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March 7, 2019

VIA: ELECTRONIC FILING

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

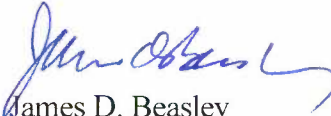
Re: Petition for Approval of Shared Solar Tariff by Tampa Electric Company
FPSC Docket No. 20180204-EI

Dear Mr. Teitzman:

Attached for filing in the above docket are Tampa Electric Company's Responses to Staff's Fifth Data Request (Nos. 1-5) dated February 28, 2019.

Thank you for your assistance in connection with this matter.

Sincerely,


James D. Beasley

JDB/pp
Attachment

cc: Charles Morgan II

**TAMPA ELECTRIC COMPANY
DOCKET NO. 20180204-EI
STAFF'S FIFTH DATA REQUEST
REQUEST NO. 1
BATES-STAMPED PAGE: 1
FILED: MARCH 7, 2019**

Please refer to TECO's Petition in Docket No. 20180204-EI (the Petition), Staff's previous Data Requests and the Company's responses, and both informal meetings held between Staff and the Company.

- 1.** Please provide a breakdown of the approximate percentage of fixed and variable costs within TECO's 2019 FCRC charges.

A.	Variable	81%
	Fixed	19%

**TAMPA ELECTRIC COMPANY
DOCKET NO. 20180204-EI
STAFF'S FIFTH DATA REQUEST
REQUEST NO. 2
BATES-STAMPED PAGE: 2
FILED: MARCH 7, 2019**

2. Please indicate whether or not TECO has received confirmation from all parties to the 2017 Revised and Restated Stipulation and Settlement Agreement that the provisions of its SSR-1 Tariff proposal are not in conflict with the settlement, particularly Paragraph 12 of the agreement, in regards to not allowing increases in any existing base rate component of a tariff or rate schedule, or any other charge imposed on customers during the term, unless the application of such new or revised tariff, rate schedule, or charge is optional to Tampa Electric's customers.

- A. Tampa Electric has received such confirmation from:

Office of Public Counsel
Retail Federation

The following three parties have been asked to confirm, but confirmation has not yet been received. As confirmation is received, Tampa Electric will inform Staff.

Florida Industrial Power User's Group	(Pending)
WCF Hospital Utility Alliance	(Pending)
Federal Executive Agencies	(Pending)

**TAMPA ELECTRIC COMPANY
DOCKET NO. 20180204-EI
STAFF'S FIFTH DATA REQUEST
REQUEST NO. 3
BATES-STAMPED PAGES: 3 - 5
FILED: MARCH 7, 2019**

- 3.** On Sheet No. 3.300 of the SSR-1 tariff, under “Monthly Rate”, please correct the spelling of “determinates” to “determinants”.

- A.** See attached.



SHARED SOLAR RIDER

SCHEDULE: SSR – 1

AVAILABLE: At the option of the customer, available to residential, commercial and industrial customers per device (non-totalized or totalized electric meter) on rate schedules RS, GS, GSD and IS on a first come, first served basis subject to subscription availability. Not available to customers who take service under NM-1, RSVP-1, any standby service or time of use rate schedule. Subscription availability will be dependent on availability of Shared Solar facilities. Customers who apply when availability is closed will be placed on a waiting list until Shared Solar capacity becomes available. The initial Shared Solar facility will be for 17.5 MWac* capacity and full subscription will be when 95% of expected annual energy output has been subscribed.

APPLICABLE: Applicable, upon request, to eligible customers in conjunction with their standard rates and availability of service subject to subscription availability.

CHARACTER OF SERVICE: Shared Solar - 1 (SSR-1) enables customers to purchase monthly energy produced from Company-owned solar facilities for a selected percentage of that month's billed kWh. For RS and GS, individual subscriptions will be measured as a percentage of the monthly energy consumption as selected by the customer: 25%, 50% or 100% rounded up to the next highest kWh. For GSD and IS, a fixed kWh subscription in 1,000 kWh blocks will be identified by the customer not to exceed their average monthly kWh consumption for the previous 12-months at the time of subscription.

MONTHLY RATE: \$0.063 per kWh for monthly energy consumption.

The monthly SSR-1 rate, multiplied by the monthly energy consumption selected by the customer, will be charged to the customer in addition to the customer's normal cost of electricity pursuant to their RS, GS, GSD or IS tariff charges applied to their entire monthly billing determinants, with the exception of the Fuel Charge, which is normally billed under the applicable tariff. Tampa Electric will seek to maintain the SSR-1 energy rate at \$0.063 per kWh or lower until January 1, 2048, however the SSR-1 energy rate will remain subject to change by order of the Florida Public Service Commission.

