

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: August 22, 2019

TO: Office of Commission Clerk (Teitzman)

FROM: Division of Economics (Draper, Coston) *WSE*
Office of the General Counsel (Trierweiler) *WSE*

RE: Docket No. 20190076-EI – Petition for approval of revised underground residential distribution tariffs, by Duke Energy Florida, LLC.

AGENDA: 09/05/19 – Regular Agenda – Tariff Filing – Interested Persons May Participate

COMMISSIONERS ASSIGNED: All Commissioners

PREHEARING OFFICER: Administrative

CRITICAL DATES: 12/01/19 (8-Month Effective Date)

SPECIAL INSTRUCTIONS: None

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COMMISSION CLERK

Case Background

On April 1, 2019, Duke Energy Florida, LLC (Duke or utility) filed a petition for approval of revisions to its underground residential distribution (URD) tariffs. The URD tariffs apply to new residential subdivisions and represent the additional costs, if any, Duke incurs to provide underground distribution service in place of overhead service. The proposed (legislative version) URD tariffs are contained in Attachment A to the recommendation. Duke's current URD charges were approved in Order No. PSC-2017-0283-TRF-EI (2017 order).¹

¹ Order No. PSC-2017-0283-TRF-EI, issued July 24, 2017, in Docket No. 20170069-EI, *In re: Petition for approval of revised underground residential distribution tariffs, but Duke Energy Florida, LLC.*

Docket No. 20190076-EI

Date: August 22, 2019

The Commission suspended Duke's proposed tariffs by Order No. PSC-2019-0212-PCO-EI.² Duke responded to staff's first data request on May 31, 2019. The Commission has jurisdiction over this matter pursuant to Sections 366.03, 366.04, 366.05, and 366.06, Florida Statutes (F.S.).

² Order No. PSC-2019-0212-PCO-EI, issued June 3, 2019, in Docket No. 20190076-EI, *In re: Petition for approval of revised underground residential distribution tariffs, by Duke Energy Florida, LLC.*

Discussion of Issues

Issue 1: Should the Commission approve Duke's proposed URD tariffs and associated charges?

Recommendation: Yes, the Commission should approve Duke's proposed URD tariffs and associated charges as shown in Attachment A, effective September 5, 2019. (Draper, Coston)

Staff Analysis: Rule 25-6.078, Florida Administrative Code (F.A.C.), defines investor-owned utilities' (IOU) responsibilities for filing updated URD tariffs. Duke 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 varies from the Commission-approved differential by more than ten percent. On October 15, 2018, pursuant to Rule 25-6.078, F.A.C., Duke informed the Commission that its differential for the low density subdivision decreased by 81 percent from the differential approved in the 2017 order, requiring Duke to file the instant petition.

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 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, high density, and a high density subdivision where dwelling units take service at ganged meter pedestals (groups 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 a CIAC. However, as shown on Table 1-1, Duke's proposed URD differential charges are \$0 per lot for the low density and ganged meter subdivisions. Therefore, the URD customer will not be assessed a CIAC charge for requesting underground service in the low density and ganged meter subdivisions. For the high density subdivision the proposed differential decreased from \$403 to \$34 per lot. The decrease in the differentials is primarily attributable to changes in Duke's operational costs, as discussed in more detail in the section of the recommendation titled operational costs.

Table 1-1 shows the current and proposed URD differentials for the low density, high density, and ganged meter subdivisions. The charges shown are per-lot charges.

**Table 1-1
 Comparison of URD Differential per Lot**

Types of Subdivision	Current URD Differential	Proposed URD Differential
Low Density	\$694	\$0
High Density	\$403	\$34
Ganged Meter	\$158	\$0

Source: Order PSC-2017-0283-TRF-EI and Duke's 2019 Petition

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.

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.

Duke's labor costs for overhead and underground construction are comprised of costs associated with work performed by both in-house employees and outside contractors. Duke's in-house labor rates are based upon actual labor costs negotiated in bargaining unit contracts and labor rates with contractors are negotiated. Table 1-2 compares total 2017 and 2019 labor and material costs for the three subdivision models.

