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May 12, 2017

VIA: ELECTRONIC FILING

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

Re: Docket No. 170073-EI – Petition for approval of revised underground residential distribution tariffs, by Tampa Electric Company

Dear Ms. Stauffer:

Attached for filing in the above docket is Tampa Electric Company's Responses to Staff's First Data Request (Nos. 1-16 and 19-21) dated April 24, 2017. The Excel portions of Tampa Electric's responses to Requests Nos. 17 and 18 are included on a CD which is being delivered this date to Mr. Don Rome under separate cover.

Thank you for your assistance in connection with this matter.

Sincerely,

James D. Beasley

JDB/pp
Attachment

cc: Don Rome (w/attachment)
Paula K. Brown (w/o attachment)

TAMPA ELECTRIC COMPANY
DOCKET NO. 170073-EI
STAFF'S FIRST DATA REQUEST
REQUEST NO. 1
BATES STAMPED PAGE: 1
FILED: MAY 12, 2017

1. Please confirm whether the model low density and high density URD subdivision designs used in this docket are the same designs that were used in Docket No. 150103-EI. If applicable, please provide a detailed description of any differences (including design drawings) and include supporting documentation illustrating the impact to the "per lot" differentials caused by the design changes.

A. The low density and high density underground subdivision designs used to calculate the "per lot" charges in this docket are the same. The low density and high density overhead subdivision designs, however include the following differences:

- The company no longer uses 30-foot Class 6 wooden poles because they do not meet wind-loading/clearance guidelines; therefore, they have been replaced with 35-foot Class 4 wooden poles.
- The new overhead designs correct a design defect of insufficient lightning arrester stations that was discovered in the overhead designs used in Docket No. 150103-EI.

The impact of the revisions is a reduction in the "per lot" charges.

2. Paragraphs 6 and 7 of the petition state that the "per lot" differentials for the low density and high density model subdivisions are decreasing primarily because: (a) overhead costs are increasing at higher rate than underground costs, and (b) the NPV operational costs of the overhead system are increasing at a higher rate than the NPV operational costs of the underground system. Please describe generally why these circumstances are occurring.

A. Please refer to the tables provided on pages LD1 and HD1. The percent change column represents the percentage change between the current costs and those filed in Docket No. 150103-EI. The total costs for the current overhead designs for low density and high density were higher than those filed in Docket No. 150103-EI by 8.68 percent and 2.32 percent, respectively. While total the costs for the current underground designs for low density and high density were higher than those filed in Docket No. 150103-EI by only 1.38 percent and 0.13 percent, respectively.

While materials costs are lower for both underground and overhead designs than those filed in Docket No. 150103-EI; these cost reductions were more than off-set by higher labor costs.

The drivers for the increased overhead NPV operational costs relative to underground NPV operational costs are greater non-hurricane storm activity, catch-up work on system hardening programs, and reliability initiatives in 2016.

- Pole program change outs - $7.5M more to reduce backlog/improve reliability
- Capital preventive OH work - $2.2M related to additional trip-savers/reclosers installed to improve reliability
- O&M corrective OH work - $1M more for corrective activities (wire down, splice, rework connection, etc.2)
- O&M corrective general storm work - $836k more due to active 2016 storm season (not associated with hurricanes)
- O&M pole inspections - $817k more

3. Please refer to paragraph 11 of the petition, page NS 2 of Exhibit "C", and proposed revised Tariff Sheet No. 5.515. The petition paragraph and the cost support presented on page NS 2 indicate a proposed charge of $529.04 for the "Removal charge for overhead service with a service pole." However, proposed revised Tariff Sheet No. 5.515 shows a revised charge of $550.19. Please explain why the tariff sheet reflects a different amount than the cost support; please file an amended proposed revised tariff sheet if appropriate.

A. The amount displayed on the tariff sheet, $550.19 is the correct amount. The value of $529.04 in paragraph 11 of the petition and on page NS 2 of Exhibit "C" reflects an incorrect value that was calculated prior to an adjustment made for the replacement of the 30-foot Class 6 wooden poles with 35-foot Class 4 wooden poles. Please see the attached updated page NS 2 of Exhibit "C".

Conversion Cost - Conversions of single phase (1ø) OH Services to UG Services

The "Conversion Cost" is the sum of: 1) the cost to remove whatever overhead facilities exist;
2) the cost of the remaining book value for those overhead facilities.
After paying the cost to remove and the book value, the Customer essentially becomes a new Customer and is charged the differential cost for his new underground service. The OH Service Cable Removal Cost and the Handy Whitman depreciation tables below are used to calculate the Conversion Cost. The total cost for a customer to convert his overhead service to underground service is the applicable Differential Cost for the new underground service plus the conversion cost.

