

State of Florida



## Public Service Commission

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### -M-E-M-O-R-A-N-D-U-M-

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**DATE:** September 21, 2006

**TO:** Director, Division of the Commission Clerk & Administrative Services (Bayó)

**FROM:** Division of Economic Regulation (Draper, Lee)  
Office of the General Counsel (Gervasi)

**RE:** Docket No. 060299-EI – Petition for approval of revised tariff sheets for underground residential distribution service, by Tampa Electric Company.

**AGENDA:** 10/03/06 – Regular Agenda – Tariff Filing – Interested Persons May Participate

**COMMISSIONERS ASSIGNED:** All Commissioners

**PREHEARING OFFICER:** Administrative

**CRITICAL DATES:** 12/31/06 (8-Month Effective Date)

**SPECIAL INSTRUCTIONS:** None

**FILE NAME AND LOCATION:** S:\PSC\ECR\WP\060299A.RCM.DOC

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### Case Background

On March 31, 2006, Tampa Electric Company (TECO) filed a petition for approval of revisions to its underground residential distribution tariffs and their associated charges. These 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 underground residential distribution (URD) tariff applies to residential developments such as subdivisions and townhouses. The Commission suspended the tariff by Order No. PSC-06-0471-PCO-EI, issued June 5, 2006. On August 11, 2006, TECO filed a petition for approval of revised tariff sheets that included certain corrections.

Rule 25-6.078(2), Florida Administrative Code, requires investor-owned electric utilities to file updated underground residential distribution charges for Commission approval at least

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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.<sup>1</sup> To comply with the three-year filing requirement of the rule, TECO filed this petition.

The Commission has jurisdiction over this matter pursuant to Sections 366.03, 366.04, 366.05, and 366.06, Florida Statutes.

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<sup>1</sup> TECO's current URD charges were approved by Order No. PSC-03-0455-TRF-EI, issued April 2, 2003, in Docket No. 021118-EI, In re: Petition for approval of revised tariffs and updated charges for underground residential and commercial distribution service by Tampa Electric Company.

### **Discussion of Issues**

**Issue 1:** Should the Commission approve TECO's revised Underground Residential Distribution tariffs and their associated charges?

**Recommendation:** Yes. (Draper, Lee)

**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. Costs for underground service have historically been higher than for standard overhead construction. The URD differential is paid by the customer as a contribution-in-aid-of-construction (CIAC). 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 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. All four largest investor-owned electric utilities use the same standardized model subdivisions to develop their URD charges.

As stated in Rule 25-6.078(1), Florida Administrative Code, the URD differential is developed by estimating the cost per lot of both underground service and overhead service. The differential is based on the utility's standard engineering and design practices. The difference between these numbers is the per-lot charge that customers must pay when they request underground service in lieu of standard overhead service. The 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 also includes the cost of trenching and backfilling. The utilities are required to use current cost data.

The following table shows TECO's current and proposed URD differentials:

Type of Subdivision	Current URD differential per lot	Proposed URD differential per lot	Percent Change
210-lot low density	\$392.25	\$581	+45%
176-lot high density	\$349.77	\$415	+18%

#### **Low-density subdivision**

TECO cited five reasons for the increase in the differential for the 210-lot low density subdivision: 1) the installation of an additional primary cable or phase to serve the subdivision, 2) the looping of all transformers, 3) the increase in the size of customer air-conditioning units

from 3.0 to 3.5 tons, 4) increased material and labor costs, and 5) the cost of providing site preparation for pad-mounted equipment. Each of these are discussed in detail below.

Additional cable. The primary factor driving the increase in the low-density differential is the installation of an additional underground primary cable or phase to meet TECO's primary cable loading guidelines. Currently, all 210 lots in TECO's underground low-density design are served by one primary cable. However, there is a limit on how much load or power usage, measured in kilo-volt amperes (kVA), can be put on a cable. According to TECO's *Distribution Engineering Technical Manual*, underground primary cable is limited to 800 kVA of connected transformer capacity. As discussed below, TECO has proposed to increase the size of the air-conditioning (AC) units and transformers, resulting in an increase in total connected kVA for the subdivision from 937 kVA to 1275 kVA. This increase in kVA exceeds TECO's primary cable loading guidelines and therefore requires a two-phase primary cable layout. Primary overhead cable is rated for a higher kVA and therefore the low-density overhead design does not require a second cable.