**Table 1-2
 Labor and Material Costs per Lot**

	2017 Costs	2019 Costs	Difference
Low Density			
Underground Labor/Material Costs	\$1,477	\$1,620	\$143
Overhead Labor/Material Costs	\$1,069	\$1,323	\$254
Per lot Differential	\$408	\$297	(\$111)
High Density			
Underground Labor/Material Costs	\$1,181	\$1,484	\$303
Overhead Labor/Material Costs	\$865	\$1,009	\$144
Per lot Differential	\$316	\$475	\$159
Ganged Meter			
Underground Labor/Material Costs	\$686	\$581	(\$105)
Overhead Labor/Material Costs	\$609	\$750	\$141
Per lot Differential	\$77	(\$169)	(\$246)

Source: 2017 Order and Duke's 2019 filing

As Table 1-2 shows, the majority of overhead and underground labor and material costs have increased since 2017. Because of a design change as discussed in more detail in the section of the recommendation titled subdivision design changes, the only exception to the increase in costs can be seen in the underground ganged meter labor and material costs (decrease from \$686 to \$581).

Subdivision Design Changes

Duke stated that the utility began using a new underground design software in the fall of 2017. Duke explained that the new software incorporates the most recent loading parameters for cables and transformers to design the most cost-effective way (in terms of number of transformers, transformer size, and cable length) to serve a home. The high density subdivision design was modified to reflect front lot construction as required by Rule 25-6.0341(1), F.A.C.

With respect to the underground ganged meter subdivision design, Duke explained that the design was modified to reflect townhome construction. Duke has had very few new underground mobile home parks that are typically served by a ganged meter, but several new townhome projects taking underground service at a ganged meter. The result of incorporating townhome construction is more units served from the ganged meter, and therefore, reduced per lot costs. As seen in Table 1-2 above, the total underground labor and material costs decreased from \$686 to \$581.

The three overhead designs had minor modifications to meet both National Electric Safety Code and Duke's construction standards. Specifically, the overhead design was modified to incorporate Duke's current standards that require increased insulation levels, taller poles, and increased spaces between the phases.

Operational Costs

Rule 25-6.078(4), F.A.C., requires 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. 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. 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, less restoration costs when compared to an overhead system.

The utility used a 5-year average of historical operational costs (2014-2018) for its calculations in this docket. The methodology used by Duke in this filing for calculating the NPV of operational costs was approved in Order No. PSC-12-0348-TRF-EI.³ Staff notes that operational costs may vary among IOUs due to multiple factors, including differences in size of service

³ 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.*

territory, miles of coastline, regions subject to extreme winds, age of the distribution system, or construction standards.

Non-storm Operational Costs

Duke’s operational costs for an overhead system have increased more than the operational cost for an underground system. The resulting differentials are shown in Column B in Table 1-3. For the low density subdivision, the operational cost differential in 2017 was \$350 (indicating that underground operational costs were higher than overhead operational costs). As shown in Table 1-3, the operational cost differential for the low density subdivision is now \$80. For the high density and ganged meter subdivisions, the operational cost differentials decreased from \$126 and \$109 to -\$20 and -\$1, respectively, indicating that overhead operational costs are slightly higher than underground operational costs. Duke explained that the primary reason for this change in operational costs is the increase in overhead operational costs as a result of Duke’s increased maintenance, such as pole replacements, on its overhead distribution system.

Avoided Storm Restoration Costs

Duke explained that the recent hurricane season significantly increased the avoided storm restoration costs impacts. Specifically, Duke stated the utility incorporated overhead storm restoration costs for hurricanes Irma, Nate, Michael, Matthew, Hermine, and tropical storm Colin. Therefore, the amount representing avoided storm restoration costs significantly increased from 2017.

Table 1-3 presents the pre-operational, non-storm operational, and the avoided storm restoration cost differentials between overhead and underground systems. The proposed differential is \$0 when the calculation results in a negative number.