1) the cost to remove whatever overhead facilities exist

Action	Average length service	Total Removal Cost	System %	System Average Cost
remove	1ø - #2 AWG Triplex	$40.83	10%	$4.08
remove	1ø - 2/0 AWG Triplex	$40.83	70%	$28.58
remove	1ø - 4/0 AWG Triplex	$40.83	20%	$8.17
	System Average cost to remove average length 1ø service			$40.83

Action	Service length with a service pole	Total Removal Cost	System %	System Average Cost
remove	1ø - #2 AWG Triplex	$41.40	10%	$4.14
remove	1ø - 2/0 AWG Triplex	$41.40	70%	$28.98
remove	1ø - 4/0 AWG Triplex	$41.40	20%	$8.28
remove	35' wood pole, drive hook	$219.80	100%	$219.80
	System Average cost to remove average long 1ø service with service pole			$261.20

2) the cost of the remaining book value for those overhead facilities.

Book Value Assumptions:

1. Average depreciation	0.036
2. Age of pole & service, yrs.	11
3. Handy Whitman Ratio, total dist.plant, 2004/2015	0.52

Book Value = (System Value Today) x (Handy Whitman Ratio) x (1 - (Std Dep. x Age))

Action	Average length service	Total Installation Cost	System %	System Average Cost
install	1ø - #2 AWG Triplex	$193.31	10%	$19.33
install	1ø - 2/0 AWG Triplex	$222.68	70%	$155.88
install	1ø - 4/0 AWG Triplex	$273.36	20%	$54.67
	System Average cost to install average length 1ø service			$229.88
	Book Value for average length 1ø service			$71.91

Action	Service length that requires a service pole	Total Installation Cost	System %	System Average Cost
install	1ø - #2 AWG Triplex	$239.58	10%	$23.96
install	1ø - 2/0 AWG Triplex	$297.62	70%	$208.33
install	1ø - 4/0 AWG Triplex	$394.63	20%	$78.93
install	35' wood pole, cable spacer	$476.44	100%	$476.44
	Haul pole to job site	$136.10	100%	$136.10
	System Average cost to install average long 1ø service with service pole			$923.75
	Book Value for average long 1ø service with service pole			$288.98

1ø Conversion Cost from OH to UG service	Remove Cost	Book value Cost	Conversion Cost
1ø Average Service - 100 ft or less(Svc without pole) = (book value + removal)	$40.83	$71.91	$112.75
1ø Average Long Service- Greater than 100 ft (svc with one pole) = (book value + removal)	$261.20	$288.98	$550.19

4. Please refer to pages 2, 3, 6, and 7 of Exhibit "C." Please discuss the Company's rationale for reducing the material handling factor from 23.38 percent to 15.31 percent.

A. The reduction in the material handling factor can be explained as follows. The material handling factor has three cost components, stores carrying cost, stores clearing cost, and self-help cost. The current stores carrying cost percentage is consistent with previous filings. The other two components, clearing cost related to stores operations and self-help costs related to miscellaneous common use items (truck stock), are the components that are driving the reduction in the material handling factor. The clearing and self-help costs were formerly calculated as a percent of "inventory issued" only. After recent review by the company, it was determined that outside purchases should be added to the "inventory issued" in determining the clearing and self-help percentages. When the clearing and self-help costs were divided by the larger value of "inventory issued" plus outside purchases, the percentages for clearing and self-help decreased.

5. Please refer to pages 2 and LD 1 of Exhibit "C."

a. Please explain in greater detail regarding the changes in material costs that contributed to the 24.55 percent increase in "Primary" material costs.

b. Please explain in greater detail regarding the changes in TECO and contractor labor and overhead costs that contributed to the increases in "Primary" and "Poles" labor costs of 31.62 percent and 49.94 percent, respectively.

A. a. The increase in the "Primary" material costs is attributable to the addition of lightning arrestor stations in the new overhead designs.

b. The labor associated with installing the additional lighting arrestor stations increased total labor costs for "Primary" in the overhead designs. The additional labor time associated with installation of the larger 35-foot Class 4 wooden poles in place of 30-foot Class 6 wooden poles is the reason for the increase in the "Poles" labor.

6. Please refer to pages 3 and LD 1 of Exhibit "C." Please explain in greater detail regarding the changes in TECO and contractor labor and overhead costs that contributed to the increases in "Service" and "Service Trenching" labor costs of 13.86 percent and 11.98 percent, respectively.

