

State of Florida



Public Service Commission

CAPITAL CIRCLE OFFICE CENTER • 2540 SHUMARD OAK BOULEVARD
TALLAHASSEE, FLORIDA 32399-0850

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

DATE: June 26, 2014

TO: Office of Commission Clerk (Stauffer)

FROM: Division of Economics (Rome) *CRK EJD PD J.W.D.*
Office of the General Counsel (Klancke) *CRK AT*

RE: Docket No. 140067-EI – Petition for approval of revised underground distribution tariffs, by Duke Energy Florida, Inc.

AGENDA: 07/10/14 – Regular Agenda – Tariff Filing – Interested Persons May Participate

COMMISSIONERS ASSIGNED: All Commissioners

PREHEARING OFFICER: Administrative

CRITICAL DATES: 12/01/14 (8-Month Effective Date)

SPECIAL INSTRUCTIONS: None

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Case Background

On April 1, 2014, Duke Energy Florida, Inc. (DEF) filed a petition for Commission approval of revision to its underground residential distribution (URD) Tariff Sheet Nos. 4.113, 4.114, 4.115, and 4.122, and their associated charges. DEF's current URD charges were approved in Order No. PSC-12-0348-TRF-EI.¹ The Commission suspended DEF's proposed tariffs in Order No. PSC-14-0271-PCO-EI.² On May 16 and June 6, 2014, DEF provided responses to staff's data requests. The May 16 submission included adjustments to proposed revisions for Tariff Sheets 4.114 and 4.115. The Commission has jurisdiction over this matter pursuant to Sections 366.03, 366.04, 366.05, and 366.06, Florida Statutes (F.S.).

¹ See Order No. PSC-12-0348-TRF-EI, issued July 5, 2012, in Docket No. 110293-EI, In re: Petition for approval of revised underground residential distribution tariffs, by Progress Energy Florida, Inc. As of April 29, 2013, Progress Energy Florida, Inc.'s name was changed to Duke Energy Florida, Inc.

² Issued May 29, 2014, in Docket No. 140067-EI, In re: Petition for approval of revised underground distribution tariffs, by Duke Energy Florida, Inc.

Discussion of Issues

Issue 1: Should the Commission approve DEF's proposed URD tariffs and associated charges including the adjustments submitted on May 16, 2014, to Tariff Sheets 4.114 and 4.115?

Recommendation: Yes, the proposed URD tariffs and associated charges as adjusted should be approved. (Rome)

Staff Analysis: Rule 25-6.078, Florida Administrative Code (F.A.C.), defines investor-owned utilities' (IOU) responsibilities for filing updated URD tariffs. IOUs are required to file supporting data and analyses for URD tariffs at least once every three years. 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. The cost of standard overhead construction is recovered through base rates from all ratepayers. In lieu of overhead construction, customers have the option of requesting underground facilities. Costs for underground construction have historically been higher than for 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.

Three standard model subdivision designs have historically been the basis upon which each IOU submits URD tariff changes for Commission approval: (1) a 210-lot low density subdivision with a density of one or more, but less than six, dwelling units per acre; (2) a 176-lot high density subdivision with a density of six or more dwelling units per acre; and (3) a 176-lot high density subdivision with a density of six or more dwelling units per acre taking service at ganged meter pedestals. Examples of this last subdivision type include mobile home and recreational vehicle parks. While actual construction may differ from the model subdivisions, the model subdivisions are designed to reflect average overhead and underground subdivisions.

The following table shows DEF's currently approved and proposed URD differentials for the three standard model subdivisions. The charges shown are per-lot charges.

Table 1-1

Comparison of Differential Per Lot		
	Current URD differential per lot	Proposed URD differential per lot
210-lot low density	\$791	\$768 ³
176-lot high density	\$524	\$459
176-lot ganged meters	\$241	\$211

³ The \$768 proposed URD differential per lot for the 210-lot low density subdivision is calculated as follows: \$486 (Table 1-2) + \$282 (Table 1-4) = \$768.

In comparison with DEF's 2011 URD filing, the proposed URD differential per-lot charges show a decrease for each of the three model subdivisions. The calculation of DEF's proposed URD charges was impacted by two primary factors which are discussed in greater detail below: (1) updated labor and material costs and the associated loading factors expressed as a percentage of labor, and (2) calculation of operational costs.

Labor and Material Costs and Associated Loading Factors

The installation costs of both overhead and underground facilities include the labor and material 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 current URD charges are based on 2011 labor and material costs, and the proposed charges are based on 2014 costs. Table 1-2 compares 2011 and 2014 per-lot overhead and underground labor and material costs for the three subdivisions.