**Table 1-3
 NPV of Operational Costs Differential per Lot**

Type of Subdivision	Pre-Operational Costs (A)	Non-storm Operational costs (B)	Avoided Storm costs (C)	Proposed URD Differentials (A)+(B)+(C)
Low Density	\$297	\$80	(\$726)	\$0
High Density	\$475	(\$20)	(\$421)	\$34
Ganged Meter	(\$169)	(\$1)	(\$312)	\$0

Source: 2019 Filing

Conclusion

Staff has reviewed Duke’s proposed URD tariffs and associated charges, its accompanying work papers, and its responses to staff’s data request. Staff believes the proposed URD tariffs and associated charges are reasonable. Staff recommends approval of Duke’s proposed URD tariffs and associated charges as shown in Attachment A, effective September 5, 2019.

Issue 2: Should this docket be closed?

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. (Trierweiler)

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.



SECTION NO. IV
SECOND-THIRD REVISED SHEET NO. 4.110
CANCELS FIRST-SECOND REVISED SHEET NO. 4.110

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PART XI
UNDERGROUND RESIDENTIAL DISTRIBUTION POLICY

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11.01 Definitions:

The following words and terms used under this policy shall have the meaning indicated:

- (1) Applicant: Any person, partnership, association, corporation, or governmental agency controlling or responsible for the development of a new subdivision or dwelling unit and applying for the construction of underground electric facilities.
- (2) Building: Any structure, within subdivision, designed for residential occupancy and containing less than five (5) individual dwelling units.
- (3) Commission: Florida Public Service Commission.
- (4) Company: Duke Energy Florida, Inc./LLC.
- (5) Direct Burial: A type of construction involving the placing of conductors in the ground without the benefit of conduit or ducts. Other facilities, such as transformers, may be above ground.
- (6) Distribution System: Electric service facilities consisting of primary and secondary conductors, service laterals, transformers, and necessary accessories and appurtenances for the furnishing of electric power at utilization voltage.
- (7) Feeder Main: A three-phase primary installation which serves as a source for primary laterals and loops through suitable overcurrent devices.
- (8) Mobile Home (Trailer): A non-self propelled vehicle or conveyance, permanently equipped to travel upon the public highways, that is used either temporarily or permanently as a residence or living quarters.
- (9) Multiple-Occupancy Building: A structure erected and framed of component structural parts and designed to contain five (5) or more individual dwelling units.
- (10) Point of Delivery: The point where the Company's wires or apparatus are connected to those of the Customer.
- (11) Primary Lateral: That part of the electric distribution system whose function is to conduct electricity at the primary level from the feeder main to the transformers serving the secondary street mains. It usually consists of a single-phase conductor or insulated cable, together with necessary accessory equipment for supporting, terminating and disconnecting from the primary mains by a fusible element.
- (12) Service Lateral: The underground service conductors between the street or rear property main, including any risers at a pole or other structure or from transformers, and the first point of connection to the service entrance conductors in a terminal or meter box on the exterior building wall.
- (13) Subdivision: The tract of land which is divided into five (5) or more building lots or upon which five (5) or more separate dwelling units are to be located, or the land on which is to be constructed new multiple-occupancy buildings.
- (14) Townhouse: A one(1)-family dwelling unit of a group of three (3) or more such units separated only by firewalls. Each townhouse unit shall be constructed upon a separate lot and serviced with separate utilities and shall otherwise be independent of one another.

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ISSUED BY: Javier J. Portuondo, Managing Director, Rates & Regulatory Strategy - FL
EFFECTIVE: April 29, 2019



SECTION NO. IV
 NINETEENTH-TWENTIETH REVISED SHEET NO. 4.113
 CANCELS EIGHTEENTH-NINETEENTH REVISED SHEET NO. 4.113

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(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\$604.00-0.00 per dwelling unit
 To subdivisions with a density of six (6) or more dwelling units per acre\$403.00-14.00 per dwelling unit

To subdivisions with a density of six (6) or more dwelling units per acre taking service at ganged meter pedestals\$168.000.00 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.\$3,030.00 per foot
 500 MCM U.G. vs. 336 MCM O.H.\$44,540.00 per foot
 1000 MCM U.G. vs. 795 MCM O.H.\$12,660.00 per foot

