BEFORE THE
PUBLIC UTILITIES COMMISSION OF OHIO

In the Matter of the Application of Ohio Edison Company, The Cleveland Electric Illuminating Company, and The Toledo Edison Company for Authority to Provide for a Standard Service Offer Pursuant to R.C. 4928.143 in the Form of an Electric Security Plan	)))))))	Case No. 23-301-EL-SSO

DIRECT TESTIMONY OF

AMANDA RICHARDSON

ON BEHALF OF

OHIO EDISON COMPANY
THE CLEVELAND ELECTRIC ILLUMINATING COMPANY
THE TOLEDO EDISON COMPANY

APRIL 5, 2023

I. INTRODUCTION

Q. PLEASE STATE YOUR NAME, POSITION, AND BUSINESS ADDRESS.

A. My name is Amanda Richardson. I am employed by FirstEnergy Service Company ("FESC") as the Director of Engineering Services for the FirstEnergy Corp. ("FirstEnergy") Ohio utilities: Ohio Edison Company ("Ohio Edison"); The Cleveland Electric Illuminating Company ("CEI"); and The Toledo Edison Company ("Toledo Edison") (collectively, the "Companies"). My business address is 76 South Main Street, Akron, Ohio 44308.

Q. PLEASE BRIEFLY DESCRIBE YOUR EDUCATIONAL BACKGROUND AND PROFESSIONAL EXPERIENCE.

A. I earned a Bachelor of Arts degree in Physics from Wells College, and a Bachelor of Science degree in Electrical Engineering from Columbia University. I started my career as a distribution engineer for Ohio Edison in 1998, focusing on design work for new customer connections and similar large projects. Subsequently, I was a distribution engineer in FESC groups, including IT, Distribution Standards and Business Services. In 2015, I became General Supervisor for Engineering Services for Ohio Edison Regulatory Reporting, Mapping & Joint Use. In 2016, I became Engineering Manager for Ohio Edison, providing oversight to reliability, design, planning, and asset management groups. I started my current position as Director of Engineering Services for the Ohio Companies in January 2022, expanding the responsibilities that I had in my role as Engineering Manager for Ohio Edison to all three Companies.

Q. WHAT ARE YOUR RESPONSIBILITIES AS THE DIRECTOR OF ENGINEERING SERVICES?

A. As the Director of Engineering Services, I am tasked with providing leadership and direction for over 200 employees in the Utility Operations Engineering Services organization as they work to deliver on the needs of our customers throughout our service territory. This includes establishing and monitoring organizational goals, policies, plans, forecasts, standards, and performance objectives; establishing operating and financial objectives and budgets; and managing resources.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. My testimony addresses the Companies' reliability performance, the alignment of the Companies' reliability performance with customer expectations, and the Companies' emphasis on, and dedication to committing sufficient resources to deliver and maintain safe, reliable power and support a more resilient and smarter electric grid.

I will first explain how the Companies' reliability performance is measured. Applying those measures, I will discuss the Companies' historic reliability performance. Over the last seven years, the Companies have had a strong history of meeting, and in many cases exceeding, their reliability performance standards. This success is due to the Companies' emphasis on and dedication of resources to reliability. The Companies have been able to achieve this performance by allocating funds within their capital budgets to offset degradation and aging infrastructure. To support these efforts, the Companies have a robust capital planning process with an emphasis on customer benefits, and a dedicated Reliability and Asset Management team comprised of more than 30 individuals focused on responding to immediate reliability concerns and proposing longer-term capital solutions when warranted.

In addition, I will discuss how the Companies' reliability performance aligns with customer expectations. Recent customer surveys have shown that the Companies' reliability performance has exceeded customer expectations.

I will further explain how, despite their strong historical performance, the Companies' distribution system faces significant challenges to reliability including rising costs, increasing material lead times, weather trends, vegetation impacts, emerging technology, and the overall age of the Companies' infrastructure. For the Companies to meet these challenges along with the evolving expectations of their customers, it is critical for the Companies to continue making necessary capital and operational investments. I also explain the importance of ongoing investment in and maintenance of the system, along with timely cost recovery, to support the Companies' ability to continue meeting customers' expectations for reliability.

