

**BEFORE**

**THE PUBLIC UTILITIES COMMISSION OF OHIO**

In the Matter of the Application of	)	
Duke Energy Ohio, Inc., for an Increase	)	Case No. 21-887-EL-AIR
in Electric Distribution Rates.	)	
 In the Matter of the Application of	 )	
Duke Energy Ohio, Inc., for Tariff	)	Case No. 21-888-EL-ATA
Approval.	)	
 In the Matter of the Application of	 )	
Duke Energy Ohio, Inc., for Approval	)	Case No. 21-889-EL-AAM
to Change Accounting Methods.	)	

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**SECOND SUPPLEMENTAL DIRECT TESTIMONY OF**

**JEFFREY W. HESSE**

**ON BEHALF OF**

**DUKE ENERGY OHIO, INC.**

**IN SUPPORT OF SETTLEMENT**

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_____	Management policies, practices, and organization
_____	Operating income
_____	Rate base
_____	Allocations
_____	Rate of return
_____	Rates and tariffs
<u>  X  </u>	Other: Settlement

September 22, 2022

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**I. INTRODUCTION AND PURPOSE**

1   **Q.   PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

2   A.   My name is Jeffrey W. Hesse, and my business address is 7600 Colerain Avenue,  
3       Cincinnati, Ohio 45239.

4   **Q.   BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?**

5   A.   I am employed by Duke Energy Business Services LLC (DEBS), as Director of  
6       Asset Design. DEBS provide various administrative and other services to Duke  
7       Energy Ohio, Inc., (Duke Energy Ohio or the Company) and other affiliated  
8       companies of Duke Energy Corporation (Duke Energy).

9   **Q.   ARE YOU THE SAME JEFFREY W. HESSE THAT SUBMITTED DIRECT**  
10       **TESTIMONY AND SUPPLEMENTAL DIRECT TESTIMONY IN THESE**  
11       **PROCEEDINGS?**

12   A.   Yes.

13   **Q.   WHAT IS THE PURPOSE OF YOUR SECOND SUPPLEMENTAL**  
14       **DIRECT TESTIMONY IN THESE PROCEEDINGS?**

15   A.   The purpose of my Second Supplemental Testimony is to support the Corrected  
16       Stipulation and Recommendation filed on September 19, 2022 (Stipulation), in  
17       these proceedings and specifically, how the Stipulation, as a total package, is  
18       beneficial to customers and in the public interest. In doing so, I briefly discuss the  
19       Company's distribution system, its reliability performance since the most recent  
20       extension of the Company's Distribution Capital Investment Rider (Rider DCI) in  
21       2018 and explain how continued investments are necessary to enable the Company

1 to provide safe and reliable electric distribution service and to both maintain and  
2 improve its distribution system performance.

**II. OVERVIEW OF THE COMPANY'S DISTRIBUTION SYSTEM AND  
RIDER DCI**

3 **Q. PLEASE BRIEFLY DESCRIBE DUKE ENERGY OHIO'S EXISTING**  
4 **ELECTRIC DISTRIBUTION INFRASTRUCTURE AND ITS OPERATION.**

5 A. The Duke Energy Ohio electric delivery system provides electric service to more  
6 than 700,000 customers located throughout southwestern Ohio. The Company's  
7 electric delivery system includes approximately 250 substations, 24 transmission  
8 substations, having a combined capacity of approximately 9,940,000 kilovolt-  
9 amperes (kVA); 192 distribution substations, having a combined capacity of  
10 approximately 4,627,000 kVA; and 34 joint transmission and distribution  
11 substations, having a combined capacity of approximately 7,031,000 kVA. The  
12 electric delivery system also includes various other equipment and facilities, such  
13 as control rooms, computers, capacitors, streetlights, meters and protective relays,  
14 and telecommunications equipment and facilities.

15 The distribution infrastructure generally consists of substation power  
16 transformers, switches, circuit breakers, wood pole lines, underground cables,  
17 distribution transformers, and associated equipment. The physical design of the  
18 distribution system is also generally governed by the National Electrical Safety Code,  
19 which, I understand, has been adopted by the state of Ohio in Ohio Administrative  
20 Code (O.A.C.) 4901:1-10-06.