Table 1-2

Labor and Material Costs per Lot			
Low Density	2011 Costs	2014 Costs	Difference
Underground labor/material costs	\$1,475	\$1,654	\$179
Overhead labor/material costs	\$963	\$1,168	\$205
Per lot differential	\$512	\$486	-\$26
High Density			
Underground labor/material costs	\$1,170	\$1,309	\$139
Overhead labor/material costs	\$750	\$946	\$196
Per lot differential	\$420	\$363	-\$57
Ganged Meter			
Underground labor/material costs	\$664	\$753	\$89
Overhead labor/material costs	\$512	\$627	\$115
Per lot differential	\$152	\$126	-\$26

As indicated in Table 1-2 above, the total labor and material cost differentials decreased for all three model subdivisions because the costs of overhead construction are increasing at a greater rate than the costs of underground construction. Overhead construction costs show larger increases because overhead construction is performed by in-house employees for which the labor costs were impacted to a greater degree than the outside contractor labor costs associated with

underground construction. Changes in labor and material costs and the associated loading factors are discussed below.

Labor

DEF's labor costs for overhead and underground construction are comprised of costs associated with work performed by in-house employees and by outside contractors. DEF's in-house labor rates are based upon actual labor costs negotiated in bargaining unit contracts. Contracts are negotiated typically every two to three years. In response to a data request by staff, DEF states that in-house labor rates have increased approximately three percent per year due to cost-of-living increases covered under the existing collective bargaining contract. DEF further represents that in-house labor costs have been impacted by an increase in costs associated with providing for pension funding expense. DEF states that provisions for pension funding expense were inadvertently omitted from the 2011 submission. DEF included the provision for pension funding expense in the total labor costs in the current submission since that labor cost is charged to all projects.

To obtain outside contractors, DEF uses a competitive bidding process and contracts are typically negotiated annually. In response to a data request by staff, DEF states that contract labor rates have remained unchanged due to the extension of the previously existing contract rate with the company's underground system contractors.

Materials

In response to a data request by staff, DEF states that conduit prices increased approximately 10 percent between 2011 and the present. Other than conduit prices, DEF indicates that material costs have fluctuated only marginally for both overhead and underground subdivisions. These cost fluctuations appear to have been relatively equal for both overhead and underground material so the net effect on the per-lot cost differentials is insignificant.

Loading Factors

DEF has made adjustments to its loading factors and how they are applied to material and labor costs. These adjustments resulted in increases primarily to in-house labor costs. Table 1-3 below summarizes the changes between DEF's actual 2011 and 2014 loading factors.

Table 1-3

Comparison of Loading Factors		
	2011 Loading Factors	2014 Loading Factors
Stores Handling	8.7% of material	21.25% of material
Design and Project Mgmt.	7.23% of labor & material	17.90% of labor
Management & Supervision	23.12% of labor	35.67% of labor
Fleet	17.26% of labor	22.49% of labor

DEF explains that the loading factor percentages used in the 2011 filing were based on historical data derived from a previous work management system. Shortly before the 2011 filing, DEF installed new work management system software to more effectively allocate indirect costs and certain changes were made to the application of indirect costs or loadings to materials and labor. DEF represents that this filing uses historical data provided by the new work management system to determine the 2014 loading factors.

The Stores Handling loading factor represents the cost of managing inventory. Since 2011, DEF has increased the list of material items classified as bench stock. Bench stock items are those typically not tracked by unit for purposes of inventory or accounting. Bench stock includes items such as fuses, insulators, connectors, and conduit bends. While the increase in bench stock items resulted in an increase in the Stores Handling loading factor, it corresponded with a decrease in the items charged as direct materials.

In DEF's previous URD filings, the Design and Project Management loading factor was applied to both the labor and actual material cost. After the 2011 filing, the Design and Project Management loading factor was adjusted to be consistent with other labor-driven DEF loading factors and was applied only to the labor cost. This resulted in the Design and Project Management loading factor being a greater percentage of only labor.

In DEF's previous URD filings, the Management and Supervision loading factor only included direct field supervision. After the 2011 filing, the Management and Supervision loading factor was revised to include additional non-direct field personnel in order to capture the full cost charged to a project. This loading factor includes a percentage of time for additional levels of management and support personnel. The work performed by the additional personnel includes scheduling and resourcing of projects, maintenance of work management systems and mobile work stations by information technology (IT) staff, administrative support, and supervision related to each of these activities.

The Fleet loading factor represents the cost of receiving and moving material from the central warehouse to the local operation centers. It also includes vehicles, gas, drivers, and maintenance for the vehicles. The primary reason for the increase in the Fleet loading factor in comparison with the 2011 filing is the increase in fleet fuel cost.

Operational Costs

Rule 25-6.078(4), F.A.C., provides that the differences in Net Present Value (NPV) of operational costs between overhead and underground systems, including average historical storm restoration costs over the life of the facilities, be included in the URD charge. Operational costs include operations and maintenance (O&M) costs and capital costs. The inclusion of the operational cost is intended to capture longer term costs and benefits of undergrounding. Table 1-4 below compares the 2011 and 2014 NPV calculations of operational and storm restoration cost differentials between overhead and underground systems on a per-lot basis.

