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: July 20, 2023

TO: Office of Commission Clerk (Teitzman)

FROM: Division of Economics (Lang, Barrett, Hampson) EJD
Office of the General Counsel (Watrous) JSC

RE: Docket No. 20230043-EI – Petition for approval of revised underground residential distribution tariffs, by Duke Energy Florida, LLC.

AGENDA: 08/01/23 – Regular Agenda – Tariff Filing – Interested Persons May Participate

COMMISSIONERS ASSIGNED: All Commissioners

PREHEARING OFFICER: Administrative

CRITICAL DATES: 11/30/23 (8-Month Effective Date)

SPECIAL INSTRUCTIONS: None

Case Background

On March 31, 2023, Duke Energy Florida, LLC (DEF or utility) filed a petition for approval of revisions to its underground residential distribution tariffs (URD) and associated charges (2023 Petition). These tariffs represent the estimated additional cost, if any, DEF incurs to provide underground service in place of overhead service in new residential subdivisions. The current URD tariffs and charges were approved in 2020.[1] The proposed URD tariffs are contained in the recommendation as Attachment A.

On May 22, 2023, the Commission suspended the proposed tariffs to allow staff sufficient time to analyze the utility's filing.[2] Staff issued its first data request on May 17, 2023, for which

[1] Order No. PSC-2020-0266-TRF-EI, issued July 27, 2020, in Docket No. 20200110-EI, *In re: Petition for approval of revised underground residential distribution tariffs, by Duke Energy Florida, LLC.*
[2] Order No. PSC-2023-0168-PCO-EI, issued May 22, 2023, in Docket No. 20230043-EI, *In re: Petition for approval of revised underground residential distribution tariffs, by Duke Energy Florida, LLC.*

response was provided on June 1, 2023. Staff issued its second data request on June 21, 2023, for which response was provided on July 6, 2023.

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

Discussion of Issues

Issue 1: Should the Commission approve DEF's proposed underground distribution tariffs and associated charges?

Recommendation: Yes. The Commission should approve DEF's proposed underground residential distribution tariffs and associated charges effective on the date of the Commission vote. The proposed URD charges are cost-based and staff recommends approval of the tariffs shown in Attachment A. (Lang, Barrett, Hampson)

Staff Analysis: Rule 25-6.078, Florida Administrative Code (F.A.C.), defines investor-owned utilities' (IOU) responsibilities for filing updated URD tariffs. DEF has filed the instant petition pursuant to subsection (3) of the rule, which requires IOUs to file supporting data and analyses for updated URD tariffs if the cost differential, using current labor and material costs, varies from the Commission-approved differential by more than ten percent. On October 13, 2022, pursuant to Rule 25-6.078(3), F.A.C., DEF filed their annual Overhead/Underground Residential Differential Cost Data (Form PSC/ECO 13-E).

The URD tariffs provide charges for underground service in new residential subdivisions and represent the additional costs, if any, 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. Any additional cost is paid by the customer as a contribution-in-aid-of-construction (CIAC). Typically, the URD customer is the developer of a subdivision.

Traditionally, three standard model subdivision designs have been the basis upon which each IOU submits URD tariff changes for Commission approval: low density where there are one or more but less than six dwelling units per acre; high density where there are six or more dwelling units per acre; and a high density subdivision, where dwelling units take service at ganged meter pedestals (group of meters at the same physical location). While actual construction may differ from the model subdivisions, the model subdivisions are designed to reflect average overhead and underground subdivisions.

Costs for underground construction have historically been higher than costs for standard overhead construction, and the additional cost is paid by the customer as CIAC. However, DEF's proposed URD differential charges remain $0 per lot for the low density and ganged meter subdivisions for single phase service. For the high density subdivision, the proposed differential increases from the current $0 to $332 per lot. The increase in the differentials is primarily attributable to significant changes in DEF's labor, and material costs, since the last URD was approved for DEF in 2020.