The above costs are based on underground feeder construction using the direct burial method. If conduit is required, the following additional charge(s) will apply:

2 inch conduit.....\$3,062.08 per foot
 4 inch conduit.....\$3,403.55 per foot
 6 inch conduit.....\$6,065.74 per foot
 Cable pulling - single phase\$1,762.34 per foot
 Cable pulling - 3 phase small wire\$1,763.87 per foot
 Cable pulling - 3 phase feeder\$3,624.69 per foot

The above costs do not require the use of pad-mounted switchgear(s), terminal pole(s), pull boxes or feeder splices. 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.

(c) Credits (not to exceed the "average differential costs" stated above) 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.....\$2,843.54
 Service Laterals,
 for each Foot of Trench.....\$2,843.54

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ISSUED BY: Javier J. Portuondo, Managing Director, Rates & Regulatory Strategy - FL
 EFFECTIVE: July 13, 2017



SECTION NO. IV
~~SIXTY-FOURTH NINETEENTH REVISED SHEET NO. 4.114~~
~~CANCELS SEVENTEENTH EIGHTEENTH REVISED SHEET NO. 4.114~~

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(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 reasonable 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 Applicant at 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 Applicant's compaction specifications.

11.04 UNDERGROUND SERVICE LATERALS FROM OVERHEAD ~~EXISTING~~ SECONDARY ELECTRIC DISTRIBUTION SYSTEMS.

(1) New Underground Service Laterals:

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

(2) Contribution by Applicant:

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

For Service Lateral up to 80 feet \$439.00\$44.00

For each foot over 80 feet up to 300 feet \$ 0.0 per foot

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

(b) Credits will be allowed where, by mutual agreement, the Applicant provides trenching and backfilling in accordance with the Company specifications and for the use of the Company facilities, in lieu of a portion of the cash payment described above. These credits, based on the Company's design drawings, are as follows:

For each Foot of Trench \$ 2.64\$3.64

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

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ISSUED BY: Javier J. Portuondo, Managing Director, Rates & Regulatory Strategy – FL
 EFFECTIVE: July 13, 2017



SECTION NO. IV
~~EIGHTEENTH-NINETEENTH REVISED SHEET NO. 4.115~~
CANCELS ~~SEVENTEENTH-EIGHTEENTH REVISED SHEET NO. 4.115~~

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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 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 \$845,001,237.00 per service

11.06 UNDERGROUND DISTRIBUTION FACILITIES TO MULTIPLE-OCCUPANCY RESIDENTIAL BUILDINGS:

(1) Availability:

Underground electric distribution facilities may be installed within the tract of land upon which multiple-occupancy residential buildings containing five (5) or more separate dwelling units will be constructed.

(2) Contribution by Applicant:

There will be no contribution from the Applicant so long as the Company is free to construct the extension in the most economical manner, and reasonably full use is made of the tract of land upon which the multiple-occupancy buildings will be constructed. Other conditions will require a contribution from the Applicant.

(3) Responsibility of Applicant:

- (a) Furnish details and specifications of the proposed building or complex of buildings. The Company will use these in the design of the electric distribution facilities required to render service.
- (b) Where the Company determines that transformers are to be located inside the building, the Applicant shall provide:
 - i. The vault or vaults necessary for the transformers and the associated equipment, including the ventilation equipment.
 - ii. The necessary raceways or conduit for the Company's supply cables from the vault or vaults to a suitable point five (5) feet outside the building in accordance with the Company's plans and specifications.
 - iii. Conduits underneath all buildings when required for the Company's supply cables. Such conduits shall extend five (5) feet beyond the edge of the buildings for joining to the Company's facilities.
 - iv. The service entrance conductors and raceways from the Applicant's service equipment to the designated point of delivery within the vault.

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ISSUED BY: Javier J. Portuondo, Managing Director, Rates & Regulatory Strategy - FL
EFFECTIVE: July 13, 2017