II. THE COMPANIES' PAST RELIABILITY PERFORMANCE

Q. DO THE COMPANIES HAVE COMMISSION-APPROVED STANDARDS TO MEASURE RELIABILITY PERFORMANCE?

A. Yes. The Companies track and measure their performance against Commission-approved reliability performance standards. The Companies' current standards have been effective since 2010 and were approved in Case No. 09-759-EL-ESS.[1]

Q. HOW DO THE COMPANIES CALCULATE THEIR RELIABILITY PERFORMANCE FOR THESE STANDARDS?

[1] An application to revise the Companies' reliability standards is pending in Case No. 20-580-EL-ESS.

A. Each of the Companies calculates their reliability performance using a System Average Interruption Frequency Index ("SAIFI") and Customer Average Interruption Duration Index ("CAIDI") reliability standard. SAIFI represents the number of interruptions per customer and equals the total number of customer interruptions divided by the total number of customers served. CAIDI represents the average interruption duration or average time to restore service per interrupted customer and equals the total duration of customer interruptions divided by the total number of customer interruptions. These SAIFI and CAIDI calculations exclude major events and transmission outages.

Q. HOW HAVE THE COMPANIES PERFORMED AGAINST THEIR RESPECTIVE RELIABILITY STANDARDS SINCE THE START OF ESP IV?

A. The following table demonstrates the Companies' performance against their reliability standards since the start of ESP IV in 2016.

Table 1

Ohio Edison								
Index	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**Minimum Standard**
SAIFI	0.79	0.86	0.94	0.90	0.89	0.97	1.03	1.11
CAIDI	104.78	104.32	105.40	116.64	105.40	102.12	99.52	114.37

CEI								
Index	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**Minimum Standard**
SAIFI	1.02	1.02	0.95	0.90	0.97	1.07	1.06	1.30
CAIDI	110.43	116.19	131.65	125.74	117.94	126.86	144.62	135.00

Toledo Edison								
Index	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**Minimum Standard**
SAIFI	0.55	0.51	0.49	0.62	0.64	0.68	0.83	1.00
CAIDI	96.57	95.58	103.07	106.81	97.56	94.75	97.65	112.33

Q. HAVE THE COMPANIES MET THEIR RESPECTIVE RELIABILITY STANDARDS SINCE THE START OF ESP IV?

A. The Companies' reliability performance has mostly outperformed (i.e., been lower than) their reliability standards from 2016 through 2022. The only exceptions are in 2019 when Ohio Edison exceeded its CAIDI standard, and most recently in 2022, when CEI exceeded its CAIDI standard. Ohio Edison implemented an action plan addressing its 2019 CAIDI performance, with actions targeting outages caused by trees, line failures and vehicles. Since the action plan was implemented, Ohio Edison has met its CAIDI standard. CEI filed an action plan to address its 2022 CAIDI performance on March 31, 2023. CEI's action plan includes actions targeting vegetation and outages caused by the failure of overhead conductors or underground cables.

III. ALIGNMENT OF CUSTOMER EXPECTATIONS AND THE COMPANIES' PERFORMANCE

Q. DOES MEETING THE COMPANIES' RELIABILITY STANDARDS EQUATE TO MEETING CUSTOMER EXPECTATIONS AROUND RELIABILITY?

A. No. While the required reporting of SAIFI and CAIDI discussed above provide a view of the Companies' reliability performance, customers expect continuity of service, regardless of metrics. The customer's expectations for the Companies' reliability performance are shaped by their own individual experiences, which may be impacted by factors outside of the SAIFI and CAIDI metrics such as the impacts of transmission outages and major storms. In addition, the Companies make routine investments to mitigate system degradation and support expansion for customer load growth, which also affect the

customer's experience with reliability. All these factors could impact a customer's experience if not anticipated and, whenever possible, addressed by the Companies.