Table 1-1 below compares the current and proposed URD differentials for the low density, high density, and ganged meter subdivisions for single phase service as appears in Section IV, Part 11.03 of the current and proposed URD tariff. The charges shown are per-lot charges. The proposed URD differential for the High Density subdivision is increasing due to an increase in labor and materials, but more so for underground than overhead. The increase shown below is

due primarily to rising material costs as well as the utility contracting labor to perform underground activities as opposed to the native crews which perform overhead activities.

Table 1-1
Comparison of URD Differential per Lot (Single Phase Service)

Subdivision Designs	Current URD Differential	Proposed URD Differential
Low Density	$0	$0
High Density	$0	$332
Ganged Meter	$0	$0

Source: Order No. PSC-2020-0266-TRF-EI (Current) and DEF's 2023 Petition (Proposed).

The calculations of the proposed URD charges include (1) updated labor and material costs along with the associated loading factors and (2) operational costs. The costs are discussed below.

Updated Labor and Material Costs

The installation costs of both overhead and underground facilities include the labor and material costs to provide primary, secondary, and service distribution lines, as well as transformers. The costs of poles are specific to overhead service while the costs of trenching and backfilling are specific to underground service. The utilities are required by Rule 25-6.078(5), F.A.C., to use current labor and material costs.

DEF's labor costs for overhead and underground construction are comprised of costs associated with work performed by both in-house employees and outside contractors. DEF's contracted labor rates are based upon actual labor costs negotiated in bargaining unit contracts and labor rates with contractors. Table 1-2 shown below compares total 2020 and 2023 labor and material costs per lot for the three subdivision designs.

Table 1-2
Labor and Material Costs Per Lot for DEF Trench and Install Conduit

Subdivision Designs	2020 Costs	2023 Costs	Difference
Low Density			
Underground Labor/Material Costs	$2,263	$3,454	$1,191
Overhead Labor/Material Costs	$2,343	$2,749	$406
Per Lot Differential	$(80)	$705	$785
High Density			
Underground Labor/Material Costs	$1,978	$3,003	$1,025
Overhead Labor/Material Costs	$1,642	$2,121	$479
Per Lot Differential	$336	$882	$550
Ganged Meter			
Underground Labor/Material Costs	$774	$1,205	$431
Overhead Labor/Material Costs	$1,295	$1,516	$221
Per Lot Differential	$(521)	$(311)	$(210)

Source: Order No. PSC-2020-0266-TRF-EI (Current) and DEF's 2023 Petition (Proposed).

As Table 1-2 shows, the majority of the proposed overhead and underground total labor and material costs have increased since the current URD charges were approved in 2020. As reflected, the 2023 costs for overhead and underground labor and materials are higher for each subdivision design, although a greater increase has occurred for underground, compared to overhead. In a data request response, DEF stated that the majority of all undergrounding work activities for subdivisions (such as boring, trenching, or installation of underground equipment) are performed by contracted work crews, whereas the costs for overhead placements are comparatively lower because native crews perform these work activities.[3] As such, after adjusting for these changes in material and labor and also net present value (NPV) lifecycle costs, the High Density design differential increased from $0 to $332 per lot, as shown in Table 1-1 above.

Increasing labor and material costs have similarly affected the URD tariff charges applicable for the installation of underground feeder mains and service laterals. The changes in current labor and material costs impacted the differential for three-phase primary main conduit provided and installed by DEF, which is proposed to change from $0 per foot to $2.17 per foot. Increasing labor and material costs also impacted the credits that are available to an applicant (customer) when the applicant provides the trenching and backfill for both primary and/or secondary systems and service laterals. Such credits are proposed to increase from $3.35 to $4.06 per foot of trench.

Updated Operational Costs

Rule 25-6.078(4), F.A.C., requires that the differences in 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. The inclusion of the operational cost is intended to capture longer term costs and benefits of undergrounding.