Under SSR-1, the Fuel Charge for the applicable RS, GS, GSD, or IS tariff, for the monthly energy percentage or blocks selected by the customer, will be billed at a rate of \$0.00 per kWh provided under this rider. The Fuel Charge applies to the remainder of the monthly billing determinants.

Continued to Sheet No. 3.305



SHARED SOLAR RIDER

SCHEDULE: SSR – 1

AVAILABLE: At the option of the customer, available to residential, commercial and industrial customers per device (non-totalized or totalized electric meter) on rate schedules RS, GS, GSD and IS on a first come, first served basis subject to subscription availability. Not available to customers who take service under NM-1, RSVP-1, any standby service or time of use rate schedule. Subscription availability will be dependent on availability of Shared Solar facilities. Customers who apply when availability is closed will be placed on a waiting list until Shared Solar capacity becomes available. The initial Shared Solar facility will be for 17.5 MWac* capacity and full subscription will be when 95% of expected annual energy output has been subscribed.

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MONTHLY RATE: \$0.063 per kWh for monthly energy consumption.

The monthly SSR-1 rate, multiplied by the monthly energy consumption selected by the customer, will be charged to the customer in addition to the customer's normal cost of electricity pursuant to their RS, GS, GSD or IS tariff charges applied to their entire monthly billing determinants, with the exception of the Fuel Charge, which is normally billed under the applicable tariff. Tampa Electric will seek to maintain the SSR-1 energy rate at \$0.063 per kWh or lower until January 1, 2048, however the SSR-1 energy rate will remain subject to change by order of the Florida Public Service Commission.

Under SSR-1, the Fuel Charge for the applicable RS, GS, GSD, or IS tariff, for the monthly energy percentage or blocks selected by the customer, will be billed at a rate of \$0.00 per kWh provided under this rider. The Fuel Charge applies to the remainder of the monthly billing determinants.

Continued to Sheet No. 3.305

**TAMPA ELECTRIC COMPANY
DOCKET NO. 20180204-EI
STAFF'S FIFTH DATA REQUEST
REQUEST NO. 4
BATES-STAMPED PAGES: 6 - 12
FILED: MARCH 7, 2019**

4. Please complete the following 3 tables in electronic Excel format with formulas intact:

SSR-1 Program Revenue and Participants' Avoided System Fuel Costs 100% Subscription						
A	B	C	D	E	F	G
Year	SSR-1 Program KWHs	SSR-1 Rate	SSR-1 Revenue (\$ NPV)	System- Wide Forecasted Delivered Fuel Rate (1) (NPV)	Avoided System Fuel Costs – 17.5 MW Lake Hancock (\$ NPV)	SSR-1 Revenue less Avoided System Fuel Costs 17.5 MW Lake Hancock (\$ NPV)
			B x C		B x E	D – F
2019						
2020						
2021						
2022						
2023						
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**TAMPA ELECTRIC COMPANY
DOCKET NO. 20180204-EI
STAFF'S FIFTH DATA REQUEST
REQUEST NO. 4
BATES-STAMPED PAGES: 7 - 12
FILED: MARCH 7, 2019**

2044						
2045						
2046						
2047						
2048						
NPV 2019 \$						
1. Weighted "All-in Delivered Cost" calculated from response to DR 28, BS Page 103 and 104, and other sources as may be appropriate, discounted in cell formula.						
SSR-1 Program Revenue and Participants' Avoided System Fuel Costs 50% Subscription						
A	B	C	D	E	F	G
Year	SSR-1 Program KWHs	SSR-1 Rate	SSR-1 Revenue (\$ NPV)	System- Wide Forecasted Delivered Fuel Rate (1) (NPV)	Avoided System Fuel Costs – 17.5 MW Lake Hancock (\$ NPV)	SSR-1 Revenue less Avoided System Fuel Costs 17.5 MW Lake Hancock (\$ NPV)
			B x C		B x E	D – F
2019						
2020						
2021						
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**TAMPA ELECTRIC COMPANY
DOCKET NO. 20180204-EI
STAFF'S FIFTH DATA REQUEST
REQUEST NO. 4
BATES-STAMPED PAGES: 8 - 12
FILED: MARCH 7, 2019**

