BEFORE THE
PUBLIC UTILITIES COMMISSION OF OHIO

In the Matter of the Application of Duke Energy Ohio, Inc., for an Increase in Electric Distribution Rates.	)))	Case No. 17-32-EL-AIR
In the Matter of the Application of Duke Energy Ohio, Inc., for Tariff Approval.	))	Case No. 17-33-EL-ATA
In the Matter of the Application of Duke Energy Ohio, Inc., for Approval to Change Accounting Methods.	)))	Case No. 17-34-EL-AAM
In the Matter of the Application of Duke Energy Ohio, Inc., for Approval to Modify Rider PSR.	)))	Case No. 17-872-EL-RDR
In the Matter of the Application of Duke Energy Ohio, Inc., for Approval to Amend Rider PSR.	)))	Case No. 17-873-EL-ATA
In the Matter of the Application of Duke Energy Ohio, Inc., for Approval to Change Accounting Methods.	)))	Case No. 17-874-EL-AAM

In the Matter of the Application of Duke Energy Ohio, Inc., for Authority to Establish a Standard Service Offer Pursuant to Section 4928.143, Revised Code, in the Form of an Electric Security Plan, Accounting Modifications and Tariffs for Generation Service.	)	Case No. 17-1263-EL-SSO
In the Matter of the Application of Duke Energy Ohio, Inc., for Authority to Amend its Certified Supplier Tariff, P.U.C.O. No. 20.	)	Case No. 17-1264-EL-ATA
In the Matter of the Application of Duke Energy Ohio, Inc., for Authority to Defer Vegetation Management Costs.	)	Case No. 17-1265-EL-AAM
In the Matter of the Application of Duke Energy Ohio, Inc., to Establish Minimum Reliability Performance Standards Pursuant to Chapter 4901:1-10, Ohio Administrative Code.	)	Case No. 16-1602-EL-ESS

DUKE ENERGY OHIO, INC.'S ANNUAL DISTRIBUTION CAPITAL INVESTMENT WORKPLAN

I. Introduction

On December 19, 2018, the Ohio Public Utilities Commission (Commission) approved an extension of Duke Energy Ohio Inc.'s (Duke Energy Ohio or the Company) Distribution Capital Investment (DCI) Rider through May 31, 2025.[1] The Opinion and Order provided:

> Duke shall work with Staff to develop an annual plan to emphasize proactive distribution maintenance that will focus spending on where it will have the greatest impact on maintaining and improving reliability for customers. The plan shall specifically include identification of those expenditures that will help reduce customers'

[1] *In the Matter of the Application of Duke Energy Ohio, Inc. for An Increase in Electric Distribution Rates*, Case No. 17-32-EL-AIR, *et. al*, Opinion and Order, pg. 38 (December 19, 2018) (Opinion and Order).

> minutes interrupted. The plan shall be submitted to Staff annually starting on December 1, 2019.[2]

Additionally, in a separate Duke Energy Ohio Rider DCI docket, the Commission has approved a stipulation (Stipulation) requiring Duke Energy Ohio to "file an annual report with the Commission" describing its DCI programs.[3]

In accordance with the above-described orders, Duke Energy Ohio submitted its first Annual DCI Workplan for 2020 on December 1, 2019. The attached report reflects the Annual DCI Workplan (Workplan) for 2021.

II. DCI Programs

The attached Workplan includes the capital programs that are currently budgeted for 2021 and is subject to change based on business needs. The Workplan includes a description of the program, measures for reliability improvements, estimated number of units, expected reliability improvements, equipment affected, unit of measure and estimated budget dollars. For easy reference, the Workplan is divided into two sections: programs with expected reliability impacts and necessary programs that do not directly impact reliability. Depending on the nature of the work performed, the amounts for the programs listed will be recorded in one or both of two FERC accounts: 010700 Construction Work in Progress and/or 108600 Retirement Work in Progress. The Workplan demonstrates the Company's proactive efforts to transform the state's electric grid by making it more resilient and reliable to deliver more value to Duke Energy Ohio's customers and enhance the overall electricity experience.

[2] Opinion and Order, pg. 41.
[3] *In the Matter of the Review of Duke Energy Ohio, Inc.'s Distribution Capital Investment Rider*, Case No. 17-1118-EL-RDR, Stipulation and Recommendation, pg. 5-6 (June 22, 2018); *Id.*, Opinion and Order, pg. 6-7 (September 26, 2018).

III. Reliability Spending

Paragraph 113 of the Opinion and Order provides:

> (1) For 2018, the Rider DCI revenue cap will be $32 million.
>
> (2) For 2019, the Rider DCI revenue cap will be $42.1 million. This amount may be increased to $46.8 million if, in 2018, Duke achieves both reliability standards.
>
> (3) For 2020, the Rider DCI revenue cap will be increased an additional $14 million, or up to $18.7 million, depending on whether the Company achieves both reliability standards.
>
> (4) For years 2021 through 2024, the Rider DCI revenue cap will be increased by an additional $18.7 million, each year.
>
> (5) For the period of January 1 through May 31, 2025, the Rider DCI revenue cap will be between the range of $62.4 million and $66.3 million depending on the Company's reliability performance in prior years.[4]

Additionally, the Opinion and Order provides:

> The CAIDI and SAIFI standards for 2018 through 2025 shall be as follows:

Reliability Standards		
Year	CAIDI	SAIFI
2018	134.4 minutes	1.12 interruptions
2019	134.34 minutes	1.00 interruptions
2020	134.34 minutes	0.91 interruptions
2021	135.52 minutes	0.83 interruptions
2022-2025	137.00 minutes	0.75 interruptions

[5]

IV. Conclusion

The Company will continue to file annual updates in compliance with the Commission-approved Stipulation.

[4] Opinion and Order, pg. 39.
[5] *Id.*, pg. 41.

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DUKE ENERGY OHIO, INC.

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CERTIFICATE OF SERVICE

I certify that a copy of the foregoing Duke Energy Ohio's Annual Distribution Capital Investment Workplan was served on the following parties this 1st day of December 2020 by regular U. S. Mail, overnight delivery, or electronic delivery.

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Duke Energy Ohio 2021 DCI Work Plan

Row	Capital Program	Program Description	Measures for Reliability Improvements	Estimated 2021 Units	Expected Reliablility Improvements	Equipment Affected	Unit of Measure	Estimated 2021 Budget ($M)
1	Self-Optimizing Grid (SOG) - Automated Switching Devices	Coordinated installation of new electronic reclosers to network the distribution system and create "self healing teams".	SOG reduces the number of customers affected by a long-term outage event by providing the means to reconfigure the distribution system and restore power to those areas not directly involved in the outage.	252	Proactive efforts to minimize the number of customers affected by an outage	Distribution feeders	Per recloser	$9.3
2	Self-Optimizing Grid (SOG) - Circuit Capacity & Connectivity	Increases the capacity of distribution lines or builds new ones to network the distribution system so that load can be transferred to other sources after an outage event.	SOG reduces the number of customers affected by a long-term outage event by providing the means to reconfigure the distribution system and restore power to those areas not directly involved in the outage.	24	Proactive efforts to minimize the number of customers affected by an outage	Distribution feeders	Milestones/Project Completion Date	$13.5
3	Self-Optimizing Grid (SOG) - Substation Capacity	Increases the capacity of distribution substation equipment so that load can be transferred to other sources after an outage event.	SOG reduces the number of customers affected by a long-term outage event by providing the means to reconfigure the distribution system and restore power to those areas not directly involved in the outage.	6	Proactive efforts to minimize the number of customers affected by an outage	Distribution feeders	Milestones/Project Completion Date	$3.9
4	Circuit Sectionalization	Installation / upgrade of sectionalizing devices on circuits to minimize the number of customers affected by an outage.	Installation of sectionalizing devices that can reduce impacts of outages.	338	Reduced customers interrupted	Circuit protection devices (such as reclosers and fuses)	Location	$1.2
5	Targeted Overhead Underground Conversion	Strategic replacement of overhead lines that experience numerous outages, with underground lines.	Outages should be reduced by the replacing of overhead lines that have experienced numerous outages.	6	Proactive efforts to reduce outages	Distribution feeders	Number of overhead primary miles removed	$8.0
6	Declared Protection Zone	Program involves a detailed visual inspection of the distribution line providing power to an area experiencing an above average number of temporary and permanent power outages.	Repair/replacement/upgrades to infrastructure to reduce outages. Probable outage causes identified by a pole-by-pole inspection.	1	Reactive / proactive efforts to reduce outages	Distribution feeders	Per Work Order	$0.4
7	Advanced Metering Infrastructure (AMI)	Program replaces existing meters with smart meters that enable automated meter reading, remote connects/disconnects and quicker outage detection.	Upgrades meters to the AMI standard. 99+% of the meters slated for replacement are existing Echelon AMI meters, and the remaining 1% are AMR or walk-by non-AMR meters	170,000	Improved outage response	Meters	Per meter	$26.1
8	Pole Inspection Replacements	Replacement of defective distribution poles identified during annual pole inspections.	Proactive asset renewal program. There is positive impact to reliability related to the prevention of future outages.	350	Proactive efforts to maintain system reliability	Poles	Per Pole	$2.9
9	Pole Reinforcement	Structural modification of distribution poles identified during annual pole inspections.	Proactive asset renewal program. There is positive impact to reliability related to the prevention of future outages.	318	Proactive efforts to maintain system reliability	Poles	Per Work Order	$0.4
10	Annual Line Patrol Inspection Replacement	Replacement of distribution equipment found during proactive line inspection.	Proactive asset renewal program. There is positive impact to reliability related to the prevention of future outages.	512	Proactive efforts to maintain system reliability	Poles and other capital assets	Per Work Order	$1.7
11	Pole Replacement (Non Inspection Based)	Replacement of defective distribution poles identified during routine, non-inspection based activities.	Proactive asset renewal program. There is positive impact to reliability related to the prevention of future outages.	225	Proactive efforts to maintain system reliability	Poles	Per pole	$1.8
12	Recloser Replacement*	Replacement of hydraulic and electronic line reclosers.	Proactive asset renewal program. There is positive impact to reliability related to the prevention of future outages due to recloser failures.	264	Proactive efforts to maintain system reliability	Reclosers	Per recloser	$4.7
13	Recloser Control Replacement	Replacement of the controllers on recloser installations to improve physical security of the controller and provide better capability during service restoration activities.	Increased functionality will expedite the restoration of service to customers who have experienced a power outage.	100	Proactive efforts to maintain system reliability	Reclosers	Per recloser	$2.6
14	Overhead Deteriorated Conductor Replace	Replacement of primary voltage conductors that are likely to fail due their deteriorated condition; a heavier gage wire is installed.	Proactive asset renewal program. There is positive impact to reliability related to the prevention of future outages.	14,634	Proactive efforts to maintain system reliability	Overhead primary conductor	Minimum Feet of conductor	$0.7
15	Capacitor Replacement	Replacement of failed capacitor banks.	Maintains the ability to adequately control voltage on a feeder.	150	Proactive efforts to maintain system voltage	Capacitors	Per Work Order	$2.1

Row	Capital Program	Program Description	Measures for Reliability Improvements	Estimated 2021 Units	Expected Reliablility Improvements	Equipment Affected	Unit of Measure	Estimated 2021 Budget ($M)
16	Modem Proactive Upgrade	Proactive program to replace smart device modems (in Line Sensors, Reclosers, Regulators, and Capacitor Banks) that are reaching end of useful life.	Proactive asset renewal program. There is positive impact to reliability related to the prevention of future network outages.	274	Proactive efforts to maintain system reliability	Modems	Per modem	$0.8
17	Underground Cable Replacement	Replacement of primary underground cable due to repeated equipment failure.	Cable replacement is an asset renewal program and as such, there will be some positive impact to reliability, related to the prevention of future outages.	TBD; Scope being Identified	Reactive efforts to maintain system reliability	Underground cable	Work orders	$9.1
18	Other Asset Replacements	Other, mainly reactive, capital replacements such as failed transformers, crossarms, etc.	Asset renewal program. There is positive impact to reliability related to the prevention of future outages.	N/A	Efforts to maintain system reliability	Various	Various	$20.6
19	Vegetation Management	This program includes all capital vegetation management work performed in Duke Energy Ohio.	There is positive impact to reliability related to the prevention of future outages.	N/A	Proactive efforts to maintain system reliability	N/A	N/A	$8.0
20	System / Retail Capacity	New and / or rebuilt distribution substation and line capacity to serve customer load and maintain substation equipment integrity.	Required to maintain reliable service.	N/A	Proactive efforts to maintain system reliability	N/A	N/A	$23.2
21	Distribution Circuit Improvement with Transmission Work	Duke Energy Ohio will rebuild transmission lines in 2020, many of which have a Distribution underbuild. This provides the opportunity to upgrade the Distribution equipment to improve reliability rather than simply transfer or rebuild to the same standards as existing Distribution facilities.	Proactive asset renewal program. Rebuilding to a newer standard can provide a positive impact to reliability related to the prevention of future outages.	N/A	Proactive efforts to maintain system reliability	N/A	N/A	$16.5
22	**SUBTOTAL SECTION I**							**$157.4**
23	Service Restoration	This capital program includes day-to-day work for service restorations which are excluded from the major event category of outages. This would include capital dollars for such things as equipment replacement from an outage and capital dollars associated with minor storm events.	There is no reliability impact.	N/A	N/A	N/A	N/A	$16.1
24	Customer Service Work	This capital program is for work necessary for providing customers electric service in Duke Energy Ohio. It includes capital dollars for providing service to new customers, as well as upgrades to existing commercial, industrial and residential customers.	There is no reliability impact.	N/A	N/A	N/A	N/A	$37.6
25	Distribution Equipment Relocation	This capital program involves the relocation of existing facilities in support of road improvements.	There is no reliability impact.	N/A	N/A	N/A	N/A	$10.1
26	Customer Operations	This capital program is for the purchase of customer meters for providing customers electric service in Duke Energy Ohio.	There is no reliability impact.	N/A	N/A	N/A	Meters	$5.2
27	Lighting	Capital replacements / additions of lighting not recovered under the OLE tariff.	There is no reliability impact.	N/A	N/A	N/A	N/A	$1.6
28	**SUBTOTAL SECTION II**							**$70.6**
29	**TOTAL**							**$228.0**

* The units submitted in the 2021 plan are a combination of reclosers or recloser controllers to be replaced proactively (217) and an estimate of the number of reclosers or controllers that will fail (47) in 2021 and need to be replaced. The quantity and locations for the proactive replacement were determined by the 6-year maintenance cycle.

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Case No(s). 17-0032-EL-AIR, 17-0872-EL-RDR, 17-0033-EL-ATA, 17-0034-EL-AAM, 17-1263-EL-SSO,

Summary: Report Duke Energy Ohio, Inc.'s Annual Distribution Capital Investment Workplan Report electronically filed by Dianne Kuhnell on behalf of Duke Energy Ohio, Inc. and Rocco D'Ascenzo and Vaysman, Larisa M.