Operational costs include operations and maintenance costs along with capital costs and represent the cost differential between maintaining and operating an underground versus an overhead system over the life of the facilities. Operational capital costs are the costs associated with replacement equipment needed during the lifespan of the facilities. The inclusion of the storm restoration cost in the URD calculations lowers the differential, since an underground distribution system generally incurs less damage than an overhead system as a result of a storm, and therefore, incurs less restoration costs when compared to an overhead system.

The utility used a 5-year average of historical, operational costs (2018-2022) for its calculations in this docket. The methodology used by DEF in this filing for calculating the NPV of operational costs was approved in Order No. PSC-12-0348-TRF-EI.[4] Staff notes that operational costs may vary among IOUs due to multiple factors, including differences in size of service territory, miles of coastline, regions subject to extreme winds, age of the distribution system, or construction standards.

[3] DEF's Response to Staff's Second Data Request, Item 4A.
[4] 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.*

Table 1-3 shown below presents information on costs that are reflected in the URD tariffs for the three subdivision designs. The table shows the result of adding the proposed 2023 overhead and underground labor and materials cost differentials, as found in Table 1-2, and the NPV of operational costs differentials, including storm costs, to calculate the proposed total cost differential for each design. Note that the per lot differential costs appearing in parentheses are negative values, indicating the overhead costs exceed the underground costs.

Table 1-3
DEF Updated Overhead/Underground Cost Differential

Subdivision Design	2023 Labor and Materials Differential (A)	2023 NPV of Operational Costs Differential (B)	Total Cost Differential Supporting Proposed URD (C) = (A) + (B)
Low Density	$705	$(741)	$(36)
High Density	$882	$(550)	$332
Ganged Meter	$(311)	($409)	$(720)

Source: DEF's Response to Staff's First Data Request, Items 2A and 2B.

Negative total cost differentials, as shown in Table 1-3 for Low Density and Ganged Meter designs, result in the proposed URD differential of $0, as shown in Table 1-1. For the Low Density subdivision design, DEF's positive labor and material cost differential is completely offset by its negative NPV of operational costs differential. For the High Density subdivision design, the proposed 2023 NPV of operational costs differential only partially offsets the proposed 2023 labor and materials differential, resulting in the total cost differential of $332.

Other Proposed Tariff Changes

In addition, current labor and material costs for underground service laterals from overhead systems to newly constructed residential buildings (with less than five separate dwelling units) increased compared to the costs approved in 2020. Section IV, Part 11.04 of the utility's proposed URD tariff reflects a requested increase in the charge for DEF supplied and installed conduit (service laterals, up to 80 feet) from $641 to $983. For customer supplied and installed conduit, the proposed increase is $339 to $619. Section IV, Part 11.05 of the utility's proposed URD tariff reflects that the costs for underground service laterals replacing existing residential overhead services has also increased compared to costs approved in 2020. DEF proposes to increase its charge for installed conduit service lateral from $1,762 to $1,930 per service. The utility proposes to increase its customer installed conduit service lateral from $1,522 to $1,765 per service.

Conclusion

Staff has reviewed DEF's proposed underground distribution tariffs and associated charges, its accompanying work papers, and the utility's responses to staff's data requests. Based on this review, staff believes the proposed URD tariffs and associated charges are cost-based and recommends approval of the tariffs shown in Attachment A.

Issue 2: Should the Commission approve DEF's proposed underground distribution tariffs and associated charges?

Recommendation: If Issue 1 is approved and 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. (Watrous)

Staff Analysis: If Issue 1 is approved and 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.

DUKE ENERGY.