Q. ARE CUSTOMERS' RELIABILITY EXPECTATIONS ALIGNED WITH THE COMPANIES' PERFORMANCE?

A. Yes. The Companies' reliability performance aligns with customer expectations. The Companies' most recent customer perception survey was conducted over four quarterly periods beginning in the second quarter of 2021. Approximately 4,800 customers were interviewed: approximately 2,400 residential customers and 2,400 commercial customers. The customers were randomly selected. Customer expectations around SAIFI were determined by asking customers, "How many interruptions of more than five minutes would you consider acceptable during a 12-month period?" These responses were translated into SAIFI values that are higher than the Companies' current reliability standards and historic SAIFI performance, demonstrating that the Companies' SAIFI standards and performance thereunder exceed (i.e., are lower than) customer expectations. See Table 2 below for comparison of the survey results for SAIFI to the Companies' current SAIFI standards.[2]

Table 2

Company	SAIFI Residential	SAIFI Commercial	SAIFI Average
CEI	1.75	1.72	1.75
OE	1.91	1.87	1.91
TE	1.33	1.67	1.37

[2] The Companies' historic SAIFI performance also exceeds customer expectations. *Compare* Table 1 (showing the Companies' historic SAIFI performance) *to* Table 2 (showing customer survey results for SAIFI).

Customer expectations around CAIDI were determined similarly, by asking customers, "What do you consider a reasonable length of time to restore power after an outage that is not storm or weather related?" and "What do you consider to be a reasonable length in time to restore power after a storm or weather-related outage?" These responses were translated into storm CAIDI and non-storm CAIDI values. The results demonstrate that the Companies' CAIDI standards and performance thereunder are also well within the range of customer expectations (i.e., are lower than customer expectations) for both storm and non-storm reliability performance. See Table 3 below for comparison of the survey results for CAIDI to the Companies' current CAIDI standards.[3]

Table 3

Company	CAIDI Residential (Non-storm)	CAIDI Commercial (Non-storm)	CAIDI Median (Non-storm)	CAIDI Residential (Storm)	CAIDI Commercial (Storm)
CEI	120.00	120.00	120.00	360.00	180.00
OE	120.00	120.00	120.00	360.00	180.00
TE	120.00	120.00	120.00	360.00	180.00

See Attachment AKR-1 for data supporting the customer perception survey results.

IV. COMPANIES' EMPHASIS ON AND RESOURCES FOR SYSTEM RELIABILITY

Q. HAVE THE COMPANIES PLACED SUFFICIENT EMPHASIS ON AND DEDICATED SUFFICIENT RESOURCES TO THE RELIABILITY OF THEIR SYSTEM?

A. Yes. As explained above, the Companies have generally met, and in most cases exceeded, their performance standards. When necessary, they have prepared, filed, and implemented

[3] The Companies' historic CAIDI performance also exceeds customer expectations. *Compare* Table 1 (showing the Companies' historic CAIDI performance) *to* Table 3 (showing customer survey results for CAIDI).

action plans to meet their reliability performance standards. Since the establishment of their current reliability standards in 2010, the Companies have never failed to meet the same performance standard for two consecutive years. The alignment of the Companies' interests with those of their customers is also illustrated by the Companies' continued emphasis on reliability in the four distribution-related riders proposed in ESP V: Riders DCR, AMI, and VMC as described in the testimony of Companies' Witness McMillen, and Rider SCR as described in the testimony of Companies' Witness Lawless. These proposed riders are intended to support the Companies' efforts to address major factors impacting a customer's experience described above. The Companies have made and expect to continue making significant investments in their distribution system of over $300 million annually, not including additional investments in grid modernization, or maintenance costs for vegetation management and storm restoration.

Q. ARE THE COMPANIES FACING ANY CHALLENGES IN MEETING THEIR RELIABILITY STANDARDS?

A. Yes. The Companies have diverse service territories, serving urban, suburban, and rural areas with varying geographic features. For example, CEI's service area adjoins Lake Erie and receives the full impact of adverse "Lake Effect Weather," including high winds and significant snow fall. Further, some of CEI's service area is composed of underground networks in urban areas, and much of its service territory includes rear-lot construction, both of which increase restoration times. Portions of Ohio Edison's service area abut Lake Erie and can be adversely affected by Lake Effect Weather. These factors contribute to company-by-company variances in reliability performance and illustrate the diverse challenges the Companies face.

The Companies are also challenged by tree-caused outages, and the weather impacts that tend to drive them, as explained in the testimony of Companies' Witness Standish.