21 The Company monitors outages with various systems, such as Supervisory  
22 Control and Data Acquisition, Distribution Outage Management System, and the

1           Distribution Management System.

2   **Q.   PLEASE GENERALLY DESCRIBE HOW DUKE ENERGY OHIO**  
3           **CURRENTLY MONITORS AND MAINTAINS ITS ELECTRIC**  
4           **DISTRIBUTION INFRASTRUCTURE AND ITS PERFORMANCE.**

5   A.   Duke Energy Ohio maintains its electric distribution infrastructure in accordance with  
6           good utility practice by adhering to inspections, monitoring, testing, and periodic  
7           maintenance programs. Examples of these existing programs include, but are not  
8           limited to, the following: (1) substation inspection program; (2) line inspection  
9           program; (3) ground-line inspection and treatment program; (4) vegetation  
10          management program; (5) underground cable replacement program; (6) capacitor  
11          maintenance program; and (7) dissolved gas analysis.

12                 Duke Energy Ohio also uses various reliability indices to measure the  
13                 effectiveness of its maintenance programs and system reliability. The Company  
14                 follows the Public Utilities Commission of Ohio's (Commission) Electric Service and  
15                 Safety Standards, as set forth in O.A.C. Chapter 4901:1-10. These indices are defined  
16                 as follows:

- 17                 •   System Average Interruption Duration Index (SAIDI) is the average  
18                         time each customer is interrupted and is expressed by the sum of  
19                         customer interruption durations divided by the total number of  
20                         customers served.
- 21                 •   System Average Interruption Frequency Index (SAIFI) represents the  
22                         average number of interruptions per customer. SAIFI is expressed by the  
23                         total number of customer interruptions divided by the total number of

1 customers served.

- 2 • Customer Average Interruption Duration Index (CAIDI) is the average  
3 interruption duration or average time to restore service per interrupted  
4 customer and is expressed by the sum of the customer interruption  
5 durations divided by the total number of customer interruptions.

6 **Q. PLEASE BRIEFLY EXPLAIN RIDER DCI AND ITS PURPOSE.**

7 A. Rider DCI was approved by the Commission in a previous electric security plan  
8 (ESP).<sup>1</sup> The rider recovers the Company's incremental revenue requirement  
9 associated with the return on and of distribution capital investments, including but  
10 not limited to, ongoing maintenance capital, as well as the costs to implement  
11 various specific programs or initiatives designed to harden and maintain the safety  
12 and reliability of the Company's electric distribution system. The capital  
13 investments recovered through Rider DCI are designed to manage costs, increase  
14 customer reliability, and proactively address aging infrastructure issues through a  
15 targeted and coordinated approach. The program investments are designed to  
16 proactively reduce the number of outages, minimize the number of customers  
17 affected by an outage, and improve outage response and expedite restoration. The  
18 capital investment included for recovery through Rider DCI includes all capital  
19 placed in service and accounted for in FERC accounts 360 to 374.

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<sup>1</sup> See *In the Matter of the Review of Duke Energy Ohio, Inc.'s Distribution Capital Investment Rider*, Case No. 20-1205-EL-RDR, Finding and Order, pp. 1-2 (April 20, 2022) (summarizing prior ESP approvals).

1   **Q.     PLEASE DISCUSS THE WORK THAT HAS BEEN ACCOMPLISHED**  
2       **AND RECOVERED THROUGH RIDER DCI.**

3   A.     Duke Energy Ohio's electric distribution capital investments are helping to usher  
4       in the grid of the future in Ohio. These investments, at a base level, are focused on:

- 5           •     Safety: minimizing equipment failures, and the associated dangers for  
6                 employees, customers, and the general public.
- 7           •     Reliability: limiting frequency and duration of service interruptions  
8                 and other power quality issues; and
- 9           •     Resilience: preventing or withstanding damage from major disruptive  
10                events, such as storms, and improved restoration times.

11       Since its last electric distribution base rate case filed in 2017, the Company has  
12       made significant investments in its electric distribution infrastructure, including  
13       underground cable replacement, circuit sectionalization, deteriorated conductor,  
14       and pole replacement programs, to name a few. These proactive efforts have  
15       resulted in measurable improvements in reliability and customer minutes  
16       interrupted.

17   **Q.     DOES THE ELECTRIC DISTRIBUTION WORK INCLUDED IN RIDER**  
18       **DCI PROVIDE ANY OTHER BENEFITS TO CUSTOMERS?**

19   A.     Yes. In addition to the reliability improvements and reduction in customer minutes  
20       interrupted benefits discussed above, the programs included for recovery in Rider DCI  
21       help the Company manage and control its costs and its workforce resources, allowing  
22       for more efficient processes. Updating and replacing the Company's aging  
23       distribution equipment enables greater resiliency in the system. Because many of the

1 programs included for recovery in Rider DCI are implemented throughout the  
2 Company's service territory, every customer ultimately benefits from efficiencies and  
3 system hardening.

