8.

11. Referring to the response to question 11 from staff’s first data request, understanding that the facilities listed in the response were used for the initial subscription fee, please list all current facilities that are in use to provide solar blocks under this tariff and the associated annual revenue requirement for each facility.

RESPONSE:

DEF is still operating under the initially approved tariff and as such, currently the same facilities form the basis of the initial subscription fee. As originally constructed, DEF did not specifically identify a plant where the solar was coming from for each

customer. Rather, DEF is ensuring there is enough solar available to serve the energy that is subscribed based on power generated by DEF's solar fleet. As part of the pilot and customer request, DEF has tied the solar RECs to Hamilton for customers that want to more formally track and account for the RECs. The use of a single unit is more administratively efficient (costs less) than registering multiple units with the NAR. This is discussed further in response to question 12 from Staffs First Data Request.

Due to the intent of the pilot program, DEF is asking the FPSC to approve an update to the initial subscription fee to reduce that fee to be more in line with current costs for solar plants. DEF used the more recent units of Hamilton, Columbia, Lake Placid, Trenton and Debary as a proxy to estimate an appropriate subscription fee that would allow customers who are interested in solar but may not choose to put solar panels on their roof an opportunity to participate in the advancement of solar generation in Florida.

Please find attached revenue requirements for the five units used as a proxy to develop the proposed updated subscription fee.

12. Please explain how the utility is recovering the revenue requirement for each facility used in this program.

RESPONSE:

All of DEF's solar facilities are recovered through base rates. The program administrative costs and subscription fees for this program are also being included in DEF's base rates and are recorded above the line. Like many costs and revenues between rate cases, there may be favorable or unfavorable regulatory lag. As part of DEF's next rate case, revenues and costs associated with this program will be included and likely act to reduce the total revenue requirements.

13. The following questions are in reference to the response to question 12 from staff's first data request.

- a) The utility stated that Duke's Hamilton solar power plant has not yet been registered in the North American Renewables Registry (NAR). Please explain in detail how the utility has been providing RECs to participants since Hamilton's in service date if that plant has yet to be registered.

RESPONSE:

The current tariff does not explicitly state that RECs will be provided to customers. A goal of the program modification is to do that.

- b) Please list the current facilities that are in use by the utility that are registered with the NAR that have been providing RECs to participants from January 2018 to October 2019.

RESPONSE:

No facilities have been providing RECs to participants.

14. What are the current MWs available for subscription under this program?

RESPONSE:

The tariff does not define the MW's available for subscription. As a pilot program, the Company seeks to understand the demand for such a program.

15. Is there a need for additional solar future expansion under this tariff? If so, please state the tentative plans that the utility has to meet this need.

RESPONSE:

This is a pilot program (further defined in DEF's response DR1 Q1); therefore, at this time it is not possible to tell whether this program will lead to a need for future solar expansion under this tariff.

16. Please provide the excel spreadsheet that was used in response to staff's first data request question number 2 with the formulas intact.

RESPONSE:

Please see attached spreadsheet with formulas intact.

DEF Shared Solar Facilities -Revenue Requirements

Discount Rate 7.15%

<u>Year</u>	<u>Year #</u>	<u>PV Factor</u>	<u>Hamilton (H)</u>	<u>Trenton (T)</u>	<u>Lake Placid (LP)</u>	<u>Columbia (C)</u>	<u>Debary (D)</u>	<u>Total</u>
			<u>RR (000s)</u>	<u>RR (000s)</u>	<u>RR (000s)</u>	<u>RR (000s)</u>	<u>RR (000s)</u>	<u>RR (000s)</u>
2019	0	1.00	\$16,384					\$16,384
2020	1	0.93	\$15,583	\$14,467	\$8,775	\$12,979	\$9,232	\$61,036
2021	2	0.87	\$15,074	\$13,555	\$8,231	\$14,989	\$12,244	\$64,092
2022	3	0.81	\$14,440	\$12,918	\$7,852	\$14,149	\$11,454	\$60,813
2023	4	0.76	\$14,011	\$12,428	\$7,567	\$13,550	\$10,980	\$58,536
2024	5	0.71	\$13,669	\$11,961	\$7,287	\$13,059	\$10,581	\$56,558
2025	6	0.66	\$11,468	\$11,670	\$7,121	\$10,853	\$10,177	\$51,290
2026	7	0.62	\$11,194	\$9,764	\$5,983	\$10,499	\$8,469	\$45,909
2027	8	0.58	\$10,921	\$9,530	\$5,850	\$10,246	\$8,259	\$44,806
2028	9	0.54	\$10,607	\$9,300	\$5,717	\$10,008	\$8,058	\$43,691
2029	10	0.50	\$10,337	\$9,078	\$5,589	\$9,764	\$7,859	\$42,628
2030	11	0.47	\$10,059	\$8,842	\$5,466	\$9,514	\$7,651	\$41,533
2031	12	0.44	\$9,782	\$8,613	\$5,335	\$9,276	\$7,447	\$40,453
2032	13	0.41	\$9,563	\$8,376	\$5,204	\$9,014	\$7,240	\$39,397
2033	14	0.38	\$9,244	\$8,197	\$5,115	\$8,822	\$7,076	\$38,453
2034	15	0.35	\$8,971	\$7,939	\$4,950	\$8,556	\$6,862	\$37,279
2035	16	0.33	\$8,694	\$7,709	\$4,831	\$8,296	\$6,642	\$36,172
2036	17	0.31	\$8,409	\$7,480	\$4,702	\$8,049	\$6,438	\$35,079
2037	18	0.29	\$8,131	\$7,254	\$4,574	\$7,814	\$6,238	\$34,010
2038	19	0.27	\$7,880	\$7,517	\$4,699	\$7,919	\$6,373	\$34,388
2039	20	0.25	\$7,650	\$7,250	\$4,548	\$7,774	\$6,256	\$33,477
2040	21	0.23	\$7,394	\$7,048	\$4,439	\$7,541	\$6,055	\$32,477
2041	22	0.22	\$7,169	\$6,760	\$4,283	\$7,244	\$5,818	\$31,274
2042	23	0.20	\$6,927	\$6,552	\$4,167	\$6,998	\$5,617	\$30,262
2043	24	0.19	\$6,714	\$6,294	\$4,023	\$6,747	\$5,404	\$29,182
2044	25	0.18	\$6,478	\$6,100	\$3,913	\$6,513	\$5,218	\$28,223
2045	26	0.17	\$6,257	\$5,862	\$3,787	\$6,260	\$5,010	\$27,176
2046	27	0.15	\$6,049	\$5,642	\$3,664	\$6,027	\$4,813	\$26,196
2047	28	0.14	\$5,850	\$5,432	\$3,550	\$5,786	\$4,631	\$25,249
2048	29	0.13	\$7,838	\$5,229	\$3,437	\$5,571	\$4,462	\$26,537
2049	30	0.13		\$7,389	\$4,864	\$5,490	\$4,396	\$22,137
NPV of RR & Prod			\$150,219,998	\$121,543,491	\$74,843,993	\$127,629,544	\$102,767,451	\$560,620,164
Size (MWs AC)			74.9	74.9	45.0	74.9	74.5	344.2