A. The negotiated contract labor rates for service contractors increased in 2015 (for activities such as trenching, pad site preparation, splice box installation, etc.) and the contractor overheads went up 13 percent (from 21.85 percent to 34.83 percent) since last filing. The increase in TECO labor is due to costs associated in setting meters.

7. Please refer to pages 6 and HD 1 of Exhibit "C." Please explain in greater detail regarding the changes in TECO and contractor labor and overhead costs that contributed to the increases in "Service" and "Service Trenching" labor costs of 12.68 percent and 11.98 percent, respectively.

A. Please see the response to Data Request No. 6.

8. Please refer to pages 7 and HD 1 of Exhibit "C."

a. Please explain in greater detail regarding the changes in material costs that contributed to the increases in "Primary" and "Poles" material costs of 23.55 percent and 14.18 percent, respectively.

b. Please explain in greater detail regarding the changes in TECO and contractor labor and overhead costs that contributed to the increases in "Primary" and "Poles" labor costs of 15.55 percent and 39.05 percent, respectively.

A. a. The increases in the "Primary" and "Poles" material costs are a result of the two changes made to the overhead designs that are described in the response to Data Request No. 1. The increase in "primary" materials cost is attributable to the additional lighting arrestor stations included in the new overhead designs. The increase in "Poles" is due to the 30-foot Class 6 wooden poles being replaced with 35-foot Class 4 wooden poles for wind-loading/clearance reasons.

b. The labor associated with installing the additional lighting arrestor stations increased total labor costs for "Primary" in the overhead designs. The additional labor time associated with installation of the larger Class 4 poles is the reason for the increase in the "Poles" labor.

9. Please refer to page 15 of Exhibit "C" and to the table below that summarizes the changes in TECO's "Actual Operational Distribution Expenses" for overhead and underground between 2014 (Docket No. 150103-EI) and 2016. Please describe the reasons for the changes in costs between 2014 and 2016; in particular, please discuss why the values for overhead are changing at a much greater rate than the values for underground.

	Cost Year	Overhead Expense	Underground Expense
Docket 170073-EI	2016	$78,543,015	$21,986,640
Docket 150103-EI	2014	$64,205,674	$22,001,962
Percent Change		22.33%	-0.07%

A. The overhead operational costs increased at a higher rate than underground due to the additional costs of reliability initiatives, increased non-hurricane storm activity, and catch-up work on system hardening programs in 2016. Please see the response to Data Request No. 2 for details.

Also, there was a decrease in underground network expense.

10. The following two-part question applies to all "Estimate Summary – Design Number 1" sheets presented on pages LD 9, LD 11, LD 13, LD 15, LD 17, LD 19, LD 21, LD 23, LD 25, LD 30, LD 32, LD 34, LD 36, LD 38, HD 9, HD 11, HD 13, HD 15, HD 17, HD 19, HD 21, HD 23, HD 25, HD 27, HD 29, HD 34, HD 36, HD 38, HD 40, HD 42, and HD 44 of Exhibit "C."

a. Please provide a detailed illustration to support the derivation of the standard labor rate of $39.02/hr. and the standard overhead multiplier of 1.44 and discuss the relevance of these values in comparison to the work task-specific labor and overhead costs presented on Exhibit "C" pages LD 3 (for pages LD 9-25), LD 27 (for pages LD 30-38), HD 3 (for pages HD 9-29), and HD 31 (for pages HD 34-44), (hereafter referred to as lead schedules), which support the actual overhead/underground differential calculations.

b. Please provide a general statement regarding why none of the overhead costs shown on the Estimated Summary sheets listed above in the introduction to this question match the overhead costs calculated on their associated lead schedule as listed in Part "a" to this question.

A. a. The standard labor rate of $39.02 is a negotiated rate in the IBEW Union contract and is the cost basis for both TEC and Contract labor if that work that may be done by either labor group. The standard labor rate is multiplied by the number of hours for each work task to determine the Labor Cost on the Estimated Summary Pages and the Base Labor amount in Column G on the lead schedules. If the labor task is a contractor only function, the contractor labor estimate (e.g., LD 4) for that labor task is used in Column G.