### III. OVERVIEW OF THE SETTLEMENT

4 **Q. PLEASE SUMMARIZE THE COMPANY'S APPLICATION IN THESE**  
5 **PROCEEDINGS AS IT RELATES TO RIDER DCI.**

6 A. The Company's Application proposed to increase the caps on the total revenue  
7 requirement for Rider DCI. The Company proposed a cap of \$12 million for the period  
8 July 1, 2022, through December 31, 2022; \$46 million for calendar year 2023; \$75  
9 million for calendar year 2024; and \$40 million for the period January 1, 2025 through  
10 May 31, 2025.

11 As part of the Commission Staff's report of recommendations (Staff Report),  
12 the Staff recommended different caps, which Staff claimed were based upon a growth  
13 rate of approximately 3 percent as was established for the Ohio Power Company as  
14 part of its 2013 ESP proceeding.<sup>2</sup> The Company objected to the Staff's  
15 recommendation in these proceedings for a number of reasons, most significantly, that  
16 Staff's recommendation produced lower caps than what the Company had agreed to  
17 as part of its own ESP in 2018 and the costs to achieve the agreed upon reliability  
18 targets have risen since those metrics were established.<sup>3</sup> The factors that have  
19 contributed to these increased costs are low unemployment, unprecedented inflation,  
20 supply chain constraints, and competition for infrastructure related skilled labor.

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<sup>2</sup> Staff Report at 10, *citing* Case No. 13-2385-EL-SSO, Fourth Entry on Rehearing, pg 51 (Nov. 3, 2016).

<sup>3</sup> *See* Duke Energy Ohio Inc.'s Objections to Staff Report of Investigation and Summary of Major Issues, pp. 26-28 (June 17, 2022).



1 Moreover vehicle accident-related outages since 2018 have further provided pressure  
2 against the Company's reliability performance. As I describe in further detail below,  
3 these additional cost and external event pressures, as well as other factors, justified an  
4 increase, not a decrease in the current rider investment caps.

5 **Q. PLEASE BRIEFLY SUMMARIZE THE STIPULATION IN THESE**  
6 **PROCEEDINGS AND HOW IT RESOLVES THE RIDER DCI-RELATED**  
7 **ISSUES.**

8 A. The Stipulation resolves Duke Energy Ohio's request for an increase in its base  
9 distribution rates as filed in these proceedings by, among other things, resolving all  
10 issues raised by the Company, as well as those raised by many of the other parties  
11 participating in these proceedings. The Stipulation includes the complete  
12 understanding of the signatory and non-opposing parties to the settlement.

13 As part of the Stipulation, however, the Company has agreed to a lower cap  
14 for Rider DCI than what it proposed in these proceedings. Moreover, the Company  
15 has agreed to the addition of a new reliability-based performance metric based upon a  
16 new SAIDI-based standard for purposes of determining Rider DCI revenue.

17 While I am aware that the Stipulation resolves numerous issues related to the  
18 Company's rates and tariffs, those issues are addressed and supported by other  
19 Company witnesses. I am supporting the resolution of the reliability and Rider DCI-  
20 cap related issues as it relates to the overall reasonableness of the settlement package.

1    **Q.    ARE YOU FAMILIAR WITH THE COMMISSION’S THREE-PART TEST**  
2           **FOR CONSIDERING THE REASONABLENESS OF A STIPULATION?**

3    A.    I am aware that the Commission uses a three-part test whereby it evaluates a  
4           regulatory settlement under the following criteria: 1) is the settlement a product of  
5           serious bargaining among capable, knowledgeable parties; 2) whether the settlement  
6           violates any important regulatory principles or practices; and 3) whether the  
7           settlement, as a package, benefits customers and the public interest. For purposes of  
8           my testimony, I am focusing on the third component of the criteria, whether the  
9           settlement package benefits customers and is in the public interest. The other criteria  
10          are addressed by other Company witnesses.

11   **Q.    DO YOU BELIEVE THE SETTLEMENT PACKAGE BENEFITS**  
12          **CUSTOMERS AND IS IN THE PUBLIC INTEREST?**

13   A.    Yes. The settlement package contains numerous benefits that are addressed by  
14          Company witnesses Spiller, Lawler, Bauer, D’Ascendis, and Sailers. In my  
15          opinion, the resolution of the Rider DCI-related issues, as part of the total settlement  
16          package, are beneficial and in the public interest.