Transformer looping. The second factor driving the increase in both the low-density and high-density differential is the looping of all transformers. Utilities can use either a radial or a looped design. The load on a radial cable is fed from one direction. In the event of a cable failure, all customers fed by the cable will experience an outage. A looped cable, on the other hand, is fed from two different sources. In the event of a cable failure, customers continue to receive service from the second source. TECO's current low-density and high-density subdivisions incorporate both looped and radial designs. The customers served by a radial cable are mainly located in cul-de-sacs. Therefore, while a looped design may increase the cost of an underground installation, it provides increased reliability and better protection against lengthy outages.

During TECO's last URD tariff filing, staff and TECO met to discuss staff's concerns regarding TECO's use of a radial system to serve some customers in the low- and high-density subdivisions. TECO indicated to staff at that time it would consider using a looped design for all customers in its designs in future URD filings.

Air-conditioner size. Third, TECO proposes to increase the assumption of the size of the customers' AC units from 3.0 to 3.5 tons in their low-density subdivision design. TECO states that a 3.5 ton AC unit is a more appropriate assumption given that houses in the low-density subdivision design are 2,000 square feet. Both Florida Power & Light Company and Progress Energy Florida use 3.5 ton AC units in their low-density subdivision design. Larger AC units require the use of larger transformers. Transformers are manufactured in standard sizes, such as 50 kVA or 75 kVA and utilities typically use a mix of different size transformers. While TECO did not increase the number of transformers (22), TECO proposed to use more of the larger-size transformers. This design change was done to both the overhead and underground low-density subdivision. However, since underground pad-mounted transformers are more expensive than standard overhead transformers, the differential will increase as a result.

New contract labor rate. Fourth, while overhead service work is done by company employees, TECO hires outside contractors for the underground service work. In February 2006, TECO signed a new contract for the trenching and installation of underground service lines

(cable from padmount transformer to the house). The contractor labor rate increased from \$2.77/foot to \$4.47/foot. Contractor labor rates for primary and secondary trenching and conduit experienced only minor increases.

Site preparation. A final factor affecting the differential is the additional cost of providing site preparation for pad-mounted transformers. Currently, this work is the responsibility of the applicant (developer) and the cost is not included in the differential. However, developers frequently ask TECO to prepare the site. Should the developer prepare the site, the developer will receive a refund for the cost. The low-density subdivision has 22 pad sites and the cost to prepare a pad site is \$180.18 or \$19 per lot. Since overhead construction does not require pad-mounted equipment, the differential will increase.

#### High-density subdivision

TECO's proposed high-density charge is \$415 per lot, an increase of 18.5% over the current charge of \$349.77. The increase in the high-density charge is attributed to the looping of all transformers, increased material and labor costs, and the inclusion of the cost of site preparation for pad-mounted equipment as discussed above. TECO has not proposed to increase the size of the AC units (2.5 ton) since the houses are smaller than in the low-density subdivision (1,250 square feet) or add a second phase, resulting in a smaller increase in the high-density charge.

In addition to the proposed changes discussed above, TECO proposed to revise its non-refundable deposit charges for CIAC estimates for new construction (except for residential subdivisions covered by the standard URD charges) and conversion of overhead facilities to underground. Since the current deposit charges have been in effect since 1999, TECO adjusted the charges for inflation that occurred between 1999 and 2006. The charges include engineering labor and vehicle rates and differ between urban and rural areas. TECO also proposed modifications to the charges and credits for customers requesting new underground service laterals from overhead distribution systems, and for the conversion of existing service laterals from overhead to underground.

Staff has reviewed the proposed charges and accompanying work papers. Based on a review of the information provided, staff believes the proposed charges are reasonable, and should be approved.

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**Issue 2**: Should this docket be closed?

**Recommendation**: Yes. If Issue 1 is approved, this tariff should become effective on October 3, 2006. If a protest is filed within 21 days of the issuance of the order, this tariff 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. (Gervasi)

**Staff Analysis**: If Issue 1 is approved, this tariff should become effective on October 3, 2006. If a protest is filed within 21 days of the issuance of the order, this tariff 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.