2036						
2037						
2038						
2039						
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2041						
2042						
2043						
2044						
2045						
2046						
2047						
2048						
NPV 2019 \$						
1. Weighted "All-in Delivered Cost" calculated from response to DR 28, BS Page 103 and 104, and other sources as may be appropriate, discounted in cell formula.						
SSR-1 Program Revenue and Participants' Avoided System Fuel Costs 25% Subscription						
A	B	C	D	E	F	G
Year	SSR-1 Program KWHs	SSR-1 Rate	SSR-1 Revenue (\$ NPV)	System- Wide Forecasted Delivered Fuel Rate (1) (\$ NPV)	Avoided System Fuel Costs – 17.5 MW Lake Hancock (\$ NPV)	SSR-1 Revenue less Avoided System Fuel Costs 17.5 MW Lake Hancock (\$ NPV)
			B x C		B x E	D – F
2019						
2020						
2021						
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2027						

**TAMPA ELECTRIC COMPANY
DOCKET NO. 20180204-EI
STAFF'S FIFTH DATA REQUEST
REQUEST NO. 4
BATES-STAMPED PAGES: 9 - 12
FILED: MARCH 7, 2019**

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2043						
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2046						
2047						
2048						
NPV 2019 \$						
1. Weighted "All-in Delivered Cost" calculated from response to DR 28, BS Page 103 and 104, and other sources as may be appropriate, discounted in cell formula.						

- A.** Please see the attached pages for the requested information. These tables are also available in the accompanying Excel file titled: "Staff's 5th Data Request - Q4.xlsx."

WACC 7.01%

SSR-1 Program Revenue and Participants' Avoided System Fuel Costs 100% Subscription						
A	B	C	D	E	F	G
Year	SSR-1 Program KWHs	SSR-1 Rate	SSR-1 Revenue (\$ NPV)	System-Wide Forecasted Delivered Fuel Rate (1) (NPV, 2019\$, \$/kWh)	Avoided System Fuel Costs - 17.5 MW Lake Hancock (2) (\$ NPV)	SSR-1 Revenue less Avoided System Fuel Costs 17.5 MW Lake Hancock (\$ NPV) D - F
			B x C			
2019	37,573,830	0.0630	2,366,068	0.02405	1,470,761	895,307
2020	37,423,535	0.0630	2,202,194	0.02265	634,390	1,567,803
2021	37,273,841	0.0630	2,049,669	0.02189	1,021,630	1,028,039
2022	37,124,745	0.0630	1,907,708	0.02153	725,847	1,181,861
2023	36,976,246	0.0630	1,775,579	0.01987	911,438	864,141
2024	36,828,341	0.0630	1,652,602	0.01956	738,984	913,618
2025	36,681,028	0.0630	1,538,142	0.01941	834,565	703,577
2026	36,534,304	0.0630	1,431,609	0.01936	743,589	688,021
2027	36,388,167	0.0630	1,332,455	0.01917	750,854	581,602
2028	36,242,614	0.0630	1,240,169	0.01897	619,262	620,907
2029	36,097,643	0.0630	1,154,274	0.01864	681,979	472,295
2030	35,953,253	0.0630	1,074,329	0.01837	776,307	298,022
2031	35,809,440	0.0630	999,920	0.01806	650,914	349,006
2032	35,666,202	0.0630	930,665	0.01768	683,132	247,533
2033	35,523,537	0.0630	866,207	0.01716	1,149,510	(283,303)
2034	35,381,443	0.0630	806,213	0.01667	605,803	200,410
2035	35,239,917	0.0630	750,375	0.01626	680,130	70,245
2036	35,098,958	0.0630	698,403	0.01614	712,877	(14,473)
2037	34,958,562	0.0630	650,032	0.01593	888,637	(238,605)
2038	34,818,728	0.0630	605,010	0.01542	627,123	(22,113)
2039	34,679,453	0.0630	563,107	0.01497	618,153	(55,046)
2040	34,540,735	0.0630	524,106	0.01461	705,159	(181,054)
2041	34,402,572	0.0630	487,806	0.01413	835,615	(347,809)
2042	34,264,962	0.0630	454,020	0.01373	805,265	(351,244)
2043	34,127,902	0.0630	422,575	0.01278	597,250	(174,676)
2044	33,991,390	0.0630	393,307	0.01202	538,524	(145,217)
2045	33,855,425	0.0630	366,066	0.01154	615,913	(249,847)
2046	33,720,003	0.0630	340,712	0.01105	513,470	(172,758)
2047	33,585,123	0.0630	317,115	0.01064	458,444	(141,330)
2048	33,450,782	0.0630	295,151	0.01019	385,601	(90,450)
NPV 2019 \$	-	-	30,195,588	-	21,981,124	8,214,464

1. Factor based on Forecasted "All-in Delivered Cost" in 2019\$
2. Fuel savings from the analysis prepared for the Second SoBRA cost-effectiveness docket.