17   **Q.    PLEASE EXPLAIN.**

18   A.    First, the Stipulation resolves all the issues related to Rider DCI, including establishing  
19          a reasonable cap on annual increases through the rider and addressing parties’  
20          concerns regarding incentivizing reliability performance. The Stipulation includes a  
21          new performance-based reliability incentive for the Company, that is determined by  
22          achieving a new metric, not part of the Company’s current compliance-based metrics.  
23          In other words, the Stipulation creates a new incentive for the Company to maintain

1 its reliability whereby, if it does not achieve the newly established SAIDI metric, the  
2 Company's ability to timely recover its investments diminishes. The Company  
3 maintains its existing compliance targets for CAIDI and SAIFI, which are already  
4 aggressive. The new SAIDI metric added by the Stipulation creates an additional  
5 target for the Company to achieve.

6 Second, the negotiated caps are lower than what the Company requested. This  
7 reduced cap will serve to limit the increases to customers in between base rate  
8 proceedings as it relates to recovery of incremental distribution-related capital  
9 investments. This balances the interests of customers who desire a safe and reliable  
10 electric delivery system yet want to keep rates as measured and predictable as  
11 possible, with the Company's desire to receive timely recovery of its incremental  
12 distribution-related investments. Together, these factors, lower caps, and the addition  
13 of a new reliability performance metric, are beneficial to customers and are in the  
14 overall public interest.

15 **Q. PLEASE SUMMARIZE THE STIPULATED DCI CAPS AND EXPLAIN**  
16 **HOW THEY RELATE TO THE COMPANY'S ONGOING RELIABILITY**  
17 **PERFORMANCE?**

18 A. The Stipulation provides for the following Rider DCI caps:

- 19 • For 2022, the DCI Revenue Cap will be \$20.7 million, pro-rated by  
20 month for when new base rates as part of this proceeding go into  
21 effect.
- 22 • For 2023, the DCI Revenue Cap will be \$39.1 million. This amount  
23 may be increased by an additional \$2.4 million to \$41.5 million for

1                   2023 if, in 2022, Duke Energy Ohio achieves a SAIDI of 117. The  
2                   Revenue Cap amounts for 2023 will be prorated by month should new  
3                   base rates not go into effect until 2023.

4                   • For 2024, the DCI Revenue Cap will be \$57.4 million. This amount  
5                   may be increased by an additional \$2.4 million to \$59.8 million for  
6                   2024 if Duke Energy Ohio achieves a SAIDI of 117 in 2023 but not  
7                   in 2022. This amount may be increased by a total of \$4.8 million to  
8                   \$62.2 million for 2024 if, in 2022 and 2023, Duke Energy Ohio  
9                   achieves a SAIDI of 117.

10                  • For the five-month period ending May 2025, the DCI Revenue Cap  
11                  will be \$31.6 million. If Duke Energy Ohio achieves a SAIDI of 117  
12                  in only one year between 2022 and 2024, the DCI Revenue cap for the  
13                  five-month period ending May 2025 will be \$32.6 million. If Duke  
14                  Energy Ohio achieves a SAIDI of 117 in only two years between 2022  
15                  and 2024, the DCI Revenue cap for the five-month period ending May  
16                  2025 will be \$33.6 million. This amount may be increased to \$34.6  
17                  million if Duke Energy Ohio achieves a SAIDI of 117 in every year  
18                  between 2022 and 2024.

19                  A portion of the cap amount each year will depend on the Company's SAIDI  
20                  performance in previous years.