In addition, the Companies must invest in infrastructure to prevent and mitigate impacts to reliability performance. In doing so, the Companies face further challenges impacting supply chain, including inflation of equipment costs, long lead times on procuring materials, limits manufacturers place on the amount of equipment a utility may purchase in a given month, and labor shortages. For example, if orders for overhead transformers placed with the Companies' preferred vendors exceed the amount of equipment the Companies may purchase from these manufacturers, the orders may not be fulfilled for anywhere from 139 to 183 weeks. In contrast, pre-Covid 19 lead times were only 10 to 11 weeks. This has required the Companies to utilize overseas vendors, resulting in an increase in overall costs due to factors such as shipping. Substation transformer lead times have also doubled with a 125% cost increase.

Looking to the future, anticipated load growth from electrification may stress the existing electrical system capacities and remove operational flexibility that exists today to aid in restorations. Added complexities from distributed generation can slow restoration efforts because of the need to understand potential electrical sources during switching. While the Companies have performed well historically, investments in and maintenance of their distribution system are necessary to maintain that performance as these emerging technology and growth conditions arise in the future.

Q. PLEASE PROVIDE EXAMPLES OF THE TYPES OF RELIABILITY PROJECTS THE COMPANIES HAVE UNDERTAKEN TO ADDRESS THESE CHALLENGES.

A. The Companies regularly invest in their distribution systems to prevent and mitigate outages from system degradation, system growth, and demand. They also perform effective maintenance activities, including vegetation management as discussed in the testimony of Companies' Witness Standish. The Companies also work to mitigate transmission-related outages through investment in distribution capacity additions. In addition, the system is designed and maintained to minimize outages due to uncontrollable factors such as storms/weather and certain vegetation scenarios. All these measures require capital investment and/or maintenance costs to ensure a safe and reliable system.

The following are examples of significant projects the Companies have commenced during the ESP IV timeframe to address reliability:

- **Distribution Wood Poles** – Proactively replaced thousands of aged and deficient wooden poles identified through Companies' inspection and maintenance program prior to pole failure.
- **Harper Substation Project** – Constructed a substation to serve new load growth and provide outage load transfer capability in CEI. This project included installation of 4,700 feet of new underground cable and 1,700 feet of new overhead conductor. The project directly benefits 1,605 customers with the potential to benefit many more from the added load transfer capability.
- **Toledo Edison Substation Breaker Replacement Project** – This project replaced aging substation breakers with performance issues impacting reliability and

employee safety. This project began in 2017 and will be completed by 2025. Upon completion, more than 36,000 customers will experience direct benefits from this project. As of 2022, 24 breakers have been replaced.

- **North Bass Island Submarine Cable Replacement Project** – Replaced 6,300 feet of submarine cable between Middle Bass Island and North Bass Island after concerns about the original cable being outside its expected useful life. In addition, shoreline erosion on Middle Bass Island had exposed a section of this cable to ice and surf increasing the risk of failure. This project ensures service year-round, even during times of the year when the island is inaccessible and secures reliability for the next generation of island inhabitants, tourists, and workers.
- **Legend Substation Project** – Constructed a new substation in Ohio Edison that included building 1,400 feet of line and replacing 2,803 feet of conductor. This project relieved capacity constraints due to load growth and directly benefits 576 customers, with potential to benefit many more from the added load transfer capability.
- **Downtown Akron Project** – This project involved civil infrastructure and underground ducted electrical system replacements, which resulted in improved reliability by virtue of 100% new electrical equipment and infrastructure within the project area. This project directly benefits 185 customers, primarily commercial businesses and their associated employees, clients, and visitors, as well as residential apartment buildings and their occupants.

Q. DO THE COMPANIES HAVE FUTURE CAPITAL PROJECTS PLANNED TO MAINTAIN AND/OR ENHANCE THE RELIABILITY OF THEIR SYSTEM?

A. Yes. The Companies have several initiatives planned for the coming years. Examples of these projects include:

- **Distribution wood poles –** Planned replacement of distribution wood poles identified during the Companies' inspection and maintenance program to reduce the age of pole investments.
- **Backup substation transformers –** Purchase of six to eight spare distribution substation transformers to mitigate supply chain challenges. This will enable the Companies to promptly restore loads during substation transformer failures, emergencies, or maintenance activities that require an outage and support load transfers during construction activities for the safety of workers. A portion of these units will be mounted on trailers and designated as mobile units to respond to customer outages more quickly.
- **New substation construction –** Installation of new substations will provide operational flexibility in restoring customers and allow for a quicker in-servicing of bulk load requests. For example, a planned project to construct a new substation to serve increasing load at an area ski resort in Ohio Edison will provide additional capacity for increased smart grid equipment utilization. This project is expected to enhance reliability for customers on a multiple year worst performing circuit.
- **Condition-based replacement programs –** Implementation of proactive condition-based replacement programs targeting substation and underground network facilities to prevent long duration outages impacted by unavailability of spare parts and civil infrastructure challenges.