Table 1-4

NPV of Operational Cost Differential per Lot			
Low Density	2011 Calculation	2014 Calculation	Difference
Non-storm operational costs	\$332	\$350	\$18
Storm restoration costs	-\$53	-\$68	-\$15
Per lot differential	\$279	\$282	\$3
High Density			
Non-storm operational costs	\$136	\$137	\$1
Storm restoration costs	-\$33	-\$42	-\$9
Per lot differential	\$104	\$96	-\$8
Ganged Meter			
Non-storm operational costs	\$113	\$115	\$2
Storm restoration costs	-\$24	-\$31	-\$7
Per lot differential	\$89	\$85	-\$4

As indicated in Table 1-4 above, the changes in the differentials per lot are minimal for the three model subdivisions. DEF used the same methodology as approved in Order No. PSC-12-0348-TRF-EI for calculating the NPV of operational costs. DEF uses circuit miles to calculate the per-lot operational differential. Circuit miles are derived from the company's Geographic Information System (GIS) and include distribution primary and secondary wire. For overhead systems, circuit miles are comprised of the total distance between poles regardless of the number of wires on the poles. For underground systems, the comparable parameter is distance in trench feet. The circuit miles for each subdivision are determined by the subdivision design drawings and are multiplied by the NPV unit costs, which are discussed in greater detail below.

Calculation of non-storm operational difference

DEF used its actual historical capital and O&M expenses for the period 2009 through 2013 to calculate the non-storm operational difference for overhead and underground facilities. DEF's analysis of its historical operational costs shows that the underground facilities are more expensive to operate and maintain than the equivalent overhead facilities. The materials for underground repairs are more expensive than their overhead counterparts and the repair of underground equipment is a more lengthy process than overhead.

In order to calculate operational costs per circuit mile, *i.e.*, unit costs, DEF divided the annual total operational costs for overhead and underground facilities by the number of circuit miles of distribution lines for each of those facilities. DEF then calculated a 5-year average of the overhead and underground operational costs per circuit mile for the years 2009 through 2013. The resulting 5-year average operational costs per circuit mile for overhead and underground are \$3,812 and \$4,310, respectively.

To calculate the NPV of the overhead and underground operational unit costs, DEF escalated the unit costs out over 34 years to adjust for inflation. The 34 years represent the average service life from DEF's currently approved depreciation study. The escalated values are then discounted back to arrive at the NPV for overhead and underground operational costs per circuit mile of \$72,499 and \$81,790, respectively, thus resulting in a NPV differential of \$9,471 per circuit mile.

DEF's analysis assumed a 6.40 percent discount rate for the calculation of the NPV. This after-tax weighted average cost of capital is based on a capital structure consisting of 50 percent equity at a cost rate of 10.50 percent⁴ and 50 percent debt at a cost rate of 3.75 percent.

Calculation of storm restoration costs

To isolate the impact of the storm restoration costs, DEF performed a NPV analysis as described above with and without the storm restoration costs. The inclusion of the storm restoration costs in the URD differential lowers the differential, since an underground distribution system incurs less damage than an overhead system as a result of a storm and, thus, less restoration costs when compared to an overhead system. In Docket No. 090079-EI,⁵ which included testimony from DEF's most recent hurricane loss study, DEF calculated an expected annual storm damage cost of \$20.2 million. Based on storm damage cost experience for the 2004 and 2005 storm seasons, DEF allocated 80 percent of the \$20.2 million to distribution. 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.

Conclusion

Staff has reviewed DEF's documentation in support of its proposed revisions to Tariff Sheet Nos. 4.113, 4.114, 4.115, and 4.122, and their associated charges including the adjustments submitted on May 16, 2014, to Tariff Sheets 4.114 and 4.115. Based on its review, staff believes that the proposed URD tariffs and associated charges as adjusted are reasonable and should be approved.

⁴ Authorized return on equity approved in Order No. PSC-13-0598-FOF-EI, issued November 12, 2013, in Docket No. 130208-EI, In re: Petition for limited proceeding to approve revised and restated stipulation and settlement agreement by Duke Energy Florida, Inc. d/b/a Duke Energy.

⁵ Docket No. 090079-EI addressed Progress Energy Florida, Inc.'s (PEF) petition for increase in rates. In this proceeding, PEF filed testimony and exhibits regarding its updated storm loss and reserve solvency study.

Issue 2: Should this docket be closed?

Recommendation: Yes. If Issue 1 is approved, this tariff should become effective as of the date of the Commission's vote. 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. (Klancke)

Staff Analysis: If Issue 1 is approved, this tariff should become effective as of the date of the Commission's vote. 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.