21   **Q.   IS A SAIDI OF 117 A REASONABLE PERFORMANCE METRIC?**

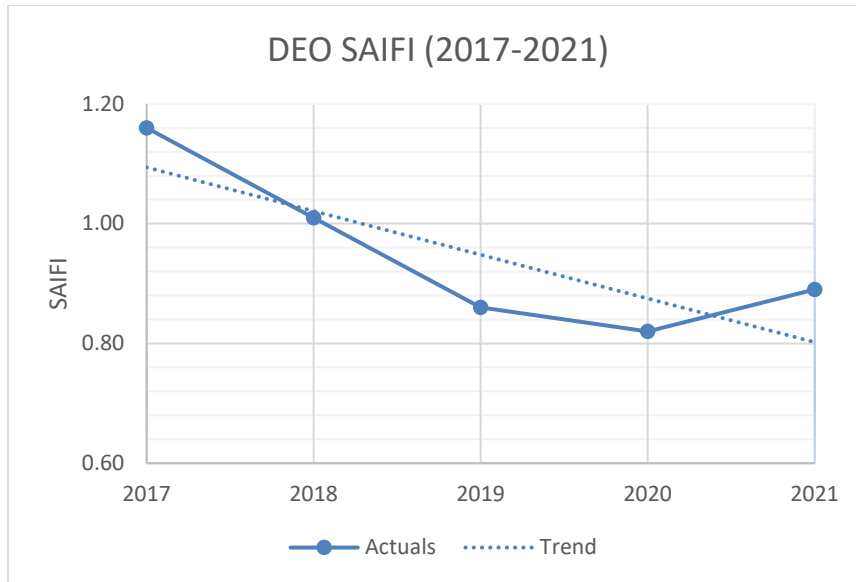
22   A.   Yes. The Company's performance in 2021 was a SAIDI of approximately 117, after  
23   a challenging year with respect to reliability. Due to variability in reliability

1 performance and vehicle accident rates which remain elevated (as compared to the  
2 5-year average for 2016-2020) and show no indication of returning to previous  
3 levels, achieving 117 SAIDI each year moving forward will require focused effort  
4 and accountability. Furthermore, if weather trends worsen moving forward, that  
5 will be a headwind the Company will need to overcome with additional reliability  
6 investments. Based on the natural variability of reliability performance, elevated  
7 rates of vehicle accidents, and the possibility of worsening weather trends, 117  
8 SAIDI is a reasonable and challenging performance metric.

9 **Q. WHAT IS THE IMPACT OF THE STIPULATED DCI CAPS TO THE**  
10 **COMPANY'S ABILITY TO MEET ITS RELIABILITY TARGETS?**

11 A. The stipulated caps will permit timely recovery of a substantial portion of the  
12 Company's capital investments in improving reliability, which will in turn enhance  
13 the Company's ability to make such investments and meet its reliability targets. The  
14 stipulated caps will mitigate the severe impacts of the cost pressure challenges I  
15 discussed previously. The SAIDI target that is required to be met in order for the  
16 Company to apply a portion of the cap amount provides additional transparency  
17 and accountability.

18 The Company's reliability has improved substantially since the  
19 implementation of programs to increase the reliability of our system as seen by the  
20 Company's system SAIFI trend:



1 As with all reliability metrics, there is annual variability (as seen in 2021), but with  
 2 continued investments as proposed by the Company, the Company expects the  
 3 overall trend to be that reliability will continue to improve.

4 **Q. HAS RIDER DCI PROVED BENEFICIAL TO CUSTOMERS IN TERMS**  
 5 **OF THE COMPANY MEETING RELIABILITY PERFORMANCE**  
 6 **METRICS?**

7 A. Yes. The Company agreed to CAIDI and SAIFI reliability targets in 2018. These  
 8 metrics are as follows:

YEAR	CAIDI	SAIFI
2018	134.34	1.12
2019	134.34	1.00
2020	134.34	0.91
2021	135.52	0.83
2022 through 2025	137.00	0.75

9 The reliability targets agreed to as part of the Commission's approval to continue  
 10 Rider DCI in 2018 are aggressive. As I explain further below, the Company

1 achieved those targets through 2020 by making the necessary investments needed  
2 to improve its system reliability. While the caps established in 2018 have provided  
3 a means for incremental cost recovery for the Company, they have also provided  
4 customers with limitation on adjustments to overall electric distribution rates. To  
5 meet the current SAIFI and CAIDI targets, the Company's total distribution capital  
6 investments each year are greater than what is eligible for recovery in Rider DCI.  
7 Absent Rider DCI, the Company will need to file more frequent base rate cases,  
8 with larger increases, compared with what customers otherwise experience through  
9 an annual Rider DCI mechanism.

10 Moreover, the Company cannot simply rest on its past performance and  
11 program investments and assume future compliance. Many of the lower cost  
12 programs have been completed and reliability benefits have been achieved as  
13 reflected by prior year performance. However, to continue meeting the aggressive  
14 targets, which contemplate improving upon prior years metrics, additional  
15 investments are needed. Additionally, the Company is experiencing additional cost  
16 pressures due to supply chain constraints from the recent pandemic that result in  
17 longer lead times on scarce and critical equipment as well as inflation in costs for  
18 scarce resources. In short, it is becoming more expensive to maintain, let alone to  
19 improve reliability performance. In addition, other investments remain necessary,  
20 such as line extensions, relocations, and upgrades driven by factors other than  
21 reliability driven system upgrades.