- **Customers experiencing multiple interruptions ("CEMI") program** – Targeted improvements in reliability for small clusters of customers experiencing ten or more outages per year. The improvements made may include smart device and lighting protection installation, line rehabilitation or enhanced tree trimming.

Q. IS ONGOING CAPITAL AND OPERATIONAL INVESTMENT IN THE COMPANIES' DISTRIBUTION SYSTEM NECESSARY TO CONTINUE MEETING CUSTOMER EXPECTATIONS AROUND RELIABILITY?

A. Yes. The Companies expect that capital investments in their distribution system over the term of ESP V, excluding investments associated with approved grid modernization programs, will be comparable to historical levels. The Companies also plan to make grid modernization investments in their system during the term of ESP V, subject to Commission approval of their grid modernization investment plans. In addition, the Companies expect to continue meeting the challenges posed by storms and vegetation through operational programs, including through the enhanced vegetation management program described in the testimony of Companies' Witness Standish. These investments and operational programs are critical to continue providing safe and reliable service to customers and meet customer expectations around reliability. Timely cost recovery, as discussed in the testimony of Companies' Witnesses McMillen and Lawless, supports the Companies' ability to continue meeting customer expectations. This alignment of the Companies' performance and customer expectations is in the best interest of both the Companies and their customers.

Q. HOW WILL THE COMPANIES' RELIABILITY PERFORMANCE IMPACT THE PROPOSED RIDER DCR REVENUE CAPS?

A. As more fully described in the testimony of Companies' Witness McMillen, the Companies are proposing that Rider DCR be subject to annual revenue caps with the value of the annual revenue cap increase dependent on the Companies' reliability performance. This approach will further align the Companies' performance with customer expectations.

V. CONCLUSION

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes. I reserve the right to supplement my testimony.

Customer Perception Survey

Attachment AKR-1
P.1

Company	SAIFI - Residential	SAIFI- Commercial	SAIFI - Average	
CEI	1.75	1.72	1.75	
OE	1.91	1.87	1.91	
TE	1.33	1.67	1.37	

Company	CAIDI - Residential (non-storm)	CAIDI- Commercial (non-storm)	CAIDI - median (non-storm)	CAIDI - Residential (storm)	CAIDI- Commercial (storm)	CAIDI median (storm)	
CEI	120.00	120.00	120.00	360.00	180.00	340.20	
OE	120.00	120.00	120.00	360.00	180.00	340.20	
TE	120.00	120.00	120.00	360.00	180.00	340.20	

NARRATIVE

(1) Survey results were provided by TRIAD Research Group, a third-party vendor, that conducted the survey on the Companies' behalf.

ASSUMPTIONS

(1) The medians were calculated by weighting the survey results by customer class using customer counts (89% Residential and 11% Commercial) from the Companies' 2021 FERC Form 1.

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Q11 - What do you consider to be a reasonable length of time to restore power after a storm or weather-related outage?

	OVERALL					OHIO EDISON					THE ILLUMINATING COMPANY					TOLEDO EDISON				
	TOTAL	2021 Q2	2021 Q3	2021 Q4	2022 Q1	TOTAL	2021 Q2	2021 Q3	2021 Q4	2022 Q1	TOTAL	2021 Q2	2021 Q3	2021 Q4	2022 Q1	TOTAL	2021 Q2	2021 Q3	2021 Q4	2022 Q1
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)
Total	2406	603	601	599	603	801	200	201	200	200	803	203	201	199	200	801	200	198	200	203
MEAN	1029.87	907.84	1086.30	1056.34	1069.33	1064.58	877.24	1178.87	1126.00	1075.65	999.45	902.48	1024.07	1006.56	1066.06	985.24	1025.18	920.03	938.28	1055.74
MEDIAN	360.00	360.00	360.00	360.00	480.00	360.00	300.00	360.00	375.00	480.00	360.00	360.00	360.00	360.00	480.00	360.00	360.00	340.00	360.00	480.00

Q12 - What do you consider to be a reasonable length of time to restore power after an outage that is not storm or weather related?

	OVERALL					OHIO EDISON					THE ILLUMINATING COMPANY					TOLEDO EDISON				
	TOTAL	2021 Q2	2021 Q3	2021 Q4	2022 Q1	TOTAL	2021 Q2	2021 Q3	2021 Q4	2022 Q1	TOTAL	2021 Q2	2021 Q3	2021 Q4	2022 Q1	TOTAL	2021 Q2	2021 Q3	2021 Q4	2022 Q1
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)
Total	2406	603	602	598	603	800	200	201	199	200	803	203	201	199	200	803	200	200	200	203
MEAN	577.53	504.65	580.65	585.23	639.65	616.11	529.89	630.73	634.43	669.44	536.04	442.88	535.64	531.18	635.83	545.83	568.37	519.09	548.52	547.34
MEDIAN	120.00	120.00	120.00	120.00	142.00	120.00	120.00	120.00	180.00	150.00	120.00	120.00	120.00	120.00	140.00	120.00	120.00	120.00	120.00	120.00

Q10 - How many interruptions of more than 5 minutes would you consider acceptable during a 12-month period?

	OVERALL					OHIO EDISON					THE ILLUMINATING COMPANY					TOLEDO EDISON				
	TOTAL	2021 Q2	2021 Q3	2021 Q4	2022 Q1	TOTAL	2021 Q2	2021 Q3	2021 Q4	2022 Q1	TOTAL	2021 Q2	2021 Q3	2021 Q4	2022 Q1	TOTAL	2021 Q2	2021 Q3	2021 Q4	2022 Q1
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)
Total	2409	603	602	601	603	801	200	201	200	200	804	203	201	200	200	804	200	200	201	203
None	26%	27%	24%	27%	28%	24%	24%	23%	24%	25%	26%	30%	22%	27%	27%	34%	32%	31%	36%	37%
One	30%	32%	30%	25%	32%	30%	33%	28%	24%	36%	30%	32%	32%	26%	30%	30%	35%	33%	25%	29%
Two	22%	21%	23%	23%	22%	22%	21%	23%	24%	19%	24%	21%	24%	23%	28%	21%	21%	21%	22%	21%
Three	9%	9%	9%	13%	8%	10%	9%	9%	15%	9%	9%	9%	8%	11%	8%	7%	6%	8%	9%	5%
Four	4%	3%	4%	3%	4%	4%	5%	5%	5%	4%	3%	1%	3%	3%	4%	2%	3%	4%	1%	3%
Five	4%	4%	5%	4%	3%	5%	6%	7%	4%	4%	4%	2%	5%	5%	3%	3%	3%	1%	4%	2%
Six	2%	1%	2%	1%	2%	2%	1%	3%	2%	3%	1%	1%	2%	2%	1%	1%		2%	1%	1%
Seven or more	2%	3%	2%	3%	1%	2%	3%	1%	4%	1%	3%	3%	4%	4%	1%	1%	2%	2%	0%	
Dont Know	0%	1%	0%	1%	0%	1%	1%		1%	1%	0%	0%		1%		1%	1%	1%	0%	1%
MEAN	1.77	1.71	1.90	1.96	1.51	1.91	1.92	1.99	2.12	1.62	1.75	1.57	1.96	1.98	1.48	1.33	1.34	1.42	1.37	1.20
MEDIAN	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Table Q11

TRG2021-3256 FIRSTENERGY OHIO PERCEPTION SURVEY - COMMERCIAL - 2022 QTR. 1

Q11 - What do you consider to be a reasonable length of time to restore power to your place of business after a storm or weather-related outage?