The Labor Cost on the Estimated Summary Pages is multiplied by a composite overhead multiplier of 1.44 percent containing both the vehicle and the labor multipliers of 1.1708 and 0.2722, respectively, to derive the Overhead Cost on the Estimated Summary Page. The vehicle costs and labor are shown separately on the lead schedule; therefore, the 1.44 percent value is not used in determining the final overheads.

b. Please see the response to part a above. The Overhead Cost on the Estimated Summary Sheets from the work management system are

based on a composite multiplier of 1.44 which includes overheads for vehicles and IBEW labor. However, the Lead Schedules apply separate overhead multipliers for vehicles and labor. An additional labor multiplier is included on the lead schedules for contract labor (which is not available in the work management system). The labor overheads are separated by IBEW and contractor labor based on the percentage breakdown shown in columns J and K and the labor multipliers of 1.1708 and 0.3483, respectively.

11. Please compare lead schedule page LD 3 with Estimate Summary pages LD 13 and LD 19. The table below shows possible differences in labor cost amounts associated with specific tasks as follows:

LD 3 Task Description	LD 3 Line	LD 13 Labor $	LD 19 Labor $
Primary conduit (material only)	8	$4,045.18	
Secondary conduit (material only)	13		$1,849.46

Lines 8 and 13 of page LD 3 reflect "material only" costs and do not present any labor cost information. The labor costs shown on pages LD 13 and LD 19 are associated with the indicated task descriptions on page LD 3, but these costs do not appear to be reflected anywhere on page LD 3. Please explain how the labor costs shown on pages LD 13 and LD 19 impact the overhead/underground differential calculations.

A. The labor costs shown on pages LD 13 and LD 19 are not used in the overhead/underground differential calculations. The costs on page LD 13 and LD 19 are calculated by Tampa Electric's work management system which assumes TEC labor will be used for the work to be done. The work management system does not calculate contractor labor costs. The costs for conduit labor is calculated per the contractor rates as shown in page LD 4.

12. Please compare lead schedule page LD 27 with Estimate Summary page LD 38. Please explain why the materials cost shown on page LD 38 differs from the materials cost shown on line 14 of page LD 27.

A. The materials cost shown on page LD 38 differs from the materials cost shown on line 14 of page LD 27 by the cost of the meter (i.e., $36.65 per meter). Page LD 38 includes service cost only as shown on page LD 39. LD 27 includes both the meter and the service costs**.**

13. Please refer to Estimate Summary pages HD 17, HD 23, and HD 27 of Exhibit "C." Please explain why the software is generating positive values for labor and overhead costs when zero labor hours are assigned to the work task.

A. Please see the response to Data Request No. 11.
The work management system requires a non-zero labor installation cost to run. A negligible labor amount is included to obtain the installation material costs: however, this system labor cost is ignored for contractor work.

The labor costs on page HD 17, HD 23 and HD 27 are generated in Tampa Electric's work management system which is not used for calculating contractor costs. Contractor cost for conduit labor are determined from the contractor rates as shown in page HD 4.

14. Please compare lead schedule page HD 3 with Estimate Summary page HD 25. Please explain why the labor cost shown on page HD 25 differs from the base labor cost shown on line 17 of page HD 3.

A. Please see the response to Data Request No. 13.

15. Please compare lead schedule page HD 3 with Estimate Summary page HD 29. Please explain why page HD 29 does not display any material and handling costs to support the material and handling costs shown on line 18 of page HD 3.

A. Page HD 29 does not include the cost of the meter (i.e., $36.65 per meter) which is not included in “per lot” charges. costs to support the material and handling costs shown on line 18 of page HD 3. The material cost Page HD 29 material cost does not include cost of the meter itself.

16. Please compare lead schedule page HD 31 with Estimate Summary page HD 44. Please explain why page HD 44 does not display any material and handling costs to support the material and handling costs shown on line 15 of page HD 31.

A. Page HD 44 does not include the cost of the meter (i.e., $36.65 per meter) which is not included in “per lot” charges. Costs to support the material and handling costs shown on line 15 page HD 31. Page HD 44 material cost does not include cost of the meter itself.

TAMPA ELECTRIC COMPANY
DOCKET NO. 170073-EI
STAFF'S FIRST DATA REQUEST
REQUEST NO. 17
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17. Please provide electronic versions of Exhibit "C" pages NS 1 through NS 4 in their native format with all cell formulas and/or links to other spreadsheets intact and unlocked.

A. The requested data is provided in Excel on the enclosed CD. The information can be located in the Excel file named *(BS 20)TariffDifferentials*, on the spreadsheet tab named *TariffDifferentials*, for pages NS1 through NS3. The second Excel file named *(BS-21)TariffDeposits* contains the page NS4.