SECTION NO. IV
TWENTY-~~FIRST~~ SECOND REVISED SHEET NO. 4.113
CANCELS ~~TWENTIETH~~ TWENTY-FIRST REVISED SHEET NO. 4.113

Page 4 of 7

(2) Contribution by Applicant:

(a) Schedule of Charges:

Company standard design underground residential distribution 120/240 volt single-phase service (see also Part 11.03(7)):

To subdivisions with a density of 1.0 or more but less than six (6) dwelling units per acre:
Duke Provided and Installed Conduit ..... $0.00 per dwelling unit
Customer Provided and Installed Conduit for Mainline ..... $0.00 per dwelling unit
Customer Provided and Installed Trench and Conduit..... $0.00 per dwelling unit

To subdivisions with a density of six (6) or more dwelling units per acre:
Duke Provided and Installed Conduit ..... $~~0~~332.00 per dwelling unit
Customer Provided and Installed Conduit for Mainline ..... $0.00 per dwelling unit
Customer Provided and Installed Trench and Conduit..... $0.00 per dwelling unit

To subdivisions with a density of six (6) or more dwelling units per acre taking service at ganged meter pedestals:
Duke Provided and Installed Conduit ..... $0.00 per dwelling unit
Customer Provided and Installed Conduit for Mainline ..... $0.00 per dwelling unit
Customer Provided and Installed Trench and Conduit..... $0.00 per dwelling unit

To multi-occupancy buildings..... See Part 11.06(2)

(b) The above costs are based upon arrangements that will permit serving the local underground distribution system within the subdivision from overhead feeder mains. If feeder mains within the subdivision are deemed necessary by the Company to provide and/or maintain adequate service and are required by the Applicant or a governmental agency to be installed underground, the Applicant shall pay the Company the average differential cost between such underground feeder mains within the subdivision and equivalent overhead feeder mains as follows:

Three-phase primary main or feeder charge per trench-foot within subdivision:

(U.G. - Underground, O.H. - Overhead)

#1/0 AWG U.G. vs. #1/0 AWG O.H.:
Duke Provided and Installed Conduit ..... $0.00 per foot
Customer Provided and Installed Trench and Conduit..... $0.00 per foot

500 MCM U.G. vs. 336 MCM O.H.:
Duke Provided and Installed Conduit ..... $0.00 per foot
Customer Provided and Installed Trench and Conduit..... $0.00 per foot

1000 MCM U.G. vs. 795 MCM O.H.:
Duke Provided and Installed Conduit ..... $~~0.00~~2.17 per foot
Customer Provided and Installed Trench and Conduit..... $0.00 per foot

The above costs do not require the use of pad-mounted switchgear(s), or terminal pole(s). If such facilities are required, a differential cost for same will be determined by the Company on an individual basis and added to charges determined above.

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ISSUED BY: Thomas G. Foster, Vice President, Rates & Regulatory Strategy – FL
EFFECTIVE: ~~January 1, 2022~~

DUKE ENERGY.

SECTION NO. IV
TWENTY-~~FIRST~~ SECOND REVISED SHEET NO. 4.114
CANCELS ~~TWENTIETH~~ TWENTY-FIRST REVISED SHEET NO. 4.114

Page 5 of 7

(2) Contribution by Applicant (continued):

(c) Credits (not to exceed the "average differential costs" stated in Section 11.03) will be allowed where, by mutual agreement, the Applicant provides trenching and backfilling for the use of the Company's facilities in lieu of a portion of the cash payment described above. These credits, based on the Company's design drawings, are:

Primary and/or Secondary Systems,
for each Foot of Trench..... $~~3.354~~.06

Service Laterals,
for each Foot of Trench..... $~~3.354~~.06

(3) Point of Delivery:

The point of delivery shall be determined by the Company and will be on the front half of the side of the building that is nearest the point at which the underground secondary electric supply is available to the property. The Company will not install a service on the opposite side of the building where the underground secondary electric supply is available to the property. The point of delivery will only be allowed on the rear of the building by special exception. The Applicant shall pay the estimated full cost of service lateral length required in excess of that which would have been needed to reach the Company's designated point of service.

(4) Location of Meter and Socket:

The Applicant shall install a meter socket at the point designated by the Company in accordance with the Company's specifications. Every effort shall be made to locate the meter socket in unobstructed areas in order that the meter can be read without going through fences, etc.

