

**AUSLEY McMULLEN**

ATTORNEYS AND COUNSELORS AT LAW

123 SOUTH CALHOUN STREET  
P.O. BOX 391 (ZIP 32302)  
TALLAHASSEE, FLORIDA 32301  
(850) 224-9115 FAX (850) 222-7560

February 14, 2019

**VIA: ELECTRONIC FILING**

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

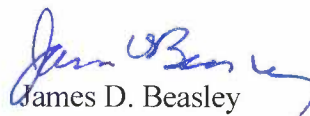
Re: Petition for Approval of Shared Solar Tariff by Tampa Electric Company  
FPSC Docket No. 20180204-EI

Dear Mr. Teitzman:

Attached for filing in the above docket are Tampa Electric Company's Responses to Staff's Third Data Request (Nos. 1-12) dated February 1, 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 THIRD DATA REQUEST  
REQUEST NO. 1  
BATES-STAMPED PAGE: 1  
FILED: FEBRUARY 14, 2019**

**Please refer to TECO's Petition in Docket No. 20180204-EI (the Petition) and the Company's responses to Staff's First Set of Interrogatories (Nos. 1-30), for the following questions.**

1. Refer to the Company's response to No. 1 and the tab in its Excel attachment labeled "Input Data."
  - a. Please explain how installed cost per unit (\$/kW-AC) remained constant with the reduction of capacity of the system from 17.7 MW to 17.5 MW.
  - b. Please explain why O&M costs escalate only after 2021.

- A.
  - a. The Shared Solar project revenue requirement was determined using 35.4 percent of the total installed costs for the total Lake Hancock project. The 35.4 percent was determined as follows:

$$17.5 \text{ MW} / 49.5 \text{ MW} = 35.4 \%$$

- b. Tampa Electric has a contract with an O&M provider for all SoBRA facilities, including Lake Hancock, with a fixed rate per kWac through 2020 and escalator beginning in 2021.

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2. Refer to TECO's response to No. 1 and the tab in its Excel attachment labeled "CE Costs."
  - a. Please describe the responsibilities for the Program manager.
  - b. Please describe the responsibilities for the Renewable manager and explain why they are included in first-year expenses. As part of this response, please specify if this is related to "Owner Costs" identified in Docket No. 20180133, such as salary for the Director of Renewables.
  - c. Please explain why no Marketing costs are included in the first-year O&M expenses, but are included for years 2 through 30 of the program.
  
- A.
  - a. The Renewable Energy Program Manager is responsible for managing the SSR-1 program activities including marketing, billing and enrollment operations, performance monitoring and continuous improvement.
  - b. The Renewable manager is responsible for the development of the program through implementation. Once the program has been approved, integrated into billing system, and customers are able to enroll, the Program manager will assume the leadership role in managing program activities. The responsibilities of the Renewable manager are not related to the "Owner Costs" identified in Docket No. 20180133, such as salary for the Director of Renewables.
  - c. Tampa Electric hired a third-party marketing firm to develop and implement a marketing communications plan, with the goal of fully subscribing the new shared solar program, using the most cost-effective marketing tactics available. The goal is to drive Tampa Electric customers to determined areas on the company's website where they'll learn more and/or enroll in the program. The initial costs associated with developing material to market the program was not included in the program O&M expenses because the program will be made available to all Tampa Electric customers as an optional service, Once the program is fully subscribed, the marketing expenses will be included in program costs in order to maintain full subscription.

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3. Refer to TECO's responses to Nos. 1 and 24 and their Excel attachments, specifically associated with Fixed O&M.
  - a. Please explain variation in Fixed O&M costs between these two responses. For example, No. 1 (Tab "Rev Req," Row 7) has a nominal sum value of \$7.07 million, and No. 24 ("Q24 horizontal," Row 37) has a nominal sum value of \$5.55 million.
  - b. Please provide the annual and cumulative values (nominal and net present value) separately for Fixed O&M costs associated with the solar facility and the SSR-1 program management costs.
  - c. Please provide the total amount of SSR-1 program management cost as its percentage of total project cost (in nominal and net present value).
  