TAMPA ELECTRIC COMPANY
DOCKET NO. 170073-EI
STAFF'S FIRST DATA REQUEST
REQUEST NO. 18
BATES STAMPED PAGES: 22 - 23
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18. Please provide electronic versions of Exhibit "C" pages OC 1 through OC 8 in their native format with all cell formulas and/or links to other spreadsheets intact and unlocked.

A. The requested data is provided in Excel on the enclosed CD. The file is named *(BS-23)New 3 Yr Avg_Operational Cost 2014-2016*.

19. Please confirm whether TECO used the same methodology for calculating the NPV of operational costs as the methodology approved in Order No. PSC-09-0784-TRF-EI, issued November 19, 2009, in Docket No. 090164-EI. For any changes in the methodology used, please provide a detailed description of the differences and the impact of the differences on the differential calculations.

A. Tampa Electric used the same methodology for calculating the NPV of operational costs in its current filing as the methodology approved in Order No. PSC-09-0784-TRF-EI, issued November 19, 2009, in Docket No. 090164-EI with the exception of the period over which Storm recovery costs are averaged.

The Storm-restoration costs in the current filing are based on the previous three-year average of hurricane recovery costs for the distribution system. The value used in 2009 was based on a four-year average of hurricane costs from 2004-2008. The use of previous three-year average is consistent with the calculations used for the non-storm operating costs. The impact of this change on the "per lot" charge depends on the frequency and extent damage caused by of the hurricane activity. The four-year average used in 2009 ($10.68 million) was higher than the current three-year average ($3.2 million) currently used.

20. Please refer to pages OC 3 through OC 6 of Exhibit "C." Please provide a mathematical illustration of how the 6.61 percent discount rate was derived and confirm whether this rate represents TECO's after-tax cost of capital. (Note: See TECO's response to Question 8 of Staff's First Data Request filed in Docket No. 090164-EI.)

A. The 6.61 percent discount rate is the after-tax cost of capital and was derived using Tampa Electric's most current financial assumptions as follows:

Income Tax: 38.76%

	Rate	Weight
Debt:	3.80%	46.00%
Common Equity:	10.25%	54.00%

Discount Rate: = 10.25% x 54% + (3.80% - (3.80% x 38.575%)) x 46%

= 5.535% + 1.074%

= 6.61%

21. Please refer to page LA 1 of Exhibit "C."

a. Please explain regarding how the Company and Contractor adders shown on page LA 1 were derived. For any spreadsheets provided, please ensure that all cell formulas are intact and unlocked.

b. Please provide an illustrative table comparing the rates shown on page LA 1 and the rates used by TECO in Docket No. 150103-EI, including an explanation of the drivers causing in the increases in Company and Contractor labor and overhead rates between 2014 and 2016. (Note: These increases also are alluded to on pages LD 1 and HD 1 of Exhibit "C.

A. a. The 2017 adders for company operating labor on page LA1 are calculated as follows:

- 74 percent job order rate – (no change) 37 percent for base fringe and payroll tax + 32 percent corporate A&G + 5 percent profit sharing program
- 13 percent non-productive – (no change) based on historical non-productive time
- Energy Delivery Supervisory/Admin support of the IBEW operating labor is 25.56 percent. This amount is based on the prior 3-year actuals for Supervisory and Administrative labor that include data from all funding projects using IBEW labor. It is calculated by dividing by Supervisory and Administration cost by the total IBEW costs + Contractor costs during the same period
- The small tools adder, 4.53 percent, is allocated based on labor. This adder percent was calculated based on prior 3-year actual small tools cost in from Energy Delivery divided by the total labor at standard labor rates for the same period.

The 2017 Supervisory/Administrative/Engineering support rate for contractors is 34.83 percent. It is based on prior year actuals for supervisory, administration, and engineering data from all funding projects using contract labor. The percent adder is calculated by dividing this amount by the total IBEW costs + Contractor costs during the same period.

b.

	ADDERS	2014	2016
A	Total Corporate Accounting Fringe Rate	74.00%	74.00%
	Operating Labor Adder		
B	Non-productive	13.00%	13.00%
C	Supervisory/Administrative	27.68%	25.56%
D	Engineering	0.00%	0.00%
E	Small Tools	2.22%	4.53%
	Total Operating Adder (Fully Loaded)	42.90%	43.00%
	Contract Labor		
F	Supervisory/Administrative/Engineering	21.85%	34.83%
	Total Contract Adder (Fully Loaded)	21.85%	34.83%

A. No change.
B. No change.
C. Removed 2 O&M funding projects and a pole replacement funding project which lowered the percentage.
D. No change.
E. No change.
F. Higher spending on contractor-related projects,