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December 13, 2017

**VIA: ELECTRONIC FILING**

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

Re: Petition for approval of conservation street and outdoor lighting conversion program, by Tampa Electric Company; FPSC Docket No. 20170199-EI

Dear Ms. Stauffer:

Attached are Tampa Electric Company's responses to Staff's Third Data Request Nos. 1-9. The Excel portion of response to Data Request No. 4 is being hand delivered on a CD via separate cover letter.

Thank you for your assistance in connection with this matter.

Sincerely,



J. Jeffrey Wahlen

JJW/pp  
Attachment

cc: Phillip Ellis (w/attachment)

**TAMPA ELECTRIC COMPANY  
DOCKET NO. 20170199-EI  
STAFF'S THIRD DATA REQUEST  
REQUEST NO. 1  
BATES STAMPED PAGE: 1  
FILED: DECEMBER 13, 2017**

1. Please refer to TECO's response to Staff's First Data Request, No. 3, showing a monthly depreciation of \$170,012.68 and the net book value of \$36,930,532 for the 209,821 billed fixture as of December 2017.

- a. Is the \$170,012.68, or \$0.81 per fixture monthly cost recovered in current base rates?
- b. Should the \$180.06 per fixture program cost TECO proposed to recover in the energy conservation cost recovery clause (ECCR) be adjusted to reflect the most updated net book value and the number of remaining HPS and MH fixtures to avoid over or under recovery? Please also describe the appropriate adjustments assuming a decision during the January Commission Conference.

**A.**

- a. While the existing per fixture monthly cost is recovered in current base rates, the replacement Light Emitting Diode ("LED") luminaires are currently not. As such, the new LED luminaires will essentially step into the place of the removed existing Metal Halide ("MH") or High-Pressure Sodium ("HPS") luminaires. If the proposed Street and Outdoor Lighting Conversion Program is approved the transition will take place as the luminaires are converted to the new LED luminaires.
- b. Yes, the proposed amount was always assumed to be adjusted in value at the commencement of the conversion program and along the five-year life of the conversion program so that only the remaining net book value would be recovered. This updated net book value would be revised after the program was approved in concert with Staff and the annual filings associated with the Energy Conservation Cost Recovery ("ECCR") Clause.

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REQUEST NO. 2  
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2. Please refer to TECO's response to Staff's Second Data Request, No. 1, which states that the remaining book value associated with the existing HPS and MH fixtures is \$180.06 per fixture. Under normal depreciation accounting, would TECO expect this average net book value amount to change over time as such fixtures are replaced? Please explain.
  - A. Yes, but only in a downward direction. Under normal depreciation accounting, and given no change to the plant in service quantity and amount, Tampa Electric would expect that the depreciation reserve balance would increase over time resulting in the net book value declining. If the proposed Street and Outdoor Lighting Conversion Program is approved, Tampa Electric will no longer be installing new MH or HPS luminaires. The existing MH or HPS luminaires will either be converted to an LED luminaire or left in place until such time as the company closes the tariffs at the end of the conversion program to existing business.

The accounting associated with this program is intended to assure that at the end of the five-year program the net book value of the MH and HPS luminaires is zero. What is being proposed is that as luminaires are retired from Account 101 on a monthly basis, there will be a standard reserve adjustment net of salvage based on the quantity removed. This reserve adjustment will be trued up annually based on each year's conversion activity and associated depreciation expense, and will be filed with the ECCR Clause filings by the company.

**TAMPA ELECTRIC COMPANY  
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REQUEST NO. 3  
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3. Please refer to TECO's response to Staff's First Data Request, No. 5, regarding the analogy between the unamortized depreciation and cost-effective DSM incentives paid to customers under Rule 25-17.008, Florida Administrative Code.
- a. Are the costs of a DSM program expected to stop when the avoided unit comes online?
  - b. Because the cost-effectiveness analysis only included \$24,483,000 program cost to be cost effective until the avoided unit comes online, should ECCR recovery, if approved, be capped at \$24,483,000? If not, why not?
  - c. If TECO request the full unamortized amount ECCR recovery, please provide the updated amount and revised cost-effectiveness analysis (RIM, TRC, and Participants) based on the full amount that is requested for recovery for Utility Program Costs.
- A.
- a. No, the costs for this proposed Street and Outdoor Lighting Conversion Program are projected to conclude when the five-year conversion is complete. It is projected that these costs will conclude in the year 2022.
  - b. No, the value should not be capped. Tampa Electric performed the cost-effectiveness evaluations using the prescribed Florida Public Service Commission rules which stops participants at the year prior to the company's next avoided unit coming online. This stoppage of participants is to obtain the correct cost-effectiveness values and the company would not anticipate that the proposed program ceases existence or participation at that time.
  - c. Tampa Electric reperformed the cost-effectiveness tests incorporating the changes as requested from Commission Staff as follows:
    - The participation for each luminaire conversion was carried through all of the projected years of proposed LED conversion program which carried the participants past the avoided unit projected to come online in 2021.
    - The energy was reconciled to the difference in the tariff between the existing MH and HPS luminaires versus the proposed LED luminaires.