- A.
  - a. A Fixed O&M assumption of 7.17 \$/kW-yr was used in the cost-effectiveness analysis for the Second SoBRA before Shared Solar was a thought. During Shared Solar analyses an O&M agreement of a reduced 4.03 \$/kW-yr was established as well as additional costs for admin and marketing that were included for Shared Solar. These differences can be seen on the "Fixed O&M" tab of the Excel file that accompanies Staff's Third Data Request, No. 7.
  - b. Please refer to Staff's Third Data Request, No. 7.
  - c. Please refer to Staff's Third Data Request, No. 7.

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4. Please refer to the Company's response to No. 18. Would TECO continue to seek its petition of the SSR-1 Tariff if it was specific to the 17.5 MW located at Lake Hancock, with additional MW expansion requiring future Commission approval? Please explain.
  - A. If the Commission should require that additional solar generating capacity dedicated to SSR-1 service be subject to prior approval by the Commission, then Tampa Electric would continue to desire approval of the SSR-1 tariff. Tampa Electric notes that development of solar facilities below 75 MW does not require prior approval of the Commission in general. Tampa Electric would also note that in the SSR-1 tariff request it made clear that any future solar dedicated to SSR-1 service would have to cost below the rate level cap shown on the SSR-1 tariff sheet, and that in future base rate proceedings the Solar Energy Rate charged under the SSR-1 tariff would be subject to revision based on any solar facility additions to SSR-1 service that, on a levelized basis, when combined with the cost and relative size of the Lake Hancock generating capacity dedicated to SSR-1 service, would result in a price change to all SSR-1 service customers. Tampa Electric would still further note that requiring prior Commission approval would insert a rather substantial time delay between the time Tampa Electric identified a need for new capacity and when it could be made available given not only the time required to develop and put into service new capacity but a prior regulatory process to secure approval. The combination of those two could easily exceed a year in time. For these, and other reasons, Tampa Electric did not seek prior approval before adding new capacity to service customer demand for SSR-1 service.

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- 5.** For clarity, please file a revised tariff sheet No. 3.300 to add the following sentence to the last paragraph: "The Fuel Charge and Environmental Cost Recovery Charge applies to the remainder of the monthly billing determinants."
  
- A.** See attached revised tariff sheet No. 3.300, which Tampa Electric will file in this docket under a Second Amendment to Petition. The attached revised tariff sheet also reflects the company's agreement to remove the previously proposed \$0.00 rate for the ECRC with the \$0.00 rate only continuing to apply to fuel.



ORIGINAL SHEET NO. 3.300

**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 determinates.

Continued to Sheet No. 3.305

ISSUED BY: N. G. Tower, President

DATE EFFECTIVE:



### 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 determinates.

Continued to Sheet No. 3.305



**TAMPA ELECTRIC COMPANY  
DOCKET NO. 20180204-EI  
STAFF'S THIRD DATA REQUEST  
REQUEST NO. 6  
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Please refer to the data in Tables 1 and 2 below, which were presented in filings made by the Company in Docket Nos. 20180001-EI and 20190001-EI respectively, to answer the following question.

Table 1 (2019 Projection)

Source of Data	Plant	Net Capability (MW)	Net Generation (MWh)	Net Capacity Factor (%)
Schedule E4, Projection Filing, August 24, 2018 20180001-EI	TIA Solar	1.6	220	18.5
	Big Bend Solar	19.4	2,400	16.6
	Legoland Solar	1.5	150	13.4
	Future Solar	405	56,930	18.9
	TOTAL	427.5	59,700	18.8

Table 2 (Mid-Course Correction filing – revision to 2019 Projection)

Source of Data	Plant	Net Capability (MW)	Net Generation (MWh)	Net Capacity Factor (%)
Schedule E4, Mid-Course Filing, January 15, 2019 20190001-EI	TIA Solar	1.6	230	19.3
	Big Bend Solar	19.4	2,600	18
	Legoland Solar	1.5	170	15.2
	Future Solar	405	61,330	20.4
	TOTAL	427.5	64,330	20.2

- 6.
- a. Is the MWh generation for the SSR-1 portion of Lake Hancock included in the data in Tables 1 and 2 as “Future Solar” or is it otherwise included in the development of the approved/proposed fuel factors? Please explain.
  - b. If the MWh generation for the SSR-1 portion of Lake Hancock is not included in either Table 1 or Table 2, please describe the financial impact of the SSR-1 Tariff on a typical bill for a non-participant residential customer (at full SSR-1 subscription).
  - c. Please identify the Net Capability, Net Generation, and Net Capacity Factor for the 17.5 MW SSR-1 portion of Lake Hancock.
- A.
- a. Yes. The full 49.5 MW<sub>ac</sub> of Lake Hancock is included in the model’s capacities and the projected MWh shown in Tables 1 and 2 were included in the 2019 fuel factors. However, on Schedule E4, the company inadvertently omitted the additional MW of solar capacity from

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Lake Hancock that were not included in the Second SoBRA for cost recovery.