SSR-1 Program Revenue and Participants' Avoided System Fuel Costs 50% Subscription						
A	B	C	D	E	F	G
Year	SSR-1 Program KWHs	SSR-1 Rate	SSR-1 Revenue (\$ NPV)	System-Wide Forecasted Delivered Fuel Rate (1) (NPV, 2019\$, \$/kWh)	Avoided System Fuel Costs - 17.5 MW Lake Hancock (\$ NPV)	SSR-1 Revenue less Avoided System Fuel Costs 17.5 MW Lake Hancock (\$ NPV)
			B x C			D - F
2019	18,786,915	0.0630	1,183,034	0.02405	735,381	447,654
2020	18,711,767	0.0630	1,101,097	0.02265	317,195	783,902
2021	18,636,920	0.0630	1,024,834	0.02189	510,815	514,019
2022	18,562,373	0.0630	953,854	0.02153	362,923	590,931
2023	18,488,123	0.0630	887,790	0.01987	455,719	432,071
2024	18,414,171	0.0630	826,301	0.01956	369,492	456,809
2025	18,340,514	0.0630	769,071	0.01941	417,282	351,788
2026	18,267,152	0.0630	715,805	0.01936	371,794	344,010
2027	18,194,083	0.0630	666,228	0.01917	375,427	290,801
2028	18,121,307	0.0630	620,084	0.01897	309,631	310,454
2029	18,048,822	0.0630	577,137	0.01864	340,990	236,148
2030	17,976,626	0.0630	537,164	0.01837	388,153	149,011
2031	17,904,720	0.0630	499,960	0.01806	325,457	174,503
2032	17,833,101	0.0630	465,333	0.01768	341,566	123,767
2033	17,761,769	0.0630	433,104	0.01716	574,755	(141,652)
2034	17,690,722	0.0630	403,107	0.01667	302,901	100,205
2035	17,619,959	0.0630	375,187	0.01626	340,065	35,122
2036	17,549,479	0.0630	349,202	0.01614	356,438	(7,237)
2037	17,479,281	0.0630	325,016	0.01593	444,318	(119,303)
2038	17,409,364	0.0630	302,505	0.01542	313,562	(11,057)
2039	17,339,726	0.0630	281,553	0.01497	309,076	(27,523)
2040	17,270,367	0.0630	262,053	0.01461	352,580	(90,527)
2041	17,201,286	0.0630	243,903	0.01413	417,808	(173,905)
2042	17,132,481	0.0630	227,010	0.01373	402,632	(175,622)
2043	17,063,951	0.0630	211,287	0.01278	298,625	(87,338)
2044	16,995,695	0.0630	196,653	0.01202	269,262	(72,608)
2045	16,927,712	0.0630	183,033	0.01154	307,956	(124,923)
2046	16,860,001	0.0630	170,356	0.01105	256,735	(86,379)
2047	16,792,561	0.0630	158,557	0.01064	229,222	(70,665)
2048	16,725,391	0.0630	147,576	0.01019	192,800	(45,225)
NPV 2019 \$	-	-	15,097,794	-	10,990,562	4,107,232

