

State of Florida



Public Service Commission

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COMMISSION
CLERK

DATE: October 15, 2009

TO: Office of Commission Clerk (Cole)

FROM: Division of Economic Regulation (Piper, Draper, Kummer)
Office of the General Counsel (Sayler)

RE: Docket No. 090164-EI – Petition for approval of revised tariff sheets for underground residential distribution service, by Tampa Electric Company.

Handwritten initials: CLP, EAD, JSB, 197

AGENDA: 10/27/09 – Regular Agenda – Tariff Filing - Interested Persons May Participate

COMMISSIONERS ASSIGNED: All Commissioners

PREHEARING OFFICER: Administrative

CRITICAL DATES: 12/01/09 (8-Month Effective Date)

SPECIAL INSTRUCTIONS: None

FILE NAME AND LOCATION: S:\PSC\ECR\WP\090164.RCM.DOC

Case Background

Rule 25-6.078, Florida Administrative Code (F.A.C.), defines investor-owned utilities' (IOU) responsibilities for filing updated underground residential distribution (URD) tariffs. The URD tariffs provide standard charges for underground service in new residential subdivisions and represent the additional costs the utility incurs to provide underground service in place of overhead service. This rule requires IOUs to file updated URD charges for Commission approval at least every three years, or sooner if a utility's underground cost differential for the standard low-density subdivision varies from the last approved charge by 10 percent or more. Subsection (3) of the rule requires IOUs to file on or before October 15 of each year a schedule showing the increase or decrease in the differential for the standard low-density subdivision using current material and labor costs. Rule 25-6.115, F.A.C., addresses the contribution-in-aid-

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of construction (CIAC) to be paid by applicants for conversion of existing overhead electric distribution facilities to underground facilities.

Tampa Electric Company (TECO) filed this petition pursuant to the 3-year requirement of Rule 25-6.078, F.A.C. TECO's current URD charges were approved in 2006.¹

In Docket No. 060172-EU, the Commission amended Rules 25-6.078 and 25-6.115, F.A.C., to require that the differences in net present value (NPV) of operational costs, including average historical storm restoration costs over the life of the facilities, between underground and overhead systems, be taken into consideration in determining the URD differential and the calculation of CIAC paid by applicants for underground conversions.² Prior to the rule revision, URD charges were based on initial installation costs only and did not include the costs of maintenance or storm restoration activities over time. The rule revision was intended to capture the long-term costs and benefits of undergrounding. TECO's current URD tariffs were calculated based on the prior rule. This petition incorporates the requirements of amended Rules 25-6.078 and 25-6.115, F.A.C., for the first time, and includes the differences in operational and storm restoration costs between underground and overhead facilities.

The Commission suspended TECO's tariff in Order No. PSC-09-0395-PCO-EI. The Commission has jurisdiction over this matter pursuant to Sections 366.03, 366.04, and 366.05, and 366.06, Florida Statutes (F.S.).

¹ See Order No. PSC-06-0873-TRF-EI, issued October 23, 2006, Docket No. 060299-EI, In re: Petition for approval of revised tariff sheets for underground residential distribution service, by Tampa Electric Company.

² See Order No. PSC-07-0043-FOF-EU, issued January 16, 2007, Docket No. 060172-EU, In re: Proposed rules governing placement of new electric distribution facilities underground, and conversion of existing overhead distribution facilities to underground facilities, to address effects of extreme weather.

Discussion of Issues

Issue 1: Should the Commission approve TECO's proposed underground residential distribution (URD) tariffs and associated charges?

Recommendation: Yes. (Piper, Draper)

Staff Analysis: The URD charges represent the additional costs TECO incurs to provide underground distribution service in place of overhead service, and are calculated as differentials between the cost of underground and overhead service. The cost of standard overhead construction is recovered through base rates. In lieu of overhead construction, customers may request underground service. Costs for underground service have historically been higher than standard overhead construction and the additional cost is paid by the customer as a contribution-in-aid-of-construction (CIAC). Typically the URD customer is the developer of the subdivision. The URD tariffs provide standard charges for certain types of underground service, and apply to new residential developments such as subdivisions and townhouses.

TECO developed its URD charges based on two model subdivisions: (1) a 210-lot low-density subdivision with a density of one or more, but less than six, dwelling units per acre; and (2) a 176-lot high-density subdivision with a density of six or more dwelling units per acre. While actual subdivision construction may differ from the model subdivisions, the model subdivisions are designed to reflect average residential subdivisions. The four largest investor-owned electric utilities use the same standardized model subdivisions to develop their URD charges.

