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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 First Data Request (Nos. 1-14).

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 First Data Request
(Nos. 1-14) 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 discuss the purpose and intent of the program and how the program is a benefit to the participants.

RESPONSE:

The purpose of the experimental pilot program is to provide a voluntary Shared Solar concept program available to all customers, research customer solar interest through defined participation in small block solar energy subscriptions, provide the pilot programs' participants an opportunity to participate in Florida solar technology advancement and lower their carbon footprint in a measurable way. The Shared Solar pilot program aims to align the full cost of DEF's Shared Solar facilities with the benefits of these resources to evaluate customer interest and subscription of such a program among various customer groups in a monitored setting.

2. Please provide the cost support and calculation for the proposed \$3.10 monthly subscription fee.

RESPONSE:

Please see attached spreadsheet.

3. What are the utility's administrative and marketing costs for 2019 to market this program and what are the marketing and administrative costs for 2019 as a percentage of overall program cost?

RESPONSE:

Please see the table below.

DEF Shared Solar Costs	Jan-Oct 2019	%
Administrative*	\$26,518.78	74%
Marketing	\$2,477.56	
Bill Credits	\$1,451.12	26%
Bill Fees - Solar Costs	\$8,757.00	
Total	\$39,204.96	

***The first-year administrative costs relative to the overall pilot program costs include many inaugural tasks to support the initial launch- for example, testing processes, building the initial Shared Solar pilot program website, integrating the Shared Solar pilot program web-content into DEF's overall company website, customer communications, training at the call center, supporting in-depth customer inquiries, and updating the website iteratively by adding a cost calculator to the enrollment form, additional FAQs, and an improved Shared Solar pilot program subscription example calculation to ensure DEFs' customers have a clear understanding of the Shared Solar program design.**

4. Referring to paragraph six of the petition, please explain what is meant by “outdated cost information, which is not reflective of recent changes to Duke’s solar costs.”

RESPONSE:

Paragraph six of the petition refers to “the outdated [installed solar] cost information” of the DEF owned and operated Solar facilities used as the basis for the initial Shared Solar subscription fee calculation which is currently “not reflective of recent changes to DEF’s [most current installed] solar costs.” Generally, there have been declines in DEF’s installed solar costs since the Shared Solar pilot program was originally contemplated which is shown further in the response to question #5 below.

5. Please provide an analysis showing the cost changes to Duke for solar for the years 2017, 2018, and 2019.

RESPONSE:

Following on the DEF’s response to question #4 above, please find the cost changes to DEF’s installed solar costs below.

**Osceola Solar Facility: May 2016; \$1,970/kWac.
Perry Solar Facility: August 2016; \$2,120/kWac.
Suwannee Solar Facility: November 2017; \$2,060/kWac.
Hamilton Solar Power Plant: December 2018; \$1,511/kWac.
Lake Placid Solar Power Plant: December 2019; \$1,347/kWac.
Trenton Solar Power Plant: December 2019; \$1,337/kWac.
Columbia Solar Power Plant: Early-2020; \$1,461/kWac.
DeBary Solar Power Plant: Early-2020; \$1,224/kWac.**

6. Please complete the table below for the number of 2019 program participants.

RESPONSE:

Participants					
Month	Residential	Commercial	Industrial	Total Participants	Total Revenue
Jan-19	2	1	0	3	\$1,185.75
Feb-19	14	0	0	14	\$317.75
March-19	21	0	0	21	\$403.00
April-19	30	0	0	30	\$604.50
May-19	31	0	0	31	\$658.75
June-19	34	0	0	34	\$643.25
July-19	42	0	0	42	\$906.75
Aug-19	51	0	0	51	\$1,309.75
Sept-19	54	0	0	54	\$1,379.50
Oct-19	55	0	0	55	\$1,302.00

7. Please complete the table below for the number of 2019 blocks subscribed.

RESPONSE:

Blocks					
Month	Residential	Commercial	Industrial	Total Blocks	Total credits paid to participants
Jan-19	3	150	0	153	\$196.60
Feb-19	43	0	0	43	\$55.21
March-19	54	0	0	54	\$69.34
April-19	78	0	0	78	\$100.15
May-19	85	0	0	85	\$109.14
June-19	88	0	0	88	\$112.98
July-19	110	0	0	110	\$141.23
Aug-19	168	0	0	168	\$215.74
Sept-19	183	0	0	183	\$234.98
Oct-19	168	0	0	168	\$215.75

8. Duke is proposing to change the monthly bill credit to be based on the levelized fuel factor. Currently, the bill credits are based on the annual projection and forecasted daylight solar production from renewable generating facilities. Please provide an explanation and rationale for the change in methodology for calculating the monthly bill credit.