1. Factor based on Forecasted "All-in Delivered Cost" in 2019\$.

2. Fuel savings from the analysis prepared for the Second SoBRA cost-effectiveness docket.

SSR-1 Program Revenue and Participants' Avoided System Fuel Costs 2.5% Subscription						
A	B	C	D	E	F	G
Year	SSR-1 Program KWHs	SSR-1 Rate	SSR-1 Revenue (\$ NPV)	System-Wide Forecasted Delivered Fuel Rate (1) (NPV, 2019\$, \$/kWh)	Avoided System Fuel Costs - 17.5 MW Lake Hancock (\$ NPV)	SSR-1 Revenue less Avoided System Fuel Costs 17.5 MW Lake Hancock (\$ NPV)
			B x C			D - F
2019	9,393,458	0.0630	591,517	0.02405	367,690	223,827
2020	9,355,884	0.0630	590,548	0.02265	158,598	391,951
2021	9,318,460	0.0630	512,417	0.02189	255,408	257,010
2022	9,281,186	0.0630	476,927	0.02153	181,462	295,465
2023	9,244,062	0.0630	443,895	0.01987	227,859	216,035
2024	9,207,085	0.0630	413,150	0.01956	184,746	228,405
2025	9,170,257	0.0630	384,535	0.01941	208,641	175,894
2026	9,133,576	0.0630	357,902	0.01936	185,897	172,005
2027	9,097,042	0.0630	333,114	0.01917	187,713	145,400
2028	9,060,653	0.0630	310,042	0.01897	154,815	155,227
2029	9,024,411	0.0630	288,569	0.01864	170,495	118,074
2030	8,988,313	0.0630	268,582	0.01837	194,077	74,506
2031	8,952,360	0.0630	249,980	0.01806	162,729	87,252
2032	8,916,551	0.0630	232,666	0.01768	170,783	61,883
2033	8,880,884	0.0630	216,552	0.01716	287,378	(70,826)
2034	8,845,361	0.0630	201,553	0.01667	151,451	50,103
2035	8,809,979	0.0630	187,594	0.01626	170,032	17,561
2036	8,774,739	0.0630	174,601	0.01614	178,219	(3,618)
2037	8,739,640	0.0630	162,508	0.01593	222,159	(59,651)
2038	8,704,682	0.0630	151,253	0.01542	156,781	(5,528)
2039	8,669,863	0.0630	140,777	0.01497	154,538	(13,762)
2040	8,635,184	0.0630	131,026	0.01461	176,290	(45,263)
2041	8,600,643	0.0630	121,951	0.01413	208,904	(86,952)
2042	8,566,240	0.0630	113,505	0.01373	201,316	(87,811)
2043	8,531,975	0.0630	105,644	0.01278	149,313	(43,669)
2044	8,497,848	0.0630	98,327	0.01202	134,631	(36,304)
2045	8,463,856	0.0630	91,517	0.01154	153,978	(62,462)
2046	8,430,001	0.0630	85,178	0.01105	128,367	(43,189)
2047	8,396,281	0.0630	79,279	0.01064	114,611	(35,332)
2048	8,362,696	0.0630	73,788	0.01019	96,400	(22,612)
NPV 2019 \$	-	-	7,548,897	-	5,495,281	2,053,616

1. Factor based on Forecasted "All-in Delivered Cost" in 2019\$.
2. Fuel savings from the analysis prepared for the Second SoBRA cost-effectiveness docket.

**TAMPA ELECTRIC COMPANY
DOCKET NO. 20180204-EI
STAFF'S FIFTH DATA REQUEST
REQUEST NO. 5
BATES-STAMPED PAGES: 13 - 14
FILED: MARCH 7, 2019**

- 5.** Explain how TECO determined weighted “All in Delivered Cost” annual data provided in response to No. 4.
 - A.** Tampa Electric calculated the annual percentage change of the NPV system fuel costs from the 30-year cost analysis. The company applied the annual percentage change to the current fuel factor as a starting point, and then to the prior-year calculated fuel factor, to determine the projected fuel factor in each year. This information can be seen in the table on the following page.

Year	System Fuel NPV (2019\$) (000)	Percent Change	Fuel Factor NPV Calc
2019	618,846.67		0.02405
2020	582,814.57	-5.82%	0.02265
2021	563,169.50	-3.37%	0.02189
2022	554,067.87	-1.62%	0.02153
2023	511,290.49	-7.72%	0.01987
2024	503,199.46	-1.58%	0.01956
2025	499,556.92	-0.72%	0.01941
2026	498,131.27	-0.29%	0.01936
2027	493,338.48	-0.96%	0.01917
2028	488,188.66	-1.04%	0.01897
2029	479,751.49	-1.73%	0.01864
2030	472,684.98	-1.47%	0.01837
2031	464,644.59	-1.70%	0.01806
2032	454,888.25	-2.10%	0.01768
2033	441,581.98	-2.93%	0.01716
2034	429,004.05	-2.85%	0.01667
2035	418,330.44	-2.49%	0.01626
2036	415,390.34	-0.70%	0.01614
2037	409,973.38	-1.30%	0.01593
2038	396,663.37	-3.25%	0.01542
2039	385,237.17	-2.88%	0.01497
2040	375,872.16	-2.43%	0.01461
2041	363,694.02	-3.24%	0.01413
2042	353,184.78	-2.89%	0.01373
2043	328,889.95	-6.88%	0.01278
2044	309,285.06	-5.96%	0.01202
2045	296,994.03	-3.97%	0.01154
2046	284,445.35	-4.23%	0.01105
2047	273,685.81	-3.78%	0.01064
2048	262,230.58	-4.19%	0.01019