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- The incremental cost of the equipment was removed for the existing MH and HPS luminaires versus the proposed LED luminaires and the full differential rate was used to recognize this difference. For example, to recognize that 189,453 customers would see no change in their monthly bill from this conversion; 7,238 customers would see a slight increase in their monthly and 13,130 would see their monthly bill decrease, the kWh rate was adjusted to reflect these changes as proposed in the company's petitions.

The table below provides the updated cost-effectiveness tests (Rate Impact Measure (RIM) test, Total Resource Cost ("TRC") test and the Participant Cost Test ("PCT")) obtained from making these adjustments. The PCT provided is given as the Net Present Value ("NPV").

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Proposed Street and Outdoor Lighting Conversion Program				
Luminaire Count	Luminaire Type	RIM	TRC	PCT (NPV)
209,821	Total Proposed Conversion Project	3.02	3.02	52,514
6,332	Cobra (closed)	0.79	0.79	406
20	Post Top (closed)	0.76	0.77	1
11,755	Cobra/Nema (closed)	1.41	1.41	1,378
4,088	Coach Post Top (closed)	1.41	1.42	480
82,910	Cobra	1.95	1.95	13,612
5,060	Nema	1.55	1.55	594
8,903	Classic Post Top	2.10	2.10	1,566
3,387	Colonial PT	1.21	1.21	338
18,602	Salem PT	1.74	1.74	2,727
2,211	Shoebox	0.91	0.91	169
14,300	Cobra	2.03	2.03	2,431
102	General PT	3.56	3.66	31
283	Salem PT	2.75	2.78	67
13	Shoebox	1.81	1.92	3
801	General PT	4.09	4.23	285
946	Salem PT	3.27	3.32	263
13	Shoebox (closed)	2.16	2.32	3
18,240	Cobra	3.83	3.83	5,775
886	Flood (closed)	2.64	2.50	177
1,646	Shoebox	4.11	4.11	559
131	Cobra	6.35	6.57	70
51	Flood	6.41	6.41	27
323	Shoebox	5.03	5.33	142
13,355	Cobra	7.05	7.05	7,753
2,043	Flood	4.95	5.15	823
375	Mongoose	6.01	6.01	184
1,380	Shoebox (closed)	6.73	7.05	808
534	Cobra	7.87	8.03	352
1,031	Flood	6.14	6.39	542
4,570	Shoebox	5.27	5.27	1,955
2,165	Flood	18.49	21.13	3,767
3,365	Shoebox	15.48	19.25	5,349

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REQUEST NO. 4  
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- 4.** Please refer to TECO's response to Staff's Second Data Request, No. 11, in Docket No. 20170199 and the company's exhibit D to its petition in Docket No. 20170198. Please provide a revised response to No. 11 that shows the impact of the change in tariffs per type that reconciles the response and the exhibit. For example, a customer transferring from COBRA 50 WATT HPS to 27W Roadway would result in a higher bill, while a customer transferring from a SHOWBOX 400 WATT HPS to a 182W Roadway would result in a lower bill, which should be reflected in the Participant's Test for each type.
  
- A.** The calculation of the cost-effectiveness tests (RIM test, TRC test and the PCT) incorporating the change as requested from Commission Staff to customers for each tariff conversion separately is included on the accompanying CD. The summary results for each tariff conversion is provided above in Response No. 3c this set.

**TAMPA ELECTRIC COMPANY  
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STAFF'S THIRD DATA REQUEST  
REQUEST NO. 5  
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5. Please refer to TECO's response to Staff's Second Data Request, No.1, in Docket No. 20170199-EI, in which TECO states, "As the actual existing fixtures are replaced and retired, the remaining book value associated with the existing fixtures, which is \$180.06 per fixture, will be recovered through the Energy Conservation Cost Recovery Clause (ECCR). Following this methodology, the recovery of the total remaining book value of the existing lighting will coincide with the actual conversion of the luminaires."
- a. Within the annual ECCR dockets, is it TECO's intent to recover the costs of projection year retirements of MH and HPS luminaires during the projection year? For example, would TECO seek to recover costs of unamortized depreciation costs for luminaires projected to be replaced in 2019 in ECCR rates effective January 1, 2019, or would TECO request to recover 2018 and 2019 year-to-date actual costs as true-up adjustments in the ECCR beginning January 2020?
  - b. If TECO intends to accelerate recovery of unamortized depreciation costs for luminaires during the same year the luminaires are projected to be retired, please provide examples of the Commission approving accelerated recovery of unamortized depreciation costs for retirements prior to the time retirements are completed.
  - c. If TECO proposes to accelerate recovery of unamortized depreciation costs for luminaires during the same year the luminaires are projected to be retired, explain why the Company believes it would be appropriate to charge a rate for recovery of unamortized depreciation costs through the ECCR clause when such costs are simultaneously being recovered in base rates.
- A. a. If the Street and Outdoor Lighting Conversion Program is approved, Tampa Electric would seek recovery of the actual conversions through the annual process of the ECCR Clause Docket. The conversions that are projected to occur in 2018 and 2019 would be projected and filed for approval from the Commission in the company's annual conservation projection filing which would establish the clause rates for 2019. This amount in 2019 would go through the conservation true-up filing and annual FPSC audit process in 2020. The company projects that upon completion of this five-year conversion program in 2022, the final recovery of costs for this program would occur in 2023.