- b. NA
- c. See table below.

<b>2019 Annual Forecast</b>			
<b>Plant</b>	<b>Net Capability (MW)</b>	<b>Net Generation (MWH)</b>	<b>Net Capacity Factor (%)</b>
Shared Solar	17.5	39,551	25.8

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7. Refer to Staff's First Data Request, No. 24, and its Excel attachment. Please provide the annual data requested by category identified in the table included as part of No. 24. Provide all requested data in an electronic Microsoft Excel file with all formulae intact.

Year	SSR-1 CPVRR Analysis Assumptions (\$million) [Nominal]									
	17.5 MW Lake Hancock Portion						SSR-1 Program			Total
	Generation Capital	Transmission & Distribution Capital	Property	O&M	Taxes	Owner Expenses	Program Expenses	Program Salaries	Other	
2019										
2020										
2021										
2022										
2023										
2024										
2025										
2026										
2027										
2028										
2029										
2030										
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- A. Due to O&M being in the Shared Solar model the O&M assumption from the cost-effectiveness analysis was removed in the total to not double count.

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The requested information is shown in the attached table, and an Excel file titled "Staff's Third DR No 7.xlsx" provided.

Year	SSR-1 CPVRR Analysis Assumptions (\$million) [Nominal]									
	17.5 MW Lake Hancock Portion*						SSR-1 Program			Total***
	Generation Capital	Transmission & Distribution Capital	Property (Land)	O&M	Taxes**	Owner Expenses	Program Expenses O&M	Program Salaries	Other	
2019	2.452	0.168	0.360	0.128	0.202	0.011	0.157	-	-	3.350
2020	2.287	0.156	0.360	0.132	0.167	0.011	0.176	-	-	3.157
2021	2.123	0.145	0.360	0.135	0.132	0.010	0.179	-	-	2.950
2022	2.005	0.137	0.360	0.138	0.107	0.009	0.183	-	-	2.801
2023	1.902	0.130	0.360	0.141	0.085	0.009	0.187	-	-	2.673
2024	1.812	0.124	0.360	0.145	0.066	0.008	0.191	-	-	2.562
2025	1.748	0.120	0.360	0.148	0.052	0.008	0.195	-	-	2.482
2026	1.695	0.116	0.360	0.152	0.041	0.008	0.199	-	-	2.419
2027	1.643	0.112	0.360	0.155	0.029	0.008	0.203	-	-	2.355
2028	1.590	0.109	0.360	0.159	0.018	0.007	0.207	-	-	2.292
2029	1.538	0.105	0.360	0.163	0.007	0.007	0.212	-	-	2.229
2030	1.485	0.102	0.360	0.167	(0.004)	0.007	0.216	-	-	2.166
2031	1.433	0.098	0.360	0.171	(0.015)	0.007	0.221	-	-	2.103
2032	1.380	0.094	0.360	0.175	(0.027)	0.006	0.225	-	-	2.040
2033	1.328	0.091	0.360	0.179	(0.038)	0.006	0.230	-	-	1.977
2034	1.275	0.087	0.360	0.183	(0.049)	0.006	0.235	-	-	1.914
2035	1.223	0.084	0.360	0.188	(0.060)	0.006	0.240	-	-	1.852
2036	1.170	0.080	0.360	0.192	(0.072)	0.005	0.245	-	-	1.789
2037	1.118	0.076	0.360	0.197	(0.083)	0.005	0.250	-	-	1.727
2038	1.272	0.087	0.360	0.202	0.127	0.006	0.255	-	-	2.107
2039	1.220	0.083	0.360	0.206	0.116	0.006	0.261	-	-	2.045
2040	1.167	0.080	0.360	0.211	0.105	0.005	0.266	-	-	1.983
2041	1.115	0.076	0.360	0.216	0.093	0.005	0.272	-	-	1.921
2042	1.062	0.073	0.360	0.222	0.082	0.005	0.277	-	-	1.859
2043	1.010	0.069	0.360	0.227	0.071	0.005	0.283	-	-	1.798
2044	0.957	0.065	0.360	0.232	0.060	0.004	0.289	-	-	1.736
2045	0.905	0.062	0.360	0.238	0.048	0.004	0.295	-	-	1.675
2046	0.852	0.058	0.360	0.244	0.037	0.004	0.301	-	-	1.613
2047	0.800	0.055	0.360	0.250	0.026	0.004	0.308	-	-	1.552
2048	0.747	0.051	0.360	0.256	0.015	0.003	0.314	-	-	1.491
NPV (2019 \$mill)	21.952	1.502	4.777	2.186	0.817	0.103	2.816	-	-	31.966