22 The Company's incremental distribution investment strategy includes  
23 specific programs designed to address replacement of aging infrastructure, produce

reliability improvements, and accommodate the growth in customers' desire for more distributed energy resources. The Company's incremental distribution investments also address localized load growth to continue providing safe, reliable, and reasonable service to existing and new customers. Rider DCI is beneficial as it allows the Company to timely recovery a portion of these investments, allow for smaller gradual rate increases for customers rather than large base rate increases and assists the Company to have adequate cash flows to continue to invest in its system.

**Q. HOW HAS DUKE ENERGY OHIO'S ELECTRIC DISTRIBUTION RELIABILITY INFRASTRUCTURE PERFORMED, IN RELATION TO THE RELIABILITY INDICES ESTABLISHED IN 2018?<sup>4</sup>**

A. The following updated table<sup>5</sup> depicts the Company's reliability performance from 2018 through 2021:

Duke Energy Ohio Reliability Scores								
Year	CAIDI Performance Standard	CAIDI Before Exclusion	CAIDI After Exclusion	SAIFI Performance Standard	SAIFI Before Exclusion	SAIFI After Exclusion	SAIDI Before Exclusion	SAIDI After Exclusion
2018	134.34	204.78	130.22	1.12	1.56	1.01	320.14	132.07
2019	134.34	129.20	118.47	1.00	1.09	0.86	140.72	102.24
2020	134.34	186.27	130.62	0.91	1.14	0.82	213.09	107.12
2021	135.52	140.48	131.63	0.83	1.02	0.89	143.29	117.15

<sup>4</sup> *In the Matter of the Application of Duke Energy Ohio, Inc.s, for an Increase in Electric Distribution Rates,*

Case No. 17-32-EL-AIR, *et al.*, Stipulation and Recommendation, p.13 (April 13, 2018).

<sup>5</sup> In the column headings of the table, "Before Exclusion" signifies that major event day (MED) data has not been excluded in the calculation of the metric and "After Exclusion" signifies that MED data has been excluded. The rules only require the Company to report "After Exclusion" data. See n.6 and associated text.



1 As depicted in the above table, the Company achieved both of its reliability targets  
2 for three consecutive years, in 2018, 2019, and 2020, and has achieved CAIDI for  
3 four consecutive years, in 2018, 2019, 2020, and 2021. The Company did not  
4 achieve its SAIFI target in 2021.

5 **Q. PLEASE EXPLAIN THE FACTORS THAT CONTRIBUTED TO THE**  
6 **COMPANY NOT MEETING ITS 2021 SAIFI TARGET?**

7 A. First, let me point out that the Company's SAIFI performance remains very good  
8 and is better than it was in 2018 when the metric was established. The Company  
9 does not dispute that it did not achieve the stated SAIFI metric of 0.83 in 2021,  
10 when its SAIFI was 0.89. In particular, two contributing factors were pivotal to this  
11 result.

12 First, the impact of a substantial increase in vehicle accident events was  
13 further heightened by a safety procedure implemented in 2020 which increased the  
14 average number of customers impacted by each vehicle accident event. The  
15 Company saw a 12.5% increase in the number of vehicle accident events in its  
16 service territory in 2021, as compared to the previous 5-year average. Vehicle  
17 accident events are a significant contributing cause of outages when vehicles collide  
18 with Company poles and/or other equipment. Additionally, the Company  
19 implemented a safety procedure in 2020 to require technicians to de-energize  
20 circuits when working on broken poles if the pole cannot be secured using an  
21 approved method. This procedure increased the number of customers impacted per  
22 vehicle accident event by 29.6%, when comparing 2021 to the previous 5-year

1 average. The combined incremental impact of these vehicle accident developments  
2 was approximately 0.05 in SAIFI.

3 Second, Duke Energy Ohio experienced two widespread, unplanned  
4 information technology (IT) outages during IT maintenance in 2021 that impacted  
5 the Company's self-healing team supervisory control and data acquisition  
6 (SCADA) system and increased the SAIFI by an incremental .04. The Company  
7 has modified its IT maintenance procedures to mitigate impacts of any future IT  
8 outages on the SCADA system and corrected the software defect which caused the  
9 outages. In the absence of the above two contributing factors, Duke Energy Ohio  
10 would have met its SAIFI target in 2021.

11 **Q. IS DUKE ENERGY OHIO'S RELIABILITY PERFORMANCE**  
12 **IMPROVING?**

13 A. Yes. The Company's various distribution capital investments directly improve the  
14 customer experience in terms of reducing customer minutes interrupted. The  
15 Company's reliability has improved substantially since the implementation of  
16 programs to increase the reliability of our system. Notwithstanding the Company's  
17 2021 SAIFI performance, the overall trend has been in the direction of  
18 improvement, as depicted in the "DEO SAIFI" chart on page 11 above.

1 With continued investments as proposed by the Company, the overall trend will be  
2 that reliability will continue to improve, although there may be fluctuation in  
3 individual years. As depicted on the charts below, the Company's customer minutes  
4 interrupted (CMI) and customer interruptions (CI) saved from successful  
5 operations of self-healing teams from 2018-2022 are improving each year.  
6 Maintaining Rider DCI and the caps agreed to as part of the Stipulation, will  
7 provide the Company with an opportunity to achieve its metrics while providing  
8 customers with less volatility in their rates.

9 **Q. OTHER THAN THOSE MEASURED BY SAIFI, SAIDI, AND CAIDI ARE**  
10 **THERE OTHER IMPORTANT IMPACTS OF THE COMPANY'S**  
11 **RELIABILITY PERFORMANCE AND SYSTEM IMPROVEMENTS THAT**  
12 **CUSTOMERS EXPERIENCE?**

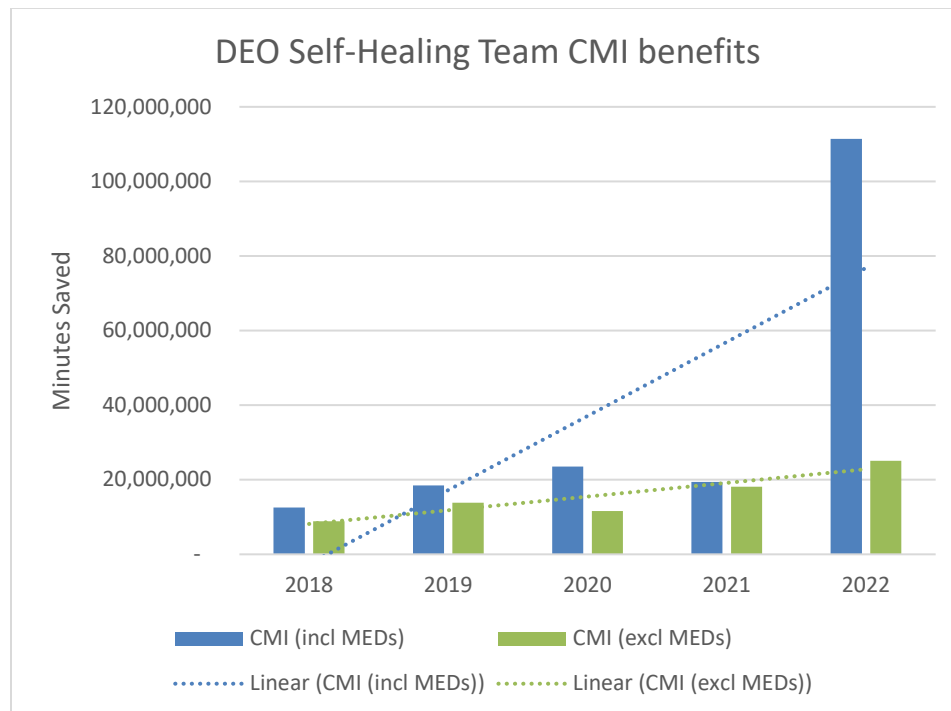
13 A. Yes. Because the Ohio Administrative Code requires utilities to exclude Major  
14 Event Days from the calculation of the SAIDI, SAIFI and CAIDI metrics,<sup>6</sup> they do  
15 not capture improvements in outage restoration times and reductions in customer  
16 minutes interrupted that occur during major storms, known as Major Event Days  
17 (MEDs). Major Storms are often the most impactful to the customer reliability  
18 experience because the widespread damage results in longer outages, as compared  
19 to the non-MEDs included in SAIFI and CAIDI. The Company's reliability  
20 investments also impact the quantity and duration of interruptions during MEDs,  
21 which impacts customers.

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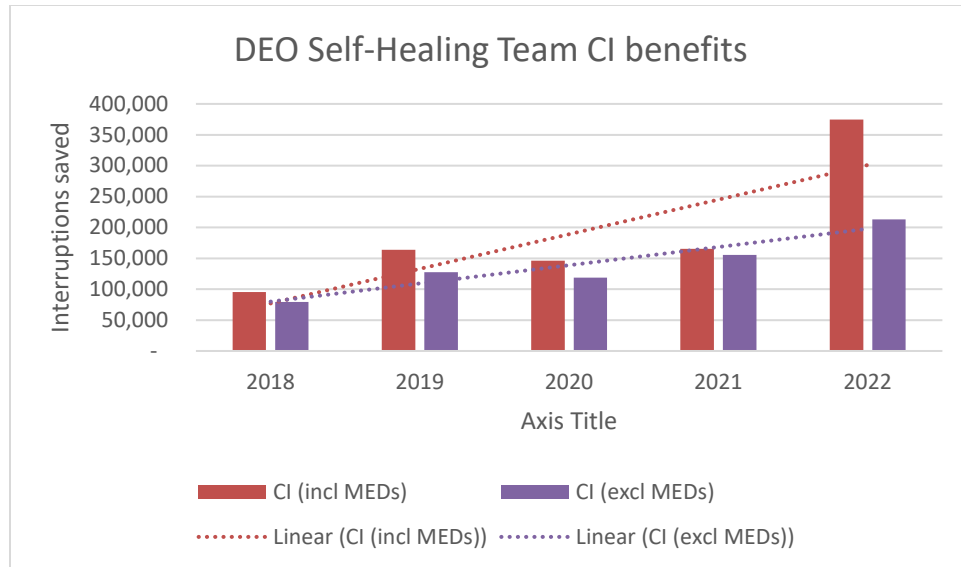
<sup>6</sup> See Ohio Admin. Code (O.A.C.) 4901:1-10-01(T) (defining "major event"); O.A.C. 4901:1-10-10(B)(4)(c) (providing that "[p]erformance data during major events . . . shall be excluded from the calculation of the indices, proposed standards, and any revised performance standards").

1   **Q.   HOW   HAVE   THE   COMPANY’S   DISTRIBUTION   CAPITAL**  
2       **INVESTMENTS, FUNDED IN PART THROUGH RIDER DCI, IMPROVED**  
3       **CUSTOMER OUTAGE TIMES DURING MEDS?**

4   A.   As seen in the below charts, which include data through September 11, 2022, the  
5       Company’s reliability investments, specifically in self-healing teams, provide  
6       significant benefits on MEDs that are not reflected in the annually reported SAIFI  
7       and CAIDI. The first chart depicts improvements in customer minutes interrupted  
8       (CMI), such that each bar reflects the number of CMI eliminated because of self-  
9       healing teams, with the Y axis representing the number of outage minutes  
10      eliminated since 2018.



11       The second chart depicts the number of customer interruptions (CI) eliminated as a  
12       result of self-healing teams. The Y axis depicts the number of minutes saved or  
13       avoided over the same period.



1 As clearly shown by these charts, the Company’s self-healing team investments  
 2 included in Rider DCI are producing significant results in terms of protecting  
 3 customers from minutes of interruption during MEDs. As global and local weather  
 4 variability and severity continues to worsen, these reliability investments will  
 5 continue to be critical for the customer experience on MEDs as well as non-MEDs.

6 **Q. DO YOU BELIEVE THE COMMISSION SHOULD APPROVE THE**  
 7 **STIPULATION?**

8 A. Yes. As I previously stated, I believe the settlement provisions related to  
 9 establishing new annual Rider DCI caps and implementing a new reliability-based  
 10 performance metric are reasonable. As those provisions relate to the total settlement  
 11 package, those two provisions are beneficial to the customer and are in the public  
 12 interest. Meeting the existing CAIDI and SAIFI targets will require significant  
 13 reliability investments, in excess of what is recoverable through Rider DCI to  
 14 counteract vehicle-related outage events that are trending upwards. Maintaining the

1           ability to timely recover a portion of its investments through Rider DCI will help  
2           the Company to maintain cash flows.

**IV.    CONCLUSION**

3   **Q.    DOES THIS CONCLUDE YOUR PRE-FILED SECOND SUPPLEMENTAL**  
4           **DIRECT TESTIMONY?**

5   **A.    Yes.**

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Summary: Testimony Second Supplemental Direct Testimony of Jeff Hesse electronically filed by Mrs. Debbie L. Gates on behalf of Duke Energy Ohio Inc. and D'Ascenzo, Rocco O. Mr. and Kingery, Jeanne W and Vaysman, Larisa and Akhbari, Elyse