DEF Shared Solar - Fees and Credits

Discount Rate 7.15%

Year	Year #	PV Factor	Total - All SoBRA Sites		Program Overhead Costs	
			RR (\$000s) ¹	Production (MWh)	Costs (\$000s) ²	Production (MWh)
2020	1	0.93	\$61,036	856,843	\$95	7,468
2021	2	0.87	\$64,092	853,632	\$60	7,440
2022	3	0.81	\$60,813	850,024	\$23	7,409
2023	4	0.76	\$58,536	846,344	\$15	7,377
2024	5	0.71	\$56,558	842,629	\$15	7,344
2025	6	0.66	\$51,290	838,885		
2026	7	0.62	\$45,909	835,068		
2027	8	0.58	\$44,806	831,183		
2028	9	0.54	\$43,691	827,261		
2029	10	0.50	\$42,628	823,317		
2030	11	0.47	\$41,533	819,297		
2031	12	0.44	\$40,453	815,204		
2032	13	0.41	\$39,397	811,077		
2033	14	0.38	\$38,453	806,931		
2034	15	0.35	\$37,279	802,708		
2035	16	0.33	\$36,172	798,414		
2036	17	0.31	\$35,079	794,090		
2037	18	0.29	\$34,010	789,748		
2038	19	0.27	\$34,388	785,331		
2039	20	0.25	\$33,477	780,852		
2040	21	0.23	\$32,477	776,351		
2041	22	0.22	\$31,274	771,826		
2042	23	0.20	\$30,262	767,222		
2043	24	0.19	\$29,182	762,551		
2044	25	0.18	\$28,223	757,849		
2045	26	0.17	\$27,176	753,129		
2046	27	0.15	\$26,196	748,331		
2047	28	0.14	\$25,249	743,474		
2048	29	0.13	\$26,537	738,602		
2049	30	0.13	\$22,137	570,109		
		Net Present Value	\$560,620	9,992,277	\$181	30,268
		LCOE (\$/MWh)	\$56.11		\$0.01	
		Size (MWs AC)	344.2		3.0	
		Solar Cost/Month/50 kWh Block	\$2.8053 (A)		\$0.2993 (B)	

Levelized Fuel Rates for DEF (Used as basis of Fuel Clause Credit) (C)

2019	\$0.0397	per kWh	\$1.99	per 50 kWh Block
2020	\$0.0335	per kWh	\$1.68	per 50 kWh Block

SUMMARY TABLE

Shared Solar Cost/Month/50 kWh Block (A)		\$2.8053	
Shared Solar OH Cost/Month/50 kWh Block (B)		<u>\$0.2993</u>	3 MW example
Shared Solar Subscription Fee		\$3.10	Rounded to nearest \$0.01
	<u>Year Used</u>		
Fuel Clause Cost Credit - \$/Month/50 kWh Block (C)	2019	<u>\$1.99</u>	Using 2019 levelized fuel cost for DEF rounded to nearest \$0.01. The 2020 credit would be \$1.68. See chart above.
Total Cost Net of Credit		\$1.11	

Notes and References:

¹ Remaining revenue requirements for five (5) approved DEF SoBRA solar assets. Values were also used as part of CPVRR analysis for applicable DEF SoBRA filings.

² Latest estimate of the 5 year shared solar program overhead.

(A) Block price for solar asset cost

(B) Block price for program overheads

(C) Block price for Fuel Clause Credit