\*This analysis was prepared for the Second SoBRA cost-effectiveness docket.

\*\* Land property taxes included in Property

\*\*\*Total may not add up due to rounding.

WACC	7.01%
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- 8.** Refer to Staff's First Data Request, No. 24. Please explain why Owner Expenses are listed as zero, given that Owner Expenses were included in Docket 20180133-EI for the remainder of the Lake Hancock Project.
  - A.** Because of the expedited timeframe to complete these responses, in its response to Staff's First Data Request, No. 24, the company provided the data in the format that already existed, which included the capital, transmission, distribution, and owners' expenses totaled. Tampa Electric's response to Staff's Third Data Request, No. 7, provides each item separately as well as the additional expenses of Shared Solar that were inadvertently omitted in the response to Data Request No. 24.

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9. Please provide an estimate of TECO’s annual system fuel costs for the period 2019 through 2048 and the amount of annual system fuel costs reduced by the 17.5 MW portion of the Lake Hancock solar project. As part of this response, please complete the table below for each of the subscription scenarios below. Provide all requested data in an electronic Microsoft Excel file with all formulae intact.

95 percent  
50 percent  
0 percent

Year	Total System Fuel Costs		Lake Hancock (17.5 MW) Avoided System Fuel Costs	
	(\$ Nominal)	(\$ NPV)	(\$ Nominal)	(\$ NPV)
2019				
2020				
2021				
2022				
2023				
2024				
2025				
2026				
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- A.** The requested information is shown in the attached table, and an Excel file titled "Staff's Third DR No 9 – Fuel.xlsx" provided.