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- b. If the Street and Outdoor Lighting Conversion Program is approved, Tampa Electric would seek recovery of unrecovered net book value for the luminaires during the same year as filed in projection filing that would set the new ECCR rates for the following year. This method of projecting and recovering prudent and reasonable charges associated with Commission approved DSM programs and assets that support these programs is consistent with how the company currently projects and recovers these costs with all of the other existing Commission approved DSM programs the company facilitates. The company supports this method of recovery for three reasons. First, as soon as the luminaire is removed from the field, that luminaire will no longer be recovered through base rates for lighting service and retired. Second, by recovering the remaining net book value through the ECCR Clause, there is no profit or return contained within this value for the company. Third, by having this as a Commission approved DSM program, Tampa Electric must prove on an annual basis that the costs incurred to facilitate the Commission approved DSM programs are appropriate, prudent and reasonable in which the proposed Street and Outdoor Lighting Conversion would be no different.
- c. Please see Response No. 5b, above

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- 6.** Please refer to TECO's response to Staff's Second Data Request, No. 1, in Docket No. 20170199-EI. Identify all instances of Commission-approved electric utility accelerated recovery of unamortized depreciation expense known to the Company based on the "as retired" method proposed by the Company in this docket, rather than a Capital Recovery Schedule, in either base rates or other cost recovery mechanisms, other than the approvals cited in the 1981 and 1982 Orders referenced in response to Staff's Second Data Request, No. 3, (ECCR recovery).
  
- A.** Tampa Electric is not aware of other instances of Commission-approved electric utility accelerated recovery of unamortized depreciation other than the examples that were previously Commission approved for Tampa Electric Company and Florida Power and Light.

7. What is the removal cost, salvage, and net salvage value associated with HPS and MH fixtures? Please explain how these amounts were determined.
  - A. Tampa Electric's cost of removal was determined from an estimation of time spent removing the existing MH and HPS fixtures versus the productivity expected to be achieved by crews performing both removal and installation functions associated with proposed LED conversion. Time spent to perform all work was a sum of related activities such as driving to the location, setting up maintenance of traffic (traffic cones, flagger or arrow boards), getting material and orienting the truck and bucket appropriately, performing the removal, then performing the installation, performing quality assurance checkout and cleaning up the job site before departing. Team Members or contractor crews are generally able to perform eight conversions per day working an eight-hour shift. The company projects that the removal activity portion will be eight minutes for each luminaire. The cost of removal for the project based upon labor costs, fleet, administration and general is estimated to be approximately \$2.8M. Tampa Electric processes luminaires retired from the field as scrap metal after removing any components that contain environmentally hazardous material such as bulbs. Based upon scrap metal values paid to Tampa Electric, the approximate salvage value of the existing MH and HPS rate base is \$2.7M.

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- 8.** How has removal cost, salvage, and net salvage value associated with TECO's HPS and MH lighting fixtures eligible for conversion been accounted for in TECO's proposal to recover the unamortized depreciation expense via the ECCR under the proposed lighting conversion program?
  - A.** The costs associated with the removal of the existing MH and HPS luminaires will be paid for out of the project costs which will not impact the ECCR Clause. The salvage value obtained when the existing MH and HPS luminaire components are sold for scrap value will offset the unrecovered net book value that would be charged to the ECCR Clause.

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REQUEST NO. 9  
BATES STAMPED PAGE: 45  
FILED: NOVEMBER 30, 2017**

9. What is the current age distribution of TECO's HPS and MH light fixtures eligible for conversion (percent of total luminaires by age of luminaire)?

A. The table below details the current age distribution of the company's MH and HPS light fixtures eligible for conversion (percent of total luminaires by age of luminaire eligible for conversion).

<b>Age Distribution of MH and HPS Luminaires</b>	<b>Percent of Total Luminaires Population Eligible for Conversion</b>
19 or Older	21.5%
18	3.8%
17	3.9%
16	3.8%
15	4.2%
14	3.6%
13	3.3%
12	4.2%
11	3.8%
10	4.3%
9	3.0%
8	3.6%
7	3.1%
6	3.3%
5	3.6%
4	4.2%
3	5.2%
2	5.9%
1	6.7%
0	5.1%