RESPONSE:

DEF proposes changing the Bill Credit basis to the Levelized Fuel Factor for a couple reasons. Potential program participants are more familiar with the cost of fuel and can better understand how the credit value ties in with their DEF bills. Further, the fuel and purchased power charge is comprised of mostly variable costs related to buying and transporting fuel for traditional generation, as well as purchased power. The Commission recognized this when they recently approved Tampa Electric Company's Shared Solar Rider, (SSR-1) in Docket No. 20180204, approving Order #PSC-2019-0215-TRF-EI. 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.

DEF proposes the use of the Levelized Fuel Factor because it will not require any additional billing or programming changes to implement, it is updated at least annually, it is approved in the Fuel and Purchased Power Cost Recovery proceedings, and it is compatible with existing billing system functionality, and will save on program administration costs.

9. Under this proposed methodology, will Duke file an update to the tariff sheet when updated levelized fuel factors are approved by the Commission? Please explain.

RESPONSE:

No. Other than changing the basis used for the credit value, DEF does not propose changing how the existing tariff works regarding the credit. The tariff does not explicitly call out a dollar value but rather references a value that is updated and filed with the FPSC on a regular basis, at least annually after the fuel factors are approved by the Commission (Sheet No. 6.105– Rate Schedule BA-1).

10. Please state how Duke recovers the bill credits paid to participating customers.

RESPONSE:

DEF is not changing how the bill credits will be recovered. As identified in DEF's response to Staff's Sixth Data Request (No. 48b) in Docket No. 20170183-EI, the credits will be recovered through the fuel and purchased power cost recovery clause.

11. Please list the current facilities that are in use by the utility to provide solar blocks under this tariff.

RESPONSE:

DEF based the initial subscription fee on the Osceola Solar Plant, the Perry Solar Plant, the Suwannee Solar Plant, and the Hamilton Solar Power Plant.

12. Please explain the process for certifying the RECs offered to participants subscribed under this tariff.

RESPONSE:

DEF's Hamilton Solar Power Plant will be registered in the North American Renewables Registry (NAR) that tracks RECs. Every month, solar generation from this plant will be registered and the quantity of RECs purchased by the pilot program participants will be moved to an account specific to Shared Solar. DEF will also retire Hamilton's RECs on behalf of all other customers on a yearly basis.

13. Has Duke notified the parties to the Settlement approved in Order No. PSC-2017-0451-AS-EU of the proposed tariff revisions? Please explain.

RESPONSE:

Yes. DEF notified the Settlement parties by email dated October 28, 2019. DEF sent the draft petition and tariff sheets, in advance of filing, to the signatories to its 2017 Settlement. To date, DEF has not received any feedback on the filing.

14. Duke is modifying its tariff sheet No. 6.395 under the heading Availability, to include the words "or temporarily suspend the program."

(a) Under what scenario does Duke believe that it would need to temporarily suspend the program and why suspending the program would be necessary for Duke?

(b) If Duke needs to temporarily suspend the program, how long does the utility believe it would need to suspend the program? Please explain.

RESPONSE:

(a) In the remote chance DEF sees unanticipated customer behavior or unintended consequences related to this experimental pilot program tariff, DEF wanted the flexibility to suspend, study, resolve, and potentially file approval for tariff changes or updates with the Commission rather than simply close the tariff.

(b) The suspension would depend on the cause and the length of time needed to rectify it.

DEF Shared Solar - Fees and Credits

Discount Rate 7.15%

Year	Year #	PV Factor	Total - All SoBRA Sites		Program Overhead Costs (3MW Program)	
			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)	\$0.2993	For 3 MW target program.
Shared Solar Subscription Fee	\$3.10	Rounded to nearest \$0.01
Fuel Clause Cost Credit - \$/Month/50 kWh Block (C)		
<u>Year Used</u>		
2019	\$1.99	Using 2019 levelized fuel cost for DEF rounded to nearest \$0.01.
		The 2020 credit would be \$1.68. See chart below.
Total Cost Net of Credit	\$1.11	

Notes and References:

¹ Estimated revenue requirements are based on costs associated with DEF's most recent solar assets- Columbia Solar Plant, DeBary Solar Plant, Lake Placid Solar Plant, Hamilton Solar Plant and Trenton Solar Plant.

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