Year	Total System Fuel Costs		Lake Hancock (17.7 MW) Avoided System Fuel Costs		Lake Hancock (17.5 MW) 95% Shared Solar Subscription Avoided System Fuel Costs		Lake Hancock (17.5 MW) 50% Shared Solar Subscription Avoided System Fuel Costs		Lake Hancock (17.5 MW) 25% Shared Solar Subscription Avoided System Fuel Costs	
	(\$ Nominal)	(\$ NPV)	(\$ Nominal)	(\$ NPV)	(\$ Nominal)	(\$ NPV)	(\$ Nominal)	(\$ NPV)	(\$ Nominal)	(\$ NPV)
2019	618,846,670	12,929,035,642	(1,487,570)	(22,232,336)	(1,397,223)	(20,882,067)	(735,381)	(10,990,562)	(367,690)	(5,495,281)
2020	623,679,640	13,173,339,525	(686,630)	(22,199,322)	(644,928)	(20,851,058)	(339,436)	(10,974,241)	(169,718)	(5,487,121)
2021	644,913,480	13,429,601,363	(1,183,290)	(23,021,093)	(1,111,424)	(21,622,919)	(584,960)	(11,380,484)	(292,480)	(5,690,242)
2022	678,979,190	13,681,108,762	(899,650)	(23,368,998)	(845,010)	(21,949,695)	(444,742)	(11,552,471)	(222,371)	(5,776,235)
2023	670,490,110	13,913,796,758	(1,208,890)	(24,044,826)	(1,135,469)	(22,584,477)	(597,615)	(11,886,567)	(298,808)	(5,943,283)
2024	706,148,430	14,171,884,389	(1,048,880)	(24,437,118)	(985,177)	(22,952,943)	(518,514)	(12,080,496)	(259,257)	(6,040,248)
2025	750,191,210	14,409,909,721	(1,267,600)	(25,028,146)	(1,190,613)	(23,508,075)	(626,638)	(12,372,671)	(313,319)	(6,186,335)
2026	800,501,150	14,617,493,702	(1,208,610)	(25,426,558)	(1,135,206)	(23,882,290)	(597,477)	(12,569,626)	(298,738)	(6,284,813)
2027	848,387,610	14,785,795,289	(1,305,990)	(25,916,032)	(1,226,671)	(24,342,036)	(645,617)	(12,811,598)	(322,808)	(6,405,799)
2028	898,396,760	14,914,653,535	(1,152,630)	(26,335,619)	(1,082,626)	(24,736,139)	(569,803)	(13,019,020)	(284,901)	(6,509,510)
2029	944,774,120	14,999,031,273	(1,358,370)	(26,948,738)	(1,275,870)	(25,312,021)	(671,511)	(13,322,116)	(335,755)	(6,661,058)
2030	996,126,790	15,039,696,115	(1,654,670)	(27,384,682)	(1,554,175)	(25,721,488)	(817,987)	(13,537,625)	(408,993)	(6,768,813)
2031	1,047,839,750	15,028,258,890	(1,484,680)	(27,534,117)	(1,394,509)	(25,861,847)	(733,952)	(13,611,498)	(366,976)	(6,805,749)
2032	1,097,766,230	14,960,680,820	(1,667,420)	(27,875,939)	(1,566,150)	(26,182,909)	(824,290)	(13,780,478)	(412,145)	(6,890,239)
2033	1,140,374,940	14,834,937,231	(3,002,510)	(28,046,175)	(2,820,154)	(26,342,806)	(1,484,292)	(13,864,635)	(742,146)	(6,932,317)
2034	1,185,574,560	14,654,780,615	(1,693,300)	(26,799,646)	(1,590,458)	(25,171,984)	(837,083)	(13,248,412)	(418,542)	(6,624,206)
2035	1,237,137,900	14,413,623,130	(2,034,350)	(26,866,721)	(1,910,795)	(25,234,986)	(1,005,681)	(13,281,571)	(502,841)	(6,640,786)
2036	1,314,577,550	14,100,377,669	(2,281,810)	(26,573,537)	(2,143,225)	(24,959,607)	(1,128,013)	(13,136,635)	(564,007)	(6,568,318)
2037	1,388,406,500	13,682,298,985	(3,043,830)	(25,994,984)	(2,858,965)	(24,416,193)	(1,504,718)	(12,850,628)	(752,359)	(6,425,314)
2038	1,437,521,160	13,155,900,382	(2,298,690)	(24,560,415)	(2,159,080)	(23,068,751)	(1,136,358)	(12,141,448)	(568,179)	(6,070,724)
2039	1,494,003,070	12,540,033,993	(2,424,680)	(23,822,645)	(2,277,418)	(22,375,789)	(1,198,641)	(11,776,731)	(599,321)	(5,888,366)
2040	1,559,892,360	11,820,542,812	(2,959,900)	(22,898,320)	(2,780,132)	(21,507,603)	(1,463,227)	(11,319,791)	(731,614)	(5,659,896)
2041	1,615,183,230	10,980,094,006	(3,753,420)	(21,336,438)	(3,525,458)	(20,040,581)	(1,855,504)	(10,547,674)	(927,752)	(5,273,837)
2042	1,678,490,120	10,021,547,968	(3,870,710)	(18,815,882)	(3,635,625)	(17,673,110)	(1,913,487)	(9,301,637)	(956,743)	(4,650,818)
2043	1,672,624,950	8,928,046,025	(3,072,130)	(15,993,079)	(2,885,546)	(15,021,748)	(1,518,708)	(7,906,183)	(759,354)	(3,953,092)
2044	1,683,209,150	7,764,147,686	(2,964,280)	(13,826,924)	(2,784,246)	(12,987,153)	(1,465,393)	(6,835,344)	(732,696)	(3,417,672)
2045	1,729,649,190	6,507,314,238	(3,627,980)	(11,624,298)	(3,407,637)	(10,918,302)	(1,793,493)	(5,746,475)	(896,746)	(2,873,237)
2046	1,772,720,650	5,112,659,436	(3,236,620)	(8,556,993)	(3,040,046)	(8,037,289)	(1,600,024)	(4,230,152)	(800,012)	(2,115,076)
2047	1,825,260,730	3,574,124,469	(3,092,390)	(5,693,421)	(2,904,575)	(5,347,634)	(1,528,724)	(2,814,544)	(764,362)	(1,407,272)
2048	1,871,488,397		(2,783,407)		(2,614,358)		(1,375,978)		(687,989)	

WACC	7.01%
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\*This analysis was prepared for the Second SoBRA cost-effectiveness docket.

**TAMPA ELECTRIC COMPANY  
DOCKET NO. 20180204-EI  
STAFF'S THIRD DATA REQUEST  
REQUEST NO. 10  
BATES-STAMPED PAGES: 17 - 18  
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10. Please provide an estimate of TECO’s annual system environmental O&M costs for the period 2019 through 2048 and the amount of annual system environmental O&M costs reduced by the 17.5 MW portion of the Lake Hancock solar project. As part of this response, please complete the table below for each of the subscription scenarios below. Provide all requested data in an electronic Microsoft Excel file with all formulae intact.
- 95 percent
  - 50 percent
  - 0 percent

Year	Total System Environmental O&M Costs		Lake Hancock (17.5 MW) Avoided System Environmental O&M Costs	
	(\$ Nominal)	(\$ NPV)	(\$ Nominal)	(\$ NPV)
2019				
2020				
2021				
2022				
2023				
2024				
2025				
2026				
2027				
2028				
2029				
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2042				
2043				
2044				
2045				
2046				
2047				
2048				

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- A.** Given the company's revised petition submitted in this docket on February 6, 2019, it is Tampa Electric's understanding that this information is no longer needed.

**TAMPA ELECTRIC COMPANY  
DOCKET NO. 20180204-EI  
STAFF'S THIRD DATA REQUEST  
REQUEST NO. 11  
BATES-STAMPED PAGES: 19 - 20  
FILED: FEBRUARY 14, 2019**

11. Please provide an estimate of TECO’s annual system environmental capital expense costs for the period 2019 through 2048 and the amount of annual system environmental capital expense costs reduced by the 17.5 MW portion of the Lake Hancock solar project. As part of this response, please complete the table below for each of the subscription scenarios below. Provide all requested data in an electronic Microsoft Excel file with all formulae intact.

95 percent  
50 percent  
0 percent

Year	Total System Environmental Capital Expense Costs		Lake Hancock (17.5 MW) Avoided System Environmental Capital Expense Costs	
	(\$ Nominal)	(\$ NPV)	(\$ Nominal)	(\$ NPV)
2019				
2020				
2021				
2022				
2023				
2024				
2025				
2026				
2027				
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2045				
2046				
2047				
2048				

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- A.** Given the company's revised petition submitted in this docket on February 6, 2019, it is Tampa Electric's understanding that this information is no longer needed.

**TAMPA ELECTRIC COMPANY  
DOCKET NO. 20180204-EI  
STAFF'S THIRD DATA REQUEST  
REQUEST NO. 12  
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12. Please provide TECO's projected annual retail energy sales to residential customers for its system. by year, for the period 2019-2048. Provide all requested data in an electronic Microsoft Excel file with all formulae intact.

<b>Year</b>	<b>Residential Energy Retail Sales</b>
	<b>GWh</b>
2019	
2020	
2021	
2022	
2023	
2024	
2025	
2026	
2027	
2028	
2029	
2030	
2031	
2032	
2033	
2034	
2035	
2036	
2037	
2038	
2039	
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2042	
2043	
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2046	
2047	
2048	

**TAMPA ELECTRIC COMPANY  
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- A.** Tampa Electric’s projected annual retail energy sales to residential customers is shown in the table below, and an Excel file titled “Staff’s Third DR No 12 - Forecasts.xlsx” provided.

<b>Year</b>	<b>Residential Energy Retail Sales</b>
	<b>GWh</b>
2019	9,397
2020	9,551
2021	9,685
2022	9,851
2023	9,991
2024	10,135
2025	10,280
2026	10,427
2027	10,573
2028	10,729
2029	10,885
2030	11,030
2031	11,161
2032	11,294
2033	11,427
2034	11,564
2035	11,698
2036	11,828
2037	11,961
2038	12,098
2039	12,236
2040	12,376
2041	12,517
2042	12,660
2043	12,805
2044	12,951
2045	13,099
2046	13,249
2047	13,400
2048	13,553