	OVERALL					OHIO EDISON					THE ILLUMINATING COMPANY					TOLEDO EDISON				
	TOTAL	2021 Q2	2021 Q3	2021 Q4	2022 Q1	TOTAL	2021 Q2	2021 Q3	2021 Q4	2022 Q1	TOTAL	2021 Q2	2021 Q3	2021 Q4	2022 Q1	TOTAL	2021 Q2	2021 Q3	2021 Q4	2022 Q1
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)
Total	2333	590	587	568	589	783	198	196	190	199	780	196	197	188	199	766	193	192	192	189
MEAN	515.23	501.49	547.23	467.63	543.06	485.72	496.92	526.66	414.58	502.17	536.11	491.35	560.19	516.05	575.29	560.72	540.06	583.20	523.23	597.08
MEDIAN	180.00	120.00	180.00	180.00	240.00	180.00	120.00	180.00	180.00	180.00	180.00	120.00	240.00	180.00	240.00	180.00	180.00	240.00	120.00	240.00

Q12 - What do you consider to be a reasonable length of time to restore power to your place of business after an outage that is not storm or weather-related?

	OVERALL					OHIO EDISON					THE ILLUMINATING COMPANY					TOLEDO EDISON				
	TOTAL	2021 Q2	2021 Q3	2021 Q4	2022 Q1	TOTAL	2021 Q2	2021 Q3	2021 Q4	2022 Q1	TOTAL	2021 Q2	2021 Q3	2021 Q4	2022 Q1	TOTAL	2021 Q2	2021 Q3	2021 Q4	2022 Q1
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)
Total	2348	591	592	578	586	784	197	196	193	198	790	198	201	195	196	772	195	195	188	194
MEAN	269.63	295.39	263.23	231.82	287.41	256.81	290.29	253.55	229.96	252.90	282.58	283.96	269.46	245.69	331.36	279.72	338.45	279.31	204.57	293.92
MEDIAN	120.00	120.00	120.00	60.00	120.00	120.00	120.00	105.00	60.00	120.00	120.00	82.50	120.00	60.00	120.00	120.00	120.00	120.00	120.00	120.00

Q10 - How many interruptions of more than 5 minutes would you consider acceptable during a 12-month period?

	OVERALL					OHIO EDISON					THE ILLUMINATING COMPANY					TOLEDO EDISON				
	TOTAL	2021 Q2	2021 Q3	2021 Q4	2022 Q1	TOTAL	2021 Q2	2021 Q3	2021 Q4	2022 Q1	TOTAL	2021 Q2	2021 Q3	2021 Q4	2022 Q1	TOTAL	2021 Q2	2021 Q3	2021 Q4	2022 Q1
	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(K)	(L)	(M)	(N)	(O)	(P)	(Q)	(R)	(S)	(T)
Total	2421	600	605	601	615	811	200	201	201	209	809	200	204	200	205	801	200	200	200	201
None	34%	40%	32%	33%	31%	32%	36%	31%	32%	31%	37%	45%	35%	36%	32%	32%	38%	27%	30%	33%
One	21%	20%	21%	23%	22%	22%	24%	19%	24%	22%	19%	15%	22%	20%	20%	24%	22%	24%	25%	25%
Two	19%	16%	20%	19%	21%	19%	13%	22%	21%	19%	19%	19%	16%	17%	25%	20%	17%	24%	20%	17%
Three	8%	8%	9%	8%	9%	9%	10%	8%	6%	12%	8%	6%	9%	12%	5%	7%	8%	9%	6%	5%
Four	2%	2%	3%	2%	2%	2%	2%	3%	2%	1%	3%	3%	3%	3%	2%	2%	1%	3%	2%	2%
Five	5%	6%	5%	4%	5%	4%	6%	5%	3%	3%	5%	6%	5%	5%	6%	6%	7%	4%	7%	7%
Six	1%	2%	1%	1%	2%	1%	3%	0%	1%	1%	1%	2%	1%	1%	2%	2%	3%	1%	2%	2%
Seven or more	3%	2%	4%	3%	1%	3%	2%	4%	4%	2%	2%	2%	4%	3%	1%	2%	2%	3%	1%	1%
Dont Know	6%	5%	5%	6%	7%	6%	6%	5%	6%	8%	5%	4%	4%	6%	6%	6%	4%	6%	8%	7%
MEAN	1.79	1.62	1.88	2.04	1.60	1.87	1.72	1.90	2.23	1.63	1.72	1.52	1.83	1.96	1.59	1.67	1.55	1.96	1.64	1.53
MEDIAN	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00