(5) Development of Subdivisions:

The above charges are based on reasonably full use of the land being developed. Where the Company is required to construct underground electric facilities through a section or sections of the subdivision or development where service will not be required for at least two (2) years, the Company may require a deposit from the Applicant before construction is commenced. This deposit, to guarantee performance, will be based on the estimated total cost of such facilities rather than the differential cost. The amount of the deposit, without interest, in excess of any charges for underground service will be returned to the Applicant on a prorata basis at quarterly intervals on the basis of installations to new customers. Any portion of such deposit remaining unrefunded, after five (5) years from the date the Company is first ready to render service from the extension, will be retained by the Company.

(6) Relocation or Removal of Existing Facilities:

If the Company is required to relocate or remove existing overhead and/or underground distribution facilities in the implementation of these Rules, all costs thereof shall be borne exclusively by the Applicant. These costs shall include costs of relocation or removal, the in-place value (less salvage) of the facilities so removed, and any additional costs due to existing landscaping, pavement or unusual conditions.

(7) Other Provisions:

If soil compaction is required by the Governmental or permitting agency in right of way locations where Company trenching is done, an additional charge may be added to the charges set forth in this tariff. The charge will be estimated based on the Governmental or permitting agency's compaction specifications. The Company will not provide trench line soil compaction for the Applicant.

(Continued on Next Page)

ISSUED BY: Thomas G. Foster, Vice President, Rates & Regulatory Strategy – FL
EFFECTIVE: ~~January 1, 2022~~

DUKE ENERGY.

SECTION NO. IV
TWENTY-~~FIRST~~ SECOND REVISED SHEET NO. 4.115
CANCELS ~~TWENTIETH~~ TWENTY-FIRST REVISED SHEET NO. 4.115

Page 6 of 7

11.04 UNDERGROUND SERVICE LATERALS FROM EXISTING SECONDARY ELECTRIC DISTRIBUTION SYSTEMS.

(1) New Underground Service Laterals:

When requested by the Applicant, the Company will install underground service laterals from overhead systems to newly constructed residential buildings containing less than five (5) separate dwelling units.

(2) Contribution by Applicant:

The Applicant shall pay the Company the following average differential cost between an overhead service lateral and an underground service lateral:

For Service Lateral up to 80 feet Duke Supplied and Installed Conduit .....$~~641~~983.00
For Service Lateral up to 80 feet Customer Supplied and Installed Conduit.....$~~339~~619.00

For each foot over 80 feet up to 300 feet Duke Supplied and Installed Conduit .....$0.00 per foot
For each foot over 80 feet up to 300 feet Customer Supplied and Installed Conduit.....$0.00 per foot

Service laterals in excess of 300 feet shall be based on a specific cost estimate.

The provisions of Paragraphs 11.03(3) and 11.03(4) are also applicable.

11.05 UNDERGROUND SERVICE LATERALS REPLACING EXISTING RESIDENTIAL OVERHEAD SERVICES:

Applicability:

When requested by the Applicant, the Company will install underground service laterals from existing overhead lines as replacements for existing overhead services to existing residential buildings containing less than five (5) separate dwelling units.

Rearrangement of Service Entrance:

The Applicant shall be responsible for any necessary rearranging of his existing electric service entrance facilities to accommodate the proposed underground service lateral in accordance with the Company's specifications.

Trenching:

The Applicant shall also provide, at no cost to the Company, a suitable trench or installed conduit and perform the backfilling and any landscaping, pavement, or other suitable repairs. If the Applicant requests the Company to supply the trench or remove any additional equipment other than the Service Lateral, the charge to the Applicant for this work shall be based on a specific cost estimate.

Contribution by Applicant:

The charge excluding trenching costs shall be as follows:

For Service Lateral .....$~~1,762~~1,930.00 per service

The Applicant may elect to provide and install conduit meeting current Company construction specifications at no cost to the Company in lieu of an open trench. The charge shall be as follows:

For Service Lateral .....$~~1,522~~1,765.00 per service

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ISSUED BY: Thomas G. Foster, Vice President, Rates & Regulatory Strategy – FL
EFFECTIVE: ~~January 1, 2022~~