The following table shows TECO's current and proposed URD differentials. The charges shown are per-lot charges.

	Current URD differential per lot	Proposed URD differential per lot	Percent Change
210-lot low density	\$581	\$573	-1.4%
176-lot high density	\$415	\$347	-16.4%

The calculation of TECO's proposed URD charges includes the following steps, which are shown in Table 2. First, TECO revised the charges to reflect actual 2008 labor and material costs. This is how the traditional installed cost of the underground project has been calculated. In addition to the traditional installation costs, TECO's proposed URD charges now incorporate the differences in net present value of operational costs between underground and overhead systems, including average historical storm restoration costs over the life of the facilities.

The effect of each of the calculations described above on the URD differential is shown in the table below and addressed separately below.

Table 2			
Line		210-lot low density subdivision	176-lot high density subdivision
A.	Current URD differential per lot	\$581	\$415
B.	Impact of updated material and labor costs	(\$20.57)	\$67.02
C.	Impact of operational costs differential	\$224.11	\$3.34
D.	Impact of storm restoration costs differential	(\$211.54)	(\$137.99)
E.	Proposed URD charge per lot – rounded (A+B+C+D)	\$573	\$347
F.	Net difference (A-E)	(\$8)	(\$68)

Updated labor and material costs

Subsection (1) of Rule 25-6.078, F.A.C., prescribes that the URD differential is developed by estimating the cost difference between building an underground system and an equivalent overhead system based on the utility’s standard engineering and design practices. The installation costs of both underground and overhead service include the material and labor costs to provide primary, secondary, and service distribution lines, and transformers. The cost to provide overhead service also includes poles. The cost to provide underground service includes the cost of trenching and backfilling. The utilities are required to use current cost data. The labor and material costs are discussed separately below. The updated material and labor costs are reflected in Line B of Table 2.

Labor costs. Both overhead and underground labor costs increased in 2008, when compared to the 2005 costs included in the current URD charges. From 2005 to 2008, overhead labor costs increased by 56.69 percent for the low density and by 56.58 percent for the high density subdivision. Overhead labor costs increased due to the increase in labor overhead approved by the Commission in TECO’s rate case.³ Labor overheads account for supervision and administrative time not contained in direct cost. From 2005 to 2008, underground labor costs increased by 24.87 for the low density and by 28.83 percent for the high density subdivision as a result of new underground labor contracts. When compared to underground labor costs, the larger increase in overhead labor costs decreases the differential.

³ See Order No. PSC-09-0283-FOF-EI, issued on April 30, 2009, in Docket No. 080317-EI, In re: Petition for rate increase by Tampa Electric Company.

Material Costs. Both overhead and underground material costs increased in 2008 by approximately the same percentage. Overhead materials increased an average of 40.35 percent for the low density and 41.64 percent for the high density subdivision. Underground material costs increased by 34.86 percent for the low density and by 50.70 percent for the high density subdivision. From 2006 to 2008, the cost of transformers used in underground construction increased by 82.22 and 86.08 percent (low density and high density, respectively), while overhead transformer costs increased by 44.93 and 44.30 percent for the same time period. TECO stated that the higher percentage increase in cost of the pad-mounted transformers is primarily driven by TECO's current construction standard for pad-mounted transformers, which requires that the transformer's enclosure is made of stainless steel. TECO stated that it had experienced problems with the mild steel enclosures rusting.

Summary. For the low density model, the larger dollar increase in overhead labor and material costs versus underground labor and material costs, results in a \$20.57 decrease in the URD charge, before the operational costs are taken into account. For the high density model, the larger dollar increase in underground labor and material costs versus overhead labor and material costs, results in a \$67.02 increase in the high density URD charge, before the operational costs are taken into account.

Calculation of (non-storm) operational cost difference

Subsection (4) of Rule 25-6.078, F.A.C., prescribes that the differences in NPV of operational costs, over the life of the facilities, between underground and overhead systems, be included in the URD charge. Operational costs include operations & maintenance (O&M) costs and capital costs. TECO's analysis of its historical operational costs shows that the underground facilities are more expensive to operate and maintain than the equivalent overhead facilities.

TECO used the three-year average of its actual non-storm operational costs for the years 2006 through 2008 to calculate the non-storm operational difference for underground and overhead facilities. TECO stated that separate accounts or sub-accounts are used to identify the installation of new assets or the replacement of existing assets as either overhead or underground. Therefore, all capital spending is identified as either overhead or underground. The only costs not segregated between overhead and underground were line clearance/tree trimming and non-storm related troubleshooting. To allocate line clearance between overhead and underground, TECO allocated its total line clearance costs based on the number of overhead to underground system transitions, i.e., terminal poles on the underground distribution system. The number of terminal poles represent 4.3 percent of TECO's distribution poles. Thus, 4.3 percent of line clearance costs were allocated to underground. While terminal poles are part of the underground system, they are above ground and thus need to be cleared from vegetation. Similarly, TECO allocated non-storm related troubleshooting between overhead and underground based on the number and duration of outages. The resulting three-year average operational costs are \$18,847,918 for an overhead and \$15,461,559 for an underground distribution system in a new residential subdivision.

To calculate the NPV of the three-year average overhead and underground operational costs, TECO escalated the operational cost at 2.5 percent to adjust for inflation over a period of 35 years. TECO states that the asset life and Federal Energy Regulatory Commission (FERC)

plant account values for underground conduit, conductors, and transformers were used to determine a composite book life for the underground distribution system of 35 years. A book life of 35 years was also used in the overhead NPV calculations. The 35-year cash flows are then discounted back to arrive at the NPV for overhead operational costs of \$373,413,137, and \$248,336,403 for underground.

In order to calculate operational costs per mile, TECO then divided the NPV costs for underground and overhead facilities by the number of miles of underground and overhead distribution lines in TECO's service territory. In 2008, TECO had 6,414 miles of overhead lines, and 4,472 miles of underground facilities. The resulting NPV costs per mile for overhead is \$58,218 and \$55,531 for underground.

TECO's analysis assumed an 8.33 percent discount rate for the calculation of the NPV. This after-tax weighted cost of capital (WACC) is based on a capital structure consisting of 53.9 percent equity at a cost rate of 11.25 percent and 46.1 percent debt at a cost rate of 8.0 percent. Based on this review, staff believes that the financial assumptions used for this evaluation are reasonable.

TECO included lost pole rental revenues in the non-storm operational expenses because the Commission approved it as an operational cost to undergrounding for FPL⁴ and PEF.⁵ The pole rental revenues are revenues paid to an investor-owned electric utility for use of the Company's poles by third-party attachers such as cable and telephone companies. The lost pole rental revenues have the effect of increasing the non-storm operational costs, thus, raising the per lot URD differential paid by the customer.

Revenues from pole attachments are included as Other Operating Revenues (OOR) in a utility rate case. OOR increases the utility's current revenues and decreases the amount of any increase in rates, thereby, reducing rates to all ratepayers. For subdivisions which have all underground facilities, there is no opportunity to generate these beneficial non-rate revenues. This represents lost potential revenues to the utilities, which could benefit all ratepayers. If the differential is reduced to recognize savings to the general body of ratepayers from potential avoided storm restoration costs, staff believes these lost revenues from potential pole attachments are appropriate to be included as operational costs of undergrounding.

The impact of the NPV of the operational costs varies between the subdivisions as shown in Line C of Table 2 because of the difference in miles of line and number of lots in each subdivision. The per lot calculations are shown in Attachment A.

⁴ Order No. PSC-08-0774-TRF-EI, issued November 24, 2008, in Docket No. 070231-EI, In re: Petition for approval of 2007 revisions to underground residential and commercial distribution tariff, by Florida Power & Light Company.

⁵ Order No. PSC-09-0650-TRF-EI, issued September 25, 2009, Docket No. 080719-EI, In re: Petition to modify Tariff Sheet Nos. 4.113 and 4.122 regarding conversion of and construction of underground residential facilities by Progress Energy Florida, Inc.

Calculation of storm restoration costs

As shown in line D of Table 2, the inclusion of the storm restoration costs in the URD differential lowers the differential, since an underground distribution system incurs less damage and restoration costs than an overhead system as a result of a storm. In Docket No. 080317-EI, TECO's most recent rate case, TECO calculated an expected annual storm damage cost of \$17.8 million. Based on the hurricane history up to and including the 2004 storm season, TECO allocated 60 percent of the \$17.8 million to distribution (\$10.68 million). The remaining 40 percent was damage to TECO's transmission system. TECO further indicated that 96 percent of the storm damage was done to overhead distribution systems, while the remaining 4 percent of storm damage was done to underground. Since residential subdivisions, which are at issue in this docket, are served by distribution lines only, it is appropriate to only consider storm damage costs associated with distribution lines.

To isolate the impact of the storm restoration costs, TECO performed an NPV analysis as described above with and without the storm restoration costs. Line D of Table 2 shows the impact on the NPV of the storm restoration differential on the two subdivision models.

Revisions to other tariff charges

In addition to the proposed revisions to the tariff discussed above, TECO proposed revisions based on updated material and labor costs to its charges for new underground service laterals from overhead distribution systems. Specifically, the charges for a new underground service lateral increased, mainly due to the correction of an error in TECO's current tariff. TECO states that it inadvertently omitted the contractor labor rates in its 2006 URD filing. TECO also proposed reduced per trench foot charges for service laterals. The inclusion of the NPV of avoided overhead O&M costs and avoided storm restoration costs lowers the cost of digging the trench for an underground service lateral. Finally, TECO proposed an increased credit based on updated costs for a service pole that would otherwise be required for overhead service. Finally, TECO proposed revised removal charges for overhead service for customers who wish to convert the service drop from overhead to underground.

TECO has also proposed to update the non-refundable deposits for estimates of CIAC for conversion of existing overhead distribution facilities to underground facilities. If the customer proceeds with the conversion, the deposit amount is credited against the cost of the conversion.

Conclusion

The staff has reviewed the proposed charges and their accompanying workpapers, and believes that they are reasonable. Staff, therefore, recommends that the proposed URD tariffs and associated charges be approved.

Docket No. 090164-EI
Date: October 15, 2009

Issue 2: Should this docket be closed?

Recommendation: Yes. If Issue 1 is approved, the tariffs should become effective on October 27, 2009. If a protest is filed within 21 days of the issuance of the order, the tariffs should remain in effect, with any revenues held subject to refund, pending resolution of the protest. If no timely protest is filed, this docket should be closed upon the issuance of a consummating order. (Sayler)

Staff Analysis: If Issue 1 is approved, the tariffs should become effective on October 27, 2009. If a protest is filed within 21 days of the issuance of the order, the tariffs should remain in effect, with any revenues held subject to refund, pending resolution of the protest. If no timely protest is filed, this docket should be closed upon the issuance of a consummating order.

NET PRESENT VALUE LIFECYCLE COST CALCULATION
 Per Lot Calculation (Low Density - 210 Lots)

Overhead System			
Including Lost Pole Attachment Revenue			
	NPV Life Cycle Cost	Miles OH	NPV Life Cycle Cost / Mile
Incl Storm	\$536,443,057	6,414	\$83,636.27
Excl Storm	\$373,413,137	6,414	\$58,218.45
Storm	\$163,029,919	6,414	\$25,417.82

Underground System			
	NPV Life Cycle Cost	Miles UG	NPV Life Cycle Cost / Mile
Incl Storm	\$255,129,317	4,472	\$57,050.38
Excl Storm	\$248,336,403	4,472	\$55,531.40
Storm	\$6,792,913	4,472	\$1,518.99

Per Lot Values (Low Density - 210 Lots)				
	Miles of Line	Incl Storm	Excl Storm	Storm Only
Overhead Costs (per lot)	1.92	\$764.10	\$531.88	\$232.22
Underground Costs (per lot)	2.86	\$776.67	\$755.99	\$20.68
Differential (per lot)		\$12.57	\$224.11	-\$211.54

NET PRESENT VALUE LIFECYCLE COST CALCULATION
 Per Lot Calculation (High Density - 176 Lots)

Overhead System			
Including Lost Pole Attachment Revenue			
	NPV Life Cycle Cost	Miles OH	NPV Life Cycle Cost / Mile
Incl Storm	\$536,443,057	6,414	\$83,636.27
Excl Storm	\$373,413,137	6,414	\$58,218.45
Storm	\$163,029,919	6,414	\$25,417.82

Underground System			
	NPV Life Cycle Cost	Miles UG	NPV Life Cycle Cost / Mile
Incl Storm	\$255,129,317	4,472	\$57,050.38
Excl Storm	\$248,336,403	4,472	\$55,531.40
Storm	\$6,792,913	4,472	\$1,518.99

Per Lot Values (High Density - 176 Lots)				
	Miles of Line	Incl Storm	Excl Storm	Storm Only
Overhead Costs (per lot)	1.02	\$484.72	\$337.41	\$147.31
Underground Costs (per lot)	1.08	\$350.07	\$340.75	\$9.32
Differential (per lot)		-\$134.65	\$3.34	-\$137.99