

**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. 17-0032-EL-AIR
In the Matter of the application of Duke Energy Ohio, Inc., for Tariff Approval.	) )	Case No. 17-0033-EL-ATA
In the Matter of the Application of Duke Energy Ohio, Inc. for Approval to Change Accounting Methods.	) )	Case No. 17-0034-EL-AAM
In the Matter of the Application of Duke Energy Ohio, Inc. for Approval to Modify Rider PSR.	) ) )	Case No. 17-0872-EL-RDR
In the Matter of the Application of Duke Energy Ohio, Inc. for Approval to Amend Rider PSR.	) ) )	Case No. 17-0873-EL-ATA
In the Matter of the Application of Duke Energy Ohio, Inc. for Approval to Change Accounting Methods.	) ) )	Case No. 17-0874-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.)	

DIRECT TESTIMONY
OF
PETER J. LANZALOTTA

IN OPPOSITION TO THE JOINT STIPULATION AND RECOMMENDATION

On Behalf of
The Office of the Ohio Consumers' Counsel
65 East State Street, 7th Floor
Columbus, Ohio 43215-4213

June 25, 2018

TABLE OF CONTENTS

	PAGE
I. INTRODUCTION	1
II. PURPOSE OF TESTIMONY AND RECOMMENDATIONS	3
III. REVIEW OF THE SETTLEMENT REGARDING THE THREE-PRONG TEST USED BY THE PUCO FOR EVALUATING SETTLEMENTS.	4
IV. ANALYSIS OF DATA.....	9
V. CONCLUSION.....	18

EXHIBITS

Exhibit PJL-1 Resume
Exhibit PJL-2 List of Previous Cases
Exhibit PJL-3 PUCO Staff Guidelines for Reliability Standards
Exhibit PJL-4 Duke response to OCC-INT-03-052
Exhibit PLJ-5 Duke response to OCC-INT-03-053
Exhibit PLJ-6 Letter from Duke to the Commission

1 **I. INTRODUCTION**

2

3 ***Q1. PLEASE STATE YOUR NAME, POSITION, AND BUSINESS ADDRESS.***

4 ***A1.*** My name is Peter J. LanzaIotta. I am a Principal with LanzaIotta & Associates
5 LLC, ("LanzaIotta"), 67 Royal Point Drive, Hilton Head Island, SC 29926.

6

7 ***Q2. ON WHOSE BEHALF ARE YOU TESTIFYING IN THIS CASE?***

8 ***A2.*** I am testifying on behalf of the Office of the Ohio Consumers' Counsel ("OCC").

9

10 ***Q3. PLEASE SUMMARIZE YOUR EDUCATIONAL BACKGROUND AND***
11 ***RECENT WORK EXPERIENCE.***

12 ***A3.*** I am a graduate of Rensselaer Polytechnic Institute, where I received a Bachelor
13 of Science degree in Electric Power Engineering. In addition, I hold a Master's
14 degree in Business Administration with a concentration in Finance from Loyola
15 College in Baltimore.

16

17 I am currently a Principal of LanzaIotta & Associates LLC, which was formed in
18 January 2001. Prior to that, I was a partner of Whitfield Russell Associates, with
19 which I had been associated since March 1982. My areas of expertise include
20 electric system planning and operation. I am a registered professional engineer in
21 the states of Maryland and Connecticut.

*Direct Testimony of Peter J. Lanzalotta
On Behalf of the Office of the Ohio Consumers' Counsel
PUCO Case No. 17-0032-EL-AIR et al*

1 I have been involved with the planning and operation of electric utility systems as
2 an employee of and as a consultant to a number of privately- and publicly-owned
3 electric utilities over a period exceeding 30 years.

4 I have presented expert testimony before the Federal Energy Regulatory
5 Commission ("FERC") and before regulatory commissions and other judicial and
6 legislative bodies in 25 states, the District of Columbia, and the Provinces of
7 Alberta and Ontario. I have testified in several proceedings before the Public
8 Utilities Commission of Ohio ("PUCO"), including Case Nos. 83-33-EL-EFC,
9 06-222-EL-SLF, 10-503-EL-FOR, 14-1297-EL-SSO, and 13-1939-EL-RDR. My
10 clients have included utilities, state regulatory agencies, state consumer advocates,
11 independent power producers, industrial consumers, the United States
12 Government, environmental interest groups, and various city and state
13 government agencies. I have also assisted the OCC in the evaluation of utility
14 applications to establish reliability standards including each of Duke's cases.
15

16 A copy of my current resume is included as Exhibit PJL-1 and a list of my
17 testimonies is included as Exhibit PJL-2.¹

¹ Exhibit PJL-1 and Exhibit PJL-2, as well as all other Exhibits referenced herein, are attached to and incorporated by reference in this testimony.

II. PURPOSE OF TESTIMONY AND RECOMMENDATIONS

Q4. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A4. My testimony opposes the stipulation and recommendation (“Settlement”) in regard Duke Energy Ohio’s (“Duke” or “the Utility”) reliability index performance, the standards proposed for the Utility’s reliability index performance, and proposals to address costs and other aspects of the Utility’s vegetation management program. These provisions are not in the public interest. Additionally, these provisions violate regulatory principles and practices, as further explained below. My testimony rebuts the Utility’s claims that its failure to meet reliability standards for its CAIDI index are due to its successful efforts to reduce the values of other reliability indexes such as SAIFI.

Q5. PLEASE SUMMARIZE YOUR RECOMMENDATIONS.

A5. I recommend that the PUCO reject the Settlement. Specifically, the PUCO should reject the Settlement because the reliability standards promote less reliable electric service in lieu of standards that will increase electric service reliability for customers. The Utility’s failure to maintain its vegetation management program schedule has contributed to unreliable service by increasing numbers of customer interruptions and increased customer minutes of interruption. The provisions in the Settlement that propose to change the vegetation management cycle are unlikely to remedy these shortcomings.

**III. REVIEW OF THE SETTLEMENT REGARDING THE THREE-PRONG
TEST USED BY THE PUCO FOR EVALUATING SETTLEMENTS.**

***Q6. WHAT CRITERIA DOES THE PUCO RELY UPON FOR CONSIDERING
WHETHER TO ADOPT A STIPULATION?***

A6. The PUCO will adopt a stipulation only if it meets all three criteria below. The PUCO must analyze the Settlement and decide the following:

1. Is the settlement a product of serious bargaining among capable, knowledgeable parties?
2. Does the settlement, as a package, benefit customers and the public interest?
3. Does the settlement package violate any important regulatory principle or practice?²

In addition to these three criteria, the PUCO also routinely considers whether the parties to the settlement represent diverse interests.

***Q7. DOES THE SETTLEMENT, AS A PACKAGE, BENEFIT CUSTOMERS OR
PUBLIC INTEREST?***

A7. No. The Settlement, if approved, does not benefit customers or the public interest where it permits Duke to ignore state policies to provide adequate, reliable, safe,

² *Consumers' Counsel v. Pub. Util. Comm'n* (1992) 64 Ohio St.3d 123, 126.

1 efficient, nondiscriminatory, and reasonably priced retail electric service.³
2 Specifically, the Settlement does not benefit customers where it allows Duke to
3 continue the Distribution Capital Infrastructure rider (“DCI”), and implement the
4 Enhanced Service Reliability Rider without being held accountable for missing
5 reliability standards.

6

7 ***Q8. DOES THE SETTLEMENT VIOLATE ANY IMPORTANT REGULATORY***
8 ***PRINCIPLES OR PRACTICES?***

9 ***A8.*** Yes. The Settlement, if approved, violates Ohio Policy, R.C. 4928.02(E), which
10 encourages cost-effective and efficient access to information regarding the
11 development of performance standards. Additionally, the standards established
12 violate PUCO’s rules.

13

14 ***Q9. PLEASE DESCRIBE THE RELIABILITY INDICES AND STANDARDS***
15 ***USED BY THE PUCO TO MEASURE RELIABILITY OF SERVICE TO***
16 ***CUSTOMERS.***

17 ***A9.*** The PUCO’s rules (OAC 4901:1-10-10) require each electric utility to establish
18 minimum reliability performance standards. These are the standards that are used
19 to determine how reliable service to customers must be. The two standards that
20 are used to measure reliability performance are the System Average Interruption

³ Ohio Revised Code 4928.02(A).

Direct Testimony of Peter J. Lanza
On Behalf of the Office of the Ohio Consumers' Counsel
PUCO Case No. 17-0032-EL-AIR et al

1 Frequency Index (“SAIFI”) and the Customer Average Interruption Duration
2 Index (“CAIDI”).⁴

3

4 SAIFI is a measure of the average number of outages per customer on an
5 annual basis.⁵ SAIFI is calculated as the total number of outages divided
6 by the total number of customers served. CAIDI represents the average
7 duration of outages or restoration time. CAIDI is calculated as the number
8 of customer interrupted minutes (“CIM”)⁶ divided by the total number of
9 customers affected by the outages.

10

11 These two reliability standards are uniformly applied across every electric
12 distribution utility in the State of Ohio. Duke’s application to establish new
13 reliability standards proposed higher numbers for both SAIFI and CAIDI --
14 meaning that the utility’s reliability performance would be permitted to be worse
15 for customers than it presently is without being in violation of the reliability
16 standards.

⁴ OAC 4901:1-10-10(B).

⁵ *Id.*

⁶ That is, the total number of minutes for all the outages during the year.

**Q10. WHAT IS THE METHODOLOGY USED BY THE ELECTRIC UTILITIES
TO ESTABLISH MINIMUM RELIABILITY PERFORMANCE STANDARDS
FOR SERVICE PROVIDED TO ELECTRIC UTILITY CUSTOMERS?**

A10. Each electric utility files an application to establish reliability performance standards that must include historical performance, system design, technological advancements, service area geography, and the results from customer perception surveys.⁷ The reliability standards address the quality of electric service that customers should receive during typical “blue sky” days, being days, without consideration of the impact that major adverse weather conditions or other causes of major outages may have on the distribution system. The standards exclude outages during major events⁸ and those outages that result from transmission system failures.⁹ The distribution reliability standards also exclude performance data for outages that have durations under five minutes.¹⁰

The PUCO Staff has created guidelines that are to be used by Ohio’s electric utilities when establishing reliability performance standards.¹¹ These guidelines require averaging previous performance over at least five years to establish a historical performance baseline. The historical performance baseline is then

⁷ OAC 4901:1-10-10(B)(4)(a). The timing for filing the application generally depends on requirements contained in the PUCO’s order approving the standards in effect at the time the application is filed.

⁸ See OAC 4901:1-10-01(T).

⁹ OAC 4901:1-10-10(B)(4)(c).

¹⁰ OAC 4901:1-10-01(CC).

¹¹ See Exhibit PJL-3.

adjusted based upon factors including system design, technological advancements, service area geography, and the results from the customer perception survey. Each of these specific factors are quantified as appropriate in the utility's application to establish new reliability performance standards.

Q11. WHAT RELIABILITY STANDARDS ARE PROPOSED FOR IN THE SETTLEMENT?

A11. Table 1 below shows that reliability standards for Customer Average Interruption Duration Index ("CAIDI") and System Average Interruption Frequency Index ("SAIFI"), excluding major events, as proposed in the Settlement.

Table 1

Duke Proposed reliability Standards		
Year	CAIDI	SAIFI
2018	134.34	1.12
2019	134.34	1.00
2020	134.34	0.91
2021	135.52	0.83
2022 – 2025	137.00	0.75

These proposed CAIDI standards will permit less reliable electric power supply to Duke customers in all years 2018 – 2025 than was permitted by the CAIDI standard that is currently in effect, 122.81 minutes per interruption. The proposed CAIDI standard in the Settlement is also less stringent than the 134.00 minute CAIDI standard that was proposed in Duke's application, meaning customers can experience longer duration outages. The proposed SAIFI standard will permit

1 less reliable electric power service in 2018 than was permitted by the SAIFI
2 standard in effect, previously, 1.05 interruptions per customer per year.

3

4 ***Q12. ARE THE ESTABLISHED RELIABILITY STANDARDS IN THE***
5 ***SETTLEMENT CONSISTENT WITH THE PUCO RULES AND STAFF***
6 ***GUIDELINES?***

7 ***A12.*** This remains undetermined. Based on the Duke response to OCC-INT-03-052
8 (attached as PJI-4), the methodology supporting the proposed SAIFI and CAIDI
9 standards for 2018 through 2025 are based on confidential “settlement discussions
10 and represent compromises on behalf of the Utility.” According to the Duke
11 response to OCC-INT-03-053 (attached as PJI-5), the Utility was unwilling or
12 unable to provide calculation supporting the SAIFI and CAIDI standards that
13 evolved from these settlement discussions. If parties relied upon the methodology
14 used in Duke’s application in Case 16-1602-EL-ESS, then the methodology
15 would be inconsistent with the PUCO rules and Staff guidelines.

16

17 **IV. ANALYSIS OF DATA**

18

19 ***Q13. PLEASE REVIEW THE UTILITY’S ELECTRIC SERVICE RELIABILITY***
20 ***TO ELECTRIC CUSTOMERS OVER THE PAST FIVE YEARS.***

21 ***A13.*** Table 2 below reviews the Utility’s electric service reliability performance as
22 reflected in its CAIDI and its SAIFI reliability index performance, excluding

Direct Testimony of Peter J. LanzaLotta
On Behalf of the Office of the Ohio Consumers' Counsel
PUCO Case No. 17-0032-EL-AIR et al

major events, and compares this performance against the reliability standards in place for these measures of reliability.

CAIDI measures the duration of the average customer's interruption in minutes averaged during each year. SAIFI measures the average number of interruptions experienced by each customer during the year. In general, SAIFI reflects how many annual outages the average customer will experience, while CAIDI reflects how long those outages last, in minutes per outage.

Table 2: Duke Reliability Performance Compared to Standards (2013-2017)

	2013	2014	2015	2016	2017
CAIDI Standard	118.14	121.25	122.81	122.81	122.81
CAIDI Performance	117.80	106.02	117.32	136.42	127.28
SAIFI Standard	1.24	1.17	1.05	1.05	1.05
SAIFI Performance	0.98	0.98	1.04	1.05	1.16

The Utility's CAIDI performance in both 2016 and 2017 failed to meet its reliability benchmark standard of 122.81 minutes of interruption and showed significant declines in reliability for consumers compared to the previous three years from 2013 through 2015.¹² Its 2016 CAIDI performance also showed a significant decline in reliability for consumers compared to the previous year, with CAIDI (which reflects average outage duration in minutes) increasing from 117.32 minutes per interruption in 2015 to 136.42 minutes in 2016, an increase of 13.6% or 19.1 minutes per interruption. The 2017 CAIDI performance, while its

¹² Declining reliability is reflected by an increasing value for both CAIDI and SAIFI.

*Direct Testimony of Peter J. Lanzalotta
On Behalf of the Office of the Ohio Consumers' Counsel
PUCO Case No. 17-0032-EL-AIR et al*

1 127.28 minutes reflected some 9 minutes of improvement compared to 2016, still
2 failed to meet its CAIDI standard. The Utility's CAIDI performance reflects the
3 fact that the outages being experienced by customers, with major event data
4 excluded, caused customers to experience increasingly longer outage durations.

5
6 In 2017, after four years of static or declining reliability performance, the Utility's
7 SAIFI reliability index was 1.16 interruptions per customer, which failed to meet
8 its 2017 standard for SAIFI of 1.05 interruptions per customer. This was a
9 decline in reliability for consumers from its 2016 SAIFI of 1.05 interruptions
10 which just met the 2016 standard of 1.05 interruptions.

11
12 Duke's declining CAIDI reliability performance for consumers reflects, in part, its
13 approach to system reliability. As addressed by the Utility's Application:

14 Duke Energy Ohio's reliability strategy involves preventing
15 outages and working to reduce the number of customers
16 impacted by an event, through reliability improvement
17 programs, implementing communication / sectionalization
18 logic in automated equipment, and large outage
19 investigations to identify root causes and complete
20 appropriate corrective action plans.¹³

21

¹³ Duke's Application, pp. 4-5.

Direct Testimony of Peter J. Lanzalotta
On Behalf of the Office of the Ohio Consumers' Counsel
PUCO Case No. 17-0032-EL-AIR et al

1 This approach, preventing outages and working to reduce the number of
2 customers affected by each outage, directly works to reduce the metrics upon
3 which SAIFI is based. However, this approach may not improve CAIDI even if
4 the Utility reduces the number of customer interruptions that occur.

5
6 The Utility attributes its increase in its 2016 CAIDI to its “continued focus on
7 improvements to SAIDI and SAIFI.” The Utility cites to its efforts to minimize
8 the effect of a fault through the installation of sectionalizing devices such as
9 reclosers and fuses. These sectionalizing devices limit the impact of a fault by
10 isolating the resulting outage to a smaller number of customers. By isolating the
11 fault in this manner, a larger number of customers avoided an outage. The Utility
12 claims that this benefit also results in less customers being restored in short
13 duration during the restoration process, thus resulting in an impact to CAIDI.¹⁴

14
15 However, there has not been a reduction in the number of Duke’s customers
16 impacted by outages, as shown in Table 3 below. Duke has not been reducing the
17 number of customer interruptions at all. Table 3 compares outage events due to
18 all causes, the number of customer interruptions, and the number of customer
19 minutes of interruption, by year, excluding major events and transmission
20 outages.

21

¹⁴ Duke Energy letter to the Commission dated April 28, 2017 titled “Duke Energy Ohio Rule 4901:1-10-10-27(D) Action Plan, attached as Exhibit PJL-6.

Direct Testimony of Peter J. Lanza
On Behalf of the Office of the Ohio Consumers' Counsel
PUCO Case No. 17-0032-EL-AIR et al

Table 3

All Outage Causes - Excluding Major Events and Transmission Outages			
Year	Events	Cust Interrupt	Cust Min Interrupt
2017	19,518	832,567	105,965,751
2016	23,939	742,695	101,317,154
2015	21,850	722,659	84,883,646
2014	25,450	687,533	74,445,999
2013	25,660	680,764	80,240,883

As shown in Table 3, the Utility has had some success in reducing the number of outage events from 25,660 events in 2013 down to 19,518 events in 2017, although in 2016, the number of such events reached almost 24,000. However, they have had no success in reducing the total number of customers whose electric service was interrupted due to these events, and no success in reducing the total number of customer minutes of such interruptions.

To the contrary, the Utility's annual number of customer interruptions due to all causes has increased, from 680,764 in 2013 to 832,567 in 2017, an increase of more than 151,800 customer interruptions per year, or an increase of 22% in four years. Similarly, the Utility's annual number of customer minutes of interruption due to all causes has increased from 80,240,883 in 2013 to 105,965,751 in 2017, an increase of more than 25,000,000 customer minutes of interruption per year, or an increase of more than 32% in four years.

Direct Testimony of Peter J. LanzaIotta
On Behalf of the Office of the Ohio Consumers' Counsel
PUCO Case No. 17-0032-EL-AIR et al

This reliability performance is not due to a quirk of nature regarding the calculation of CAIDI, as the Utility maintains. It is due to the fact that Duke electric customers are currently experiencing more than an additional 150,000 customer interruptions per year and more than an additional 25,000,000 customer minutes of interruption per year, compared to 2013.

There is no customer or public interest benefit to approving these reliability levels, where customers receive less reliable service.

Q14. PLEASE DISCUSS THE MAJOR CAUSES OF THE ELECTRIC SERVICE INTERRUPTIONS REFLECTED IN TABLE 3 ABOVE.

A14. Table 4 below summarizes the Utility's major outage causes over the past three years.

Table 4

Duke Rule #10 Data Regarding Customer Minutes of Interruption							
Excluding Major Events and Transmission Outages							
				2017		2016	
Cause	2017	2016	2015	Increase	% Increase	Increase	% Increase
Animal/Bird	5,509,232	3,946,880	3,767,775	1,562,352	39.58%	179,105	4.8%
Auto Damage	14,809,043	13,488,431	11,692,002	1,320,612	9.79%	1,796,429	15.4%
Planned Outage	12,593,996	10,909,380	5,296,342	1,684,616	15.44%	5,613,038	106.0%
Equip Failure	25,655,956	25,806,494	25,297,970	(150,538)	-0.58%	508,524	2.0%
Lightning	2,855,476	2,222,136	2,384,507	633,340	28.50%	(162,371)	-6.8%
Other	4,685,916	5,067,925	5,101,798	(382,009)	-7.54%	(33,873)	-0.7%
Tree Fell	28,617,601	26,938,734	19,825,575	1,678,867	6.23%	7,113,159	35.9%
Unknown	4,884,572	7,190,207	3,877,761	(2,305,635)	-32.07%	3,312,446	85.4%
Weather	6,353,959	5,746,967	7,539,916	606,992	10.56%	(1,792,949)	-23.8%
Total	105,965,751	101,319,170	84,785,661	4,646,581	4.59%	16,533,509	19.5%

1 As shown in Table 4, tree-related outages have been the source of more customer
2 interruption minutes (“CIM”) in each of the past two years than any other outage
3 cause. The total increase in CIM from tree-related outages in 2016 and 2017
4 combined was greater than from any other cause. Equipment failure has been the
5 most consistent cause of large amounts of customer interruption minutes over this
6 period but has little or no growth over this period.

7
8 Other fast-growing outage categories include wildlife, accidents, and planned
9 outages. Highly variable causes include lightning, unknown and weather.

10

11 ***Q15. PLEASE DISCUSS THE UTILITY’S VEGETATION MANGEMENT***
12 ***PERFORMANCE AND THE CHANGES IT PROPOSES UNDER THE***
13 ***SETTLEMENT.***

14 ***A15.*** The Utility currently attempts to trim its distribution system facilities on a four-
15 year cycle. Under such a cycle, the Utility should trim about 25% of the overhead
16 distribution circuit miles on its system, or about 2,050 miles on a system with
17 about 8,200 total circuit miles. A review of the Utility’s Rule 26 data shows that
18 in 2016, it trimmed about 1,703 miles and in 2017, it trimmed about 1,791 miles,
19 both well below the level needed to trim the entire system every four years. Table
20 5 below reviews the reliability performance of the Utility’s electric system over
21 the past five years where vegetation management is concerned.

*Direct Testimony of Peter J. Lanzalotta
On Behalf of the Office of the Ohio Consumers' Counsel
PUCO Case No. 17-0032-EL-AIR et al*

Table 5

Vegetation Outages - Excluding Major Events and Transmission Outages			
Year	Events	Cust Interrupt	Cust Min Interrupt
2017	2,083	165,253	28,617,601
2016	2,612	165,300	26,938,734
2015	2,480	128,070	19,825,575
2014	2,288	135,012	18,467,883
2013	2,482	143,888	23,136,036

As shown in Table 5, the Utility has had inconsistent results in reducing the number of outage events attributable to vegetation, with as few as 2,083 events in 2017, and as many as 2,612 events in 2016, with the other years falling in between these two levels. However, both the number of customer interruptions due to vegetation and the number of customer interruption minutes due to vegetation showed substantial increases in 2016 and 2017, during the same time that the Utility was failing to maintain its four-year cycle on schedule.¹⁵

Now, the Utility is proposing as part of the Settlement, to change from a four-year tree-trimming cycle to a five-year cycle to help the Utility's ability to maintain planned vegetation management work on schedule. Of course, there is more to changing to a five-year cycle than just changing the dates that tree trimmers show up to trim a particular feeder. Under a four-year cycle, four years of growth is removed during each scheduled trim. Under a five-year cycle, five years of tree growth needs to be removed so that tree branches have not grown onto the wires

¹⁵ *In the Matter of the Annual Report of the Electric Service and Safety Standards, Pursuant to Rule 4901:1-10-26(B) of the Ohio Administrative Code*, Case No. 17-0999-EL-ESS (March 29, 2017 at 10b:1). *In the Matter of the Annual Report of the Electric Service and safety Standards, Pursuant to Rule 4901:1-10-26(B) of the Ohio Administrative Code*, Case No. 18-0999-EL-ESS (March 28, 2018 at page 26).

Direct Testimony of Peter J. Lanza
On Behalf of the Office of the Ohio Consumers' Counsel
PUCO Case No. 17-0032-EL-AIR et al

1 before the next scheduled trim in five years. This typically means that the last
2 trim on the four-year cycle must remove five years of growth to prevent branch
3 contact during the last year before the next scheduled trim in five years. This
4 indicates an increase in vegetation management costs just to get to the point
5 where scheduled trims are five years apart.

6
7 There are also general concerns about customer acceptance of a five-year
8 trimming cycle. Residential customers are typically sensitive about the trimming
9 of the trees in the vicinity of their homes. A five-year cycle will need to cut back
10 tree branches in the vicinity of the Utility's distribution wires about 25% more on
11 a five-year cycle than with a four-year cycle in order to maintain electric service
12 reliability. This increased tree and limb removal is rarely welcomed by
13 homeowners. That's why five-year vegetation management cycles for
14 distribution facilities are typically more common in largely rural service areas
15 where there is lower customer density.

16
17 In sum, there hasn't been showing made that the proposed changes to the
18 distribution vegetation management plan will remedy recent increases in tree-
19 related customer interruptions and customer interruption minutes or otherwise
20 benefit customers.

1 **V. CONCLUSION**

2

3 ***Q16. PLEASE SUMARIZE HOW YOUR TESTIMONY DETERMINES THAT THE***
4 ***SETTLEMENT VIOLATES THE COMMISSION'S THREE PRONGED***
5 ***TEST.***

6 ***A16.*** Prongs 2 and 3 of the three-pronged test are:

7 **2.** Does the settlement, as a package, benefit customers and
8 the public interest?

9 **3.** Does the settlement package violate any important
10 regulatory principle or practice?

11 As described above, my testimony finds that the Settlement, as a package, harms
12 customers i) because it permits current reliability performance that is less reliable
13 than current reliability standards, ii) it permits future reliability performance to be
14 less reliable than is permitted under current reliability standards, and iii) there has
15 been no showing that the proposed vegetation management changes to the
16 distribution vegetation management plan will remedy recent increases in tree-
17 related customer interruptions and customer interruption minutes or otherwise
18 benefit customers.

19

20 As described above, my testimony also criticizes the Settlement because it
21 violates an important regulatory principle or practice for inconsistent compliance
22 with Ohio Policy, R.C. 4928.02(E), which encourages cost-effective and efficient

Direct Testimony of Peter J. LanzaIotta
On Behalf of the Office of the Ohio Consumers' Counsel
PUCO Case No. 17-0032-EL-AIR et al

1 access to information regarding the development of performance standards.

2

3 ***Q17. DOES THIS CONCLUDE YOUR TESTIMONY?***

4 ***A17.*** Yes, at this time. I reserve the right to supplement this testimony if additional

5 information becomes available.

CERTIFICATE OF SERVICE

I hereby certify that a true copy of the foregoing *Direct Testimony of Peter J. Lanzalotta on Behalf of the Office of the Ohio Consumers' Counsel* was served via electronic transmission to the persons listed below on this 25th day of June 2018.

/s/ William J. Michael

William J. Michael

Assistant Consumers' Counsel

SERVICE LIST

Case No. 17-0872-EL-RDR et al. Steven.beeler@ohioattorneygeneral.gov cmooney@ohiopartners.org mkurtz@BKLawfirm.com kboehm@BKLawfirm.com jkylercohn@BKLawfirm.com dborchers@bricker.com dparram@bricker.com whitt@whitt-sturtevant.com campbell@whitt-sturtevant.com glover@whitt-sturtevant.com rsahli@columbus.rr.com mleppla@theoec.org tdougherty@theOEC.org Case No. 17-0032-EL-AIR et al. Steven.beeler@ohioattorneygeneral.gov Robert.eubanks@ohioattorneygeneral.gov cmooney@ohiopartners.org mfleisher@elpc.org fdarr@mwncmh.com mpritchard@mwncmh.com paul@carpenterlipps.com mleppla@theOEC.org tdougherty@theOEC.org dborchers@bricker.com dparram@bricker.com whitt@whitt-sturtevant.com campbell@whitt-sturtevant.com	Jeanne.kingery@duke-energy.com Elizabeth.watts@duke-energy.com Rocco.dascenzo@duke-energy.com chris.michael@icemiller.com Mike.Mizell@icemiller.com Kay.pashos@icemiller.com Camal.Robinson@duke-energy.com fdarr@mwncmh.com mpritchard@mwncmh.com Bojko@carpenterlipps.com perko@carpenterlipps.com paul@carpenterlipps.com joliker@igsenergy.com kboehm@BKLawfirm.com Jeanne.kingery@duke-energy.com Elizabeth.watts@duke-energy.com Rocco.dascenzo@duke-energy.com chris.michael@icemiller.com Mike.Mizell@icemiller.com Kay.pashos@icemiller.com Camal.Robinson@duke-energy.com mkurtz@BKLawfirm.com kboehm@BKLawfirm.com jkylercohn@BKLawfirm.com joliker@igsenergy.com
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glover@whitt-sturtevant.com
mjsettineri@vorys.com
glpetrucci@vorys.com
talexander@calfee.com
jang@calfee.com
slessor@calfee.com
talexander@calfee.com
mkeaney@calfee.com

Case No. 17-1263-EL-SSO et al.

Steven.beeler@ohioattorneygeneral.gov
fdarr@mwncmh.com
mpritchard@mwncmh.com
mkurtz@BKLlawfirm.com
jkylercohn@BKLlawfirm.com
cmooney@ohiopartners.org
Bojko@carpenterlipps.com
dressel@carpenterlipps.com
slessor@calfee.com
jang@calfee.com
talexander@calfee.com
mkeaney@calfee.com
eakhbari@bricker.com
nhewell@bricker.com
paul@carpenterlipps.com
whitt@whitt-sturtevant.com
campbell@whitt-sturtevant.com
glover@whitt-sturtevant.com
rsahli@columbus.rr.com
tony.mendoza@sierraclub.org

Case No. 16-1602-EL-ESS

Thomas.lindgren@ohioattorneygeneral.gov
Elizabeth.watts@duke-energy.com

eakhbari@bricker.com
nhewell@bricker.com
mdortch@kravitzllc.com
Bojko@carpenterlipps.com
dressel@carpenterlipps.com
mnugent@igsenergy.com
swilliams@nrdc.org
daltman@environlaw.com
jnewman@environlaw.com
jweber@environlaw.com
rdove@attorneydove.com

Jeanne.kingery@duke-energy.com
Elizabeth.watts@duke-energy.com
Rocco.dascenzo@duke-energy.com
chris.michael@icemiller.com
Mike.Mizell@icemiller.com
Kay.pashos@icemiller.com
Camal.Robinson@duke-energy.com
charris@spilmanlaw.com
dwilliamson@spilmanlaw.com
lbrandfass@spilmanlaw.com
mfleisher@elpc.org
tdougherty@theOEC.org
mleppla@theOEC.org
joliker@igsenergy.com
mnugent@igsenergy.com
dborchers@bricker.com
dparram@bricker.com
mjsettineri@vorys.com
glpetrucci@vorys.com
mdortch@kravitzllc.com
sean.mcglone@ohiohospitals.org

Prior Experience Of Peter J. Lanzalotta

Mr. Lanzalotta has more than thirty-five years experience in electric utility system planning, power pool operations, distribution operations, electric service reliability, load and price forecasting, and market analysis and development. Mr. Lanzalotta has appeared as an expert witness on utility reliability, planning, operation, and rate matters in more than 130 proceedings in 25 states, the District of Columbia, the Provinces of Alberta, Nova Scotia, and Ontario, before the Federal Energy Regulatory Commission, and before U. S. District Court. He has developed evaluations of electric utility system cost, system value, reliability planning, transmission and distribution maintenance practices, and reliability of service.

Prior to his forming Lanzalotta & Associates LLC in 2001, he was a Partner at Whitfield Russell Associates in Washington DC for fifteen years and a Senior Associate for approximately four years before that. He holds a Bachelor of Science in Electric Power Engineering from Rensselaer Polytechnic Institute and a Master of Business Administration with a concentration in Finance from Loyola College of Baltimore.

Prior to joining Whitfield Russell Associates in 1982, Mr. Lanzalotta was employed by the Connecticut Municipal Electric Energy Cooperative ("CMEEC") as a System Engineer. He was responsible for providing operational, financial, and rate expertise to Coop's budgeting, ratemaking and system planning processes. He participated on behalf of CMEEC in the Hydro-Quebec/New England Power Pool Interconnection project and initiated the development of a database to support CMEEC's pool billing and financial data needs.

Prior to his CMEEC employment, he served as Chief Engineer at the South Norwalk (Connecticut) Electric Works, with responsibility for planning, data processing, engineering, rates and tariffs, generation and bulk power sales, and distribution operations. While at South Norwalk, he conceived and implemented, through Northeast Utilities and NEPOOL, a peak-shaving plan for South Norwalk and a neighboring municipal electric utility, which resulted in substantial power supply savings. He programmed and implemented a computer system to perform customer billing and maintain accounts receivable accounting. He also helped manage a generating station overhaul and the undergrounding of the distribution system in South Norwalk's downtown.

From 1977 to 1979, Mr. Lanzalotta worked as a public utility consultant for Van Scoyoc & Wiskup and separately for Whitman Requart & Associates in a variety of positions. During this time, he developed cost of service, rate base evaluation, and rate design impact data to support direct testimony and exhibits in a variety of utility proceedings, including utility price squeeze cases, gas pipeline rates, and wholesale electric rate cases.

Prior to that, He worked for approximately 2 years as a Service Tariffs Analyst for the Finance Division of the Baltimore Gas & Electric Company where he developed cost and revenue studies, evaluated alternative rate structures, and studied the rate structures of other utilities for a variety of applications. He was also employed by BG&E in Electric System Operations for approximately 3 years, where his duties included operations analysis, outage reporting, and participation in the development of BG&E's first computerized customer information and service order system.

Mr. Lanzalotta is a member of the Institute of Electrical & Electronic Engineers, the Association of Energy Engineers, the National Fire Protection Association, and the American Solar Energy Society. He is also registered Professional Engineer in the states of Maryland and Connecticut.

**Proceedings In Which
Peter J. Lanzaotta
Has Testified**

1. **In re: Public Service Company of New Mexico**, Docket Nos. ER78-337 and ER78-338 before the Federal Energy Regulatory Commission, concerning the need for access to calculation methodology underlying filing.
2. **In re: Baltimore Gas and Electric Company**, Case No. 7238-V before the Maryland Public Service Commission, concerning outage replacement power costs.
3. **In re: Houston Lighting & Power Company**, Texas Public Utilities Commission Docket No. 4712, concerning modeling methods to determine rates to be paid to cogenerators and small power producers.
4. **In re: Nevada Power Company**, Nevada Public Service Commission, Docket No. 83-707 concerning rate case fuel inventories, rate base items, and O&M expense.
5. **In re: Virginia Electric & Power Company**, Virginia State Corporation Commission, Case No. PUE820091, concerning the operating and reliability-based need for additional transmission facilities.
6. **In re: Public Service Electric & Gas Company**, New Jersey Board of Public Utilities, Docket No. 831-25, concerning outage replacement power costs.
7. **In re: Philadelphia Electric Company**, Pennsylvania Public Utilities Commission, Docket No. P-830453, concerning outage replacement power costs.
8. **In re: Cincinnati Gas & Electric Company**, Public Utilities Commission of Ohio, Case No. 83-33-EL-EFC, concerning the results of an operations/fuel-use audit conducted by Mr. Lanzaotta.
9. **In re: Kansas City Power and Light Company**, before the State Corporation Commission of the state of Kansas, Docket Nos. 142,099-U and 120,924-U, concerning the determination of the capacity, from a new base-load generating facility, needed for reliable system operation, and the capacity available from existing generating units.

**Proceedings In Which
Peter J. Lanzalotta
Has Testified**

10. **In re: Philadelphia Electric Company**, Pennsylvania Public Utilities Commission, Docket No. R-850152, concerning the determination of the capacity, from a new base-load generating facility, needed for reliable system operation, and the capacity available from existing generating units.
11. **In re: ABC Method Proposed for Application to Public Service Company of Colorado**, before the Public Utilities Commission of the State of Colorado, on behalf of the Federal Executive Agencies ("FEA"), concerning a production cost allocation methodology proposed for use in Colorado.
12. **In re: Duquesne Light Company**, Docket No. R-870651, before the Pennsylvania Public Utilities Commission, on behalf of the Office of Consumer Advocate, concerning the system reserve margin needed for reliable service.
13. **In re: Pennsylvania Power Company**, Docket No. I-7970318 before the Pennsylvania Public Utilities Commission, on behalf of the Office of Consumer Advocate, concerning outage replacement power costs.
14. **In re: Commonwealth Edison Company**, Docket No. 87-0427 before the Illinois Commerce Commission, on behalf of the Citizen's Utility Board of Illinois, concerning the determination of the capacity, from new base-load generating facilities, needed for reliable system operation.
15. **In re: Central Illinois Public Service Company**, Docket No. 88-0031 before the Illinois Commerce Commission, on behalf of the Citizen's Utility Board of Illinois, concerning the degree to which existing generating capacity is needed for reliable and/or economic system operation.
16. **In re: Illinois Power Company**, Docket No. 87-0695 before the State of Illinois Commerce Commission, on behalf of Citizens Utility Board of Illinois, Governors Office of Consumer Services, Office of Public Counsel and Small Business Utility Advocate, concerning the determination of the capacity, from a new base-load generating facility, needed for reliable system operation, and the capacity available from existing generating units.

**Proceedings In Which
Peter J. Lanzaotta
Has Testified**

17. **In re: Florida Power Corporation**, Docket No. 860001-EI-G (Phase II), before the Florida Public Service Commission, on behalf of the Federal Executive Agencies of the United States, concerning an investigation into fuel supply relationships of Florida Power Corporation.
18. **In re: Potomac Electric Power Company**, before the Public Service Commission of the District of Columbia, Docket No. 877, on behalf of the Public Service Commission Staff, concerning the need for and availability of new generating facilities.
19. **In re: South Carolina Electric & Gas Company**, before the South Carolina Public Service Commission, Docket No. 88-681-E, On Behalf of the State of Carolina Department of Consumer Affairs, concerning the capacity needed for reliable system operation, the capacity available from existing generating units, relative jurisdictional rate of return, reconnection charges, and the provision of supplementary, backup, and maintenance services for QFs.
20. **In re: Commonwealth Edison Company**, Illinois Commerce Commission, Docket Nos. 87-0169, 87-0427, 88-0189, 88-0219, and 88-0253, on behalf of the Citizen's Utility Board of Illinois, concerning the determination of the capacity, from a new base-load generating facility, needed for reliable system operation.
21. **In re: Illinois Power Company**, Illinois Commerce Commission, Docket No. 89-0276, on behalf of the Citizen's Utility Board Of Illinois, concerning the determination of capacity available from existing generating units.
22. **In re: Jersey Central Power & Light Company**, New Jersey Board of Public Utilities, Docket No. EE88-121293, on behalf of the State of New Jersey Department of the Public Advocate, concerning evaluation of transmission planning.
23. **In re: Canal Electric Company**, before the Federal Energy Regulatory Commission, Docket No. ER90-245-000, on behalf of the Municipal Light Department of the Town of Belmont, Massachusetts, concerning the reasonableness of Seabrook Unit No. 1 Operating and Maintenance expense.

**Proceedings In Which
Peter J. Lanzaotta
Has Testified**

24. **In re: New Hampshire Electric Cooperative Rate Plan Proposal**, before the New Hampshire Public Utilities Commission, Docket No. DR90-078, on behalf of the New Hampshire Electric Cooperative, concerning contract valuation.
25. **In re: Connecticut Light & Power Company**, before the Connecticut Department of Public Utility Control, Docket No. 90-04-14, on behalf of a group of Qualifying Facilities concerning O&M expenses payable by the QFs.
26. **In re: Duke Power Company**, before the South Carolina Public Service Commission, Docket No. 91-216-E, on behalf of the State of South Carolina Department of Consumer Advocate, concerning System Planning, Rate Design and Nuclear Decommissioning Fund issues.
27. **In re: Jersey Central Power & Light Company**, before the Federal Energy Regulatory Commission, Docket No. ER91-480-000, on behalf of the Boroughs of Butler, Madison, Lavallette, Pemberton and Seaside Heights, concerning the appropriateness of a separate rate class for a large wholesale customer.
28. **In re: Potomac Electric Power Company**, before the Public Service Commission of the District of Columbia, Formal Case No. 912, on behalf of the Staff of the Public Service Commission of the District of Columbia, concerning the Application of PEPCO for an increase in retail rates for the sale of electric energy.
29. **Commonwealth of Pennsylvania, House of Representatives**, General Assembly House Bill No. 2273. Oral testimony before the Committee on Conservation, concerning proposed Electromagnetic Field Exposure Avoidance Act.
30. **In re: Hearings on the 1990 Ontario Hydro Demand\Supply Plan**, before the Ontario Environmental Assessment Board, concerning Ontario Hydro's System Reliability Planning and Transmission Planning.

**Proceedings In Which
Peter J. Lanzalotta
Has Testified**

31. **In re: Maui Electric Company**, Docket No. 7000, before the Public Utilities Commission of the State of Hawaii, on behalf of the Division of Consumer Advocacy, concerning MECO's generation system, fuel and purchased power expense, depreciation, plant additions and retirements, contributions and advances.
32. **In re: Hawaiian Electric Company, Inc.**, Docket No. 7256, before the Public Utilities Commission of the State of Hawaii, on behalf of the Division of Consumer Advocacy, concerning need for, design of, and routing of proposed transmission facilities.
33. **In re: Commonwealth Edison Company**, Docket No. 94-0065 before the Illinois Commerce Commission on behalf of the City of Chicago, concerning the capacity needed for system reliability.
34. **In re: Commonwealth Edison Company**, Docket No. 93-0216 before the Illinois Commerce Commission on behalf of the Citizens for Responsible Electric Power, concerning the need for proposed 138 kV transmission and substation facilities.
35. **In re: Commonwealth Edison Company**, Docket No. 92-0221 before the Illinois Commerce Commission on behalf of the Friends of Illinois Prairie Path, concerning the need for proposed 138 kV transmission and substation facilities.
36. **In re: Commonwealth Edison Company**, Docket No. 94-0179 before the Illinois Commerce Commission on behalf of the Friends of Sugar Ridge, concerning the need for proposed 138 kV transmission and substation facilities.
37. **In re: Public Service Company of Colorado**, Docket Nos. 95A-531EG and 95I-464E before the Colorado Public Utilities Commission on behalf of the Office of Consumer Counsel, concerning a proposed merger with Southwestern Public Service Company and a proposed performance-based rate-making plan.

**Proceedings In Which
Peter J. Lanzalotta
Has Testified**

38. **In re: South Carolina Electric & Gas Company, Duke Power Company, and Carolina Power & Light Company**, Docket No. 95-1192-E, before the South Carolina Public Service Commission on behalf of the South Carolina Department of Consumer Advocate, concerning avoided cost rates payable to qualifying facilities.
39. **In re: Lawrence A. Baker v. Truckee Donner Public Utility District**, Case No. 55899, before the Superior Court of the State of California on behalf of Truckee Donner Public Utility District, concerning the reasonableness of electric rates.
40. **In re: Black Hills Power & Light Company**, Docket No. OA96-75-000, before the Federal Energy Regulatory Commission on behalf of the City of Gillette, Wyoming, concerning the Black Hills' proposed open access transmission tariff.
41. **In re: Metropolitan Edison Company and Pennsylvania Electric Company** for Approvals of the Restructuring Plan Under Section 2806, Docket Nos. R-00974008 and R-00974009 before the Pennsylvania PUC on behalf of Operating NUG Group, concerning miscellaneous restructuring issues.
42. **In re: New Jersey State Restructuring Proceeding** for consideration of proposals for retail competition under BPU Docket Nos. EX94120585U; E097070457; E097070460; E097070463; E097070466 before the New Jersey BPU on behalf of the New Jersey Division of Ratepayer Advocate, concerning load balancing, third party settlements, and market power.
43. **In re: Arbitration Proceeding In City of Chicago v. Commonwealth Edison** for consideration of claims that franchise agreement has been breached, Proceeding No. 51Y-114-350-96 before an arbitration panel board on behalf of the City of Chicago concerning electric system reliability.
44. **In re: Transalta Utilities Corporation**, Application No. RE 95081 on behalf of the ACD companies, before the Alberta Energy And Utilities Board in reference to the use and value of interruptible capacity.

**Proceedings In Which
Peter J. Lanzaotta
Has Testified**

45. **In re: Consolidated Edison Company**, Docket No. EL99-58-000 on behalf of The Village of Freeport, New York, before FERC in reference to remedies for a breach of contract to provide firm transmission service on a non-discriminatory basis.
46. **In re: ESBI Alberta Ltd.**, Application No. 990005 on behalf of the FIRM Customers, before the Alberta Energy And Utilities Board concerning the reasonableness of the cost of service plus management fee proposed for 1999 and 2000 by the transmission administrator.
47. **In re: South Carolina Electric & Gas Company**, Docket No. 2000-0170-E on behalf of the South Carolina Department of Consumer Affairs before the Public Service Commission of South Carolina concerning an application for a Certificate of Environmental Compatibility and Public Convenience and Necessity for new and repowered generating units at the Urquhart generating station.
48. **In re: BGE**, Case No. 8837 on behalf of the Maryland Office of People's Counsel before the Maryland Public Service Commission concerning proposed electric line extension charges.
49. **In re: PEPCO**, Case No. 8844 on behalf of the Maryland Office of People's Counsel before the Maryland Public Service Commission concerning proposed electric line extension charges.
50. **In re: GenPower Anderson LLC**, Docket No. 2001-78-E on behalf of the South Carolina Department of Consumer Affairs before the Public Service Commission of South Carolina concerning an application for a Certificate of Environmental Compatibility and Public Convenience and Necessity for new generating units at the GenPower Anderson LLC generating station.
51. **In re: Pike County Light & Power Company**, Docket No. P-00011872, on behalf of Pennsylvania Office of Consumer Advocate before the Pennsylvania Public Utility Commission concerning the Pike County request for a retail rate cap exception.

**Proceedings In Which
Peter J. Lanzaotta
Has Testified**

52. **In re: Potomac Electric Power Company and Conectiv,** Case No. 8890, on behalf of the Maryland Office of People's Counsel before the Maryland Public Service Commission concerning the proposed merger of Potomac Electric Power Company and Conectiv.
53. **In re: South Carolina Electric & Gas Company,** Docket No. 2001-420-E on behalf of the South Carolina Department of Consumer Affairs before the Public Service Commission of South Carolina concerning an application for a Certificate of Environmental Compatibility and Public Convenience and Necessity for new generating units at the Jasper County generating station.
54. **In re: Connecticut Light & Power Company,** Docket No. 217 on behalf of the Towns of Bethel, Redding, Weston, and Wilton, Connecticut before the Connecticut Siting Council concerning an application for a Certificate of Environmental Compatibility and Public Need for a new transmission line facility between Plumtree Substation, Bethel and Norwalk Substation, Norwalk.
55. **In re: The City of Vernon, California,** Docket No. EL02-103 on behalf of the City of Vernon before the Federal Energy Regulatory Commission concerning Vernon's transmission revenue balancing account adjustment reflecting calendar year 2001 transactions.
56. **In re: San Diego Gas & Electric Company et. al.,** Docket No. EL00-95-045 on behalf of the City of Vernon, California before the Federal Energy Regulatory Commission concerning refunds and other monies payable in the California wholesale energy markets.
57. **In re: The City of Vernon, California,** Docket No. EL03-31 on behalf of the City of Vernon before the Federal Energy Regulatory Commission concerning Vernon's transmission revenue balancing account adjustment reflecting 2002 transactions.
58. **In re: Jersey Central Power & Light Company,** Docket Nos. ER02080506, ER02080507, ER02030173, and EO02070417 on behalf of the New Jersey Division of Ratepayer Advocate before the New Jersey Board of Public Utilities concerning reliability issues involved in the approval of an increase in

**Proceedings In Which
Peter J. Lanzaotta
Has Testified**

base tariff rates.

59. **In re: Proposed Electric Service Reliability Rules, Standards, and Indices To Ensure Reliable Service by Electric Distribution Companies**, PSC Regulation Docket No. 50, on behalf of the Delaware Public Service Commission Staff before the Delaware Public Service Commission concerning proposed electric service reliability rules, standards and indices.
60. **In re: Central Maine Power Company**, Docket No. 2002-665, on behalf of the Maine Public Advocate and the Town of York before the Maine Public Utilities Commission concerning a Request for Commission Investigation into the New CMP Transmission Line Proposal for Eliot, Kittery, and York.
61. **In re: Metropolitan Edison Company**, Docket No. C-20028394, on behalf of the Pennsylvania Office of Consumer Advocate, before the Pennsylvania Public Utility Commission concerning the reliability service complaint of Robert Lawrence.
62. **In re: The California Independent System Operator Corporation**, Docket No. ER00-2019 *et al.* on behalf of the City of Vernon, California, before the Federal Energy Regulatory Commission concerning wholesale transmission tariffs, rates and rate structures proposed by the California ISO.
63. **In re: The Narragansett Electric Company**, Docket No. 3564 on behalf of the Rhode Island Department of Attorney General, before the Rhode Island Public Utilities Commission concerning the proposed relocation of the E-183 transmission line.
64. **In re: The City of Vernon, California**, Docket No. EL04-34 on behalf of the City of Vernon before the Federal Energy Regulatory Commission concerning Vernon's transmission revenue balancing account adjustment reflecting 2003 transactions.
65. **In re: Atlantic City Electric Company**, Docket No. ER03020110 on behalf of the New Jersey Division of Ratepayer Advocate before the New Jersey Board of Public Utilities concerning reliability issues involved in the approval of an increase in base tariff rates.

**Proceedings In Which
Peter J. Lanzaotta
Has Testified**

66. **In re: Connecticut Light & Power Company and the United Illuminating Company,** Docket No. 272 on behalf of the Towns of Bethany, Cheshire, Durham, Easton, Fairfield, Hamden, Middlefield, