

**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) Case No. 16-1602-EL-ESS
Pursuant to Chapter 4901:1-10, Ohio)
Administrative Code.)

**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 2018 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’ 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 requiring Duke Energy Ohio to “file an annual report with the Commission” describing its DCI programs.³ And, pursuant to the Stipulation and Recommendation approved by the Commission in Case No. 20-1205-EL-RDR, on April 20, 2022, the Company has committed to publicly file a copy of the Annual DCI Work Plan each year until a new ESP is approved.

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) (2018 Opinion and Order).

² 2018 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, pp. 5-6 (June 22, 2018); *Id.*, Opinion and Order, pp. 6-7 (September 26, 2018).

On December 14, 2022, the Commission approved a stipulation setting new electric base rates, rolling previously accumulated Rider DCI assets into base rates, and revising Rider DCI caps.⁴

Duke Energy Ohio submitted its first Annual DCI Workplan for 2020 on December 1, 2019 and has continued to file annually. The attached report reflects the Annual DCI Workplan (Workplan) for 2024.

II. DCI Programs

The attached Workplan includes the capital programs that are currently budgeted for 2024 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, affected circuits, expected reliability improvements, equipment affected, unit of measure and estimated budget dollars. 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.

III. Reliability Spending

Paragraph 53 of the 2022 Opinion and Order provides:

- a. For 2022, the DCI revenue cap will be \$20.7 million, prorated by month for when new base rates established in this proceeding go into effect.
- b. For 2023, the DCI revenue cap will be \$39.1 million. This amount may be increased by an additional \$2.4 million to \$41.5 million for 2023 if, in 2022, Duke achieves a SAIDI of 117. The revenue cap

⁴ *In the Matter of the Application of Duke Energy Ohio, Inc. for An Increase in Electric Distribution Rates*, Case Nos. 21-887-EL-AIR, *et al.*, Opinion and Order, p. 21 (December 14, 2022) (2022 Opinion and Order).

amounts for 2023 will be prorated by month should new base rates not go into effect until 2023.

c. For 2024, the DCI revenue cap will be \$57.4 million. This amount may be increased by an additional \$2.4 million to \$59.8 million for 2024 if Duke achieves a SAIDI of 117 in 2023 but does not achieve a SAIDI of 117 in 2022. This amount may be increased by a total of \$4.8 million to \$62.2 million for 2024 if, in 2022 and 2023, Duke achieved a SAIDI of 117 for both years.

d. For the five-month period ending May 2025, the DCI revenue cap will be \$31.6 million. If Duke achieves a SAIDI of 117 in only one year between 2022 and 2024, the DCI revenue cap for the five-month period ending May 2025 will be \$32.6 million. If Duke achieves a SAIDI of 117 in two of the years between 2022 and 2024, the DCI revenue cap for the five-month period ending May 2025 will be \$33.6 million. This amount may be increased to a Rider DCI revenue cap of \$34.6 million if Duke achieves a SAIDI of 117 in every year between 2022 and 2024.⁵

Pursuant to the 2018 Opinion and Order:

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

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IV. Conclusion

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

⁵ 2022 Opinion and Order, pg. 21.

⁶ 2018 Opinion and Order, pg. 41.

Respectfully submitted,

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 2023 by regular U. S. Mail, overnight delivery, or electronic delivery.

/s/ Larisa M. Vaysman
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Duke Energy Ohio 2024 DCI Work Plan

Row	Capital Program	Program Description	Measures for Reliability Improvements	Estimated 2024 Units	Affected 2024 Circuits	Expected Reliability Improvements	Equipment Affected	Unit of Measure	Estimated 2024 Budget (\$M)
1a	Self-Optimizing Grid (SOG) - Automated Switching Devices	Coordinated installation of new electronic reclosers to create switchable segments that will isolate faults and automatically reroute power around trouble areas using "self healing teams".	SOG reduces the number of customers affected by a long-term outage event by automatically providing the means to reconfigure the distribution system and restore power to those areas not directly involved in the outage.	253	62	Improves reliability by reducing customers impacted and customer minutes interrupted during an outage event.	Distribution feeders	Per recloser	\$17.7
1b	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 automatically providing the means to reconfigure the distribution system and restore power to those areas not directly involved in the outage.	25	42	Improves reliability by reducing customers impacted and customer minutes interrupted during an outage event.	Distribution feeders	Per project	\$20.3
1c	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 automatically providing the means to reconfigure the distribution system and restore power to those areas not directly involved in the outage.	3	14	Improves reliability by reducing customers impacted and customer minutes interrupted during an outage event.	Distribution feeders	Substation	\$2.8
1	Self-Optimizing Grid (SOG)	Installation of electronic reclosers, increased line capacity/connectivity, and increased substation capacity to network the distribution system with self-healing teams.	SOG reduces the number of customers affected by a long-term outage event by automatically providing the means to reconfigure the distribution system and restore power to those areas not directly involved in the outage.	281		Improves reliability by reducing customers impacted and customer minutes interrupted during an outage event.	Distribution feeders	Various	\$40.8
2	Convert 4kV System	This conversion program updates the system to current standards, eliminates equipment at the end of useful life, and provides back-up from the existing 12 kV systems. In addition, the conversion enables grid modernization, such as Self-Optimizing Grid and IVVC, that was not possible on the 4kV systems.	Proactive asset replacement/upgrade program. There is positive impact to the reliability related to the prevention of future outages as well as the time required for restoration.	6	13	Improves reliability by reducing customers impacted and customer minutes interrupted during an outage event.	Distribution feeders	Substation	\$9.0
3a	Circuit Sectionalization	Installation / upgrade of sectionalizing devices on circuits to minimize the number of customers affected by an outage.	Reduces the number of customers affected by an outage. Currently, a single set of fuses protect upstream customers from experiencing an outage, but with circuit sectionalization several additional protective devices are installed. This fuse coordinated approach keeps one circuit segment issue at the end of the circuit from affecting more customers upstream. This program also reduces outage duration because the length of the line that requires troubleshooting is reduced allowing for a more accurate and timely pinpointing of the outage and more efficient restoration.	90	1	Improves reliability by reducing customers impacted and customer minutes interrupted during an outage event.	Circuit protection devices (such as trip savers and fuses)	Location	\$0.3
3b	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.	7	5	Improves reliability by reducing customers impacted and customer minutes interrupted during an outage event.	Distribution feeders	Per Work Order	\$1.2

3c	Recloser Replacement	This includes recloser failures and the proactive program to replace 1/6 of our hydraulic reclosers annually. The recloser plays a key role in protecting the main line of the circuit to isolate the outage to a smaller group of customers.	Proactive asset renewal program. There is positive impact to reliability related to the prevention of future outages due to recloser failures.	125	system wide	Maintains reliability by mitigating customers impacted and customer minutes interrupted from a potential outage event.	Reclosers	Per recloser	\$1.4
3d	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.	27,145	4	Maintains reliability by mitigating customers impacted and customer minutes interrupted from a potential outage event.	Overhead primary conductor	Feet of conductor	\$0.8
3e	Capacitor Replacement	Replacement of failed capacitor banks.	Maintains the ability to adequately control voltage on a feeder.	90	TBD based on failures	Maintains system voltage	Capacitors	Per Work Order	\$1.4
3f	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.	84,300	TBD based on failures	Maintains reliability by mitigating customers impacted and customer minutes interrupted from a potential outage event.	Underground cable	Feet of conductor	\$6.5
3g	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.	300	TBD based on failures	Maintains reliability by mitigating customers impacted and customer minutes interrupted from a potential outage event.	Poles	Per pole	\$2.1
3h	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	TBD based on failures	Maintains reliability by mitigating customers impacted and customer minutes interrupted from a potential outage event.	Various	Various	\$14.6
3	Reliability & Integrity Programs	Installation of new, and replacement of existing assets such as protective devices, conductor, capacitors, cable and transformers.	Asset renewal program. There is positive impact to reliability related to the prevention of future outages.	112,057		Improves/Maintains reliability by reducing/mitigating customers impacted and customer minutes interrupted.	Various	Various	\$28.3
4a	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.	875	TBD based on failures	Maintains reliability by mitigating customers impacted and customer minutes interrupted from a potential outage event.	Poles	Per Pole	\$6.9
4b	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.	800	TBD based on failures	Maintains reliability by mitigating customers impacted and customer minutes interrupted from a potential outage event.	Poles	Per Pole	\$0.8
4c	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.	80	TBD based on failures	Maintains reliability by mitigating customers impacted and customer minutes interrupted from a potential outage event.	Poles and other capital assets	Per Work Order	\$0.6
4	Inspection Programs	Replacement/reinforcement of poles and other equipment identified during inspections.	Proactive asset renewal program. There is positive impact to reliability related to the prevention of future outages.	1,755		Maintains reliability by mitigating customers impacted and customer minutes interrupted from a potential outage event.	Poles and other capital assets	Per Work Order	\$8.3
5	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.	Tracked by dollars (not units)	system wide	Maintains reliability by mitigating customers impacted and customer minutes interrupted from a potential outage event.	N/A	Tracked by dollars (not units)	\$4.5
6	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.	Tracked by dollars (not units)	system wide	Maintains reliability by mitigating customers impacted and customer minutes interrupted from an outage event by increasing the capacity of adjacent circuits to pick-up load during an outage.	Distribution feeders	Tracked by dollars (not units)	\$50.8

7	Distribution Circuit Improvement with Transmission Work	Duke Energy Ohio will rebuild transmission lines, 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.	Tracked by dollars (not units)	system wide	Maintains reliability by mitigating customers impacted and customer minutes interrupted from an outage event by increasing the capacity of adjacent circuits to pick-up load during an outage.	Distribution feeders	Tracked by dollars (not units)	\$25.2
8	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.	Restores customers during an outage	Tracked by dollars (not units)	system wide	Maintains reliability by restoring customers during an outage.	Various	Tracked by dollars (not units)	\$13.6
9	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.	New/upgraded equipment is typically more reliable than older equipment built to older standards.	Tracked by dollars (not units)	system wide	Maintains reliability by mitigating customers impacted and customer minutes interrupted from a potential outage event.	Customer services	Tracked by dollars (not units)	\$28.6
10	Distribution Equipment Relocation	This capital program involves the relocation of existing facilities in support of road improvements.	New/upgraded equipment is typically more reliable than older equipment built to older standards.	Tracked by dollars (not units)	system wide	Maintains reliability by mitigating customers impacted and customer minutes interrupted from a potential outage event.	Various	Tracked by dollars (not units)	\$10.5
11	Customer Operations	This capital program is for the purchase of customer meters for providing customers electric service in Duke Energy Ohio.	AMI meters have the capability to interrogate individual smart meters to determine if customers have power. This allows pinging during outages to determine specific customer impacts. The capability of interrogating individual meters can tell the Company when a customer's power has already been restored, saving a truck roll to confirm power has been restored.	Tracked by dollars (not units)	system wide	Improved outage response reduces customer minutes interrupted during an outage event.	Meters	Tracked by dollars (not units)	\$2.1
12	TOTAL								\$221.6

Self-Optimizing Grid (SOG) - Automated Switching Devices	Self-Optimizing Grid (SOG) - Circuit Capacity & Connectivity	Self-Optimizing Grid (SOG) - Substation Capacity	Convert 4kV System	Circuit Sectionalization	Declared Protection Zone	Overhead Deteriorated Conductor Replace
Brighton 41	Aicholtz 41	Aicholtz 41	Franklin B	Fairfax 41	Clinton County 53	Ferguson 41
Brighton 44	Aicholtz 42	Aicholtz 42	Franklin D		New Burlington 41	Ferguson 42
Brighton 45	Aicholtz 43 (new)	Aicholtz 43 (new)	Mt Lookout A		Manchester 42	Manchester 45
Brighton 46	Aicholtz 44 (new)	Aicholtz 44 (new)	Mt Lookout B		Withamsville 43	Red Lion 42
Brighton 47	Charles 44	Tobasco 43	Mt Lookout C		South Bethel 51	
Brighton 48	Cornell 42	Tobasco 44	Mt Lookout D			
Brighton 49	Cumminsville 42	Summerside 41	Ryan A			
Cornell 41	Cumminsville 43	Summerside 43	Ryan B			
Cornell 42	Cumminsville 45	Hunter 43	Williamsburg A			
Cornell 43	Cumminsville 46	Hunter 44 (new)	Williamsburg B			
Cornell 51	Cumminsville 47	Union 49	Bantam A			
Cornell 52	Elmwood 47	Newtown 43	Bantam B			
Elmwood 41	Elmwood 48	Newtown 44	Barnesburg A			
Elmwood 42	Feldman 41	Newtown 45 (new)				
Elmwood 43	Feldman 42					
Elmwood 44	Ferguson 41					
Elmwood 45	Ferguson 43					
Elmwood 46	Ferguson 44					
Elmwood 47	Hall 43					
Elmwood 48	Jackson 41					
Ferguson 41	Jackson 43					
Ferguson 42	Kleeman 43					
Ferguson 43	Kleeman 44					
Ferguson 44	Morgan 51					
Jackson 41	Morgan 52					
Jackson 44	Morgan 54					
Kings Mills 41	Miamitown 41					
Kings Mills 52	Summerside 41					
Kings Mills 53	Summerside 56					
Kleeman 41	Tobasco 41					
Kleeman 42	Tobasco 44					
Kleeman 43	Tobasco 45					
Kleeman 44	Tobasco 46					
Locust 41	McMann 41					
Locust 42	Warren 42					
Manchester 42	White Oak 41					
Manchester 44	White Oak 42					
Manchester 45	Willey 53					
Montgomery 42	Willey 54					
Montgomery 45	Seward 44					
Montgomery 46	Seward 45					
Morgan 51	Maineville 42					

Morgan 52						
Morgan 53						
Morgan 54						
Oakley 853						
Oakley 854						
Obannonville 51						
Obannonville 52						
Otterbein 41						
Otterbein 42						
Princeton OH 41						
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Summary: Annual Report Duke Energy Ohio, Inc's Annual Distribution Capital Investment Workplan electronically filed by Mrs. Debbie L. Gates on behalf of Duke Energy Ohio Inc. and D'Ascenzo, Rocco O. Mr. and Vaysman, Larisa and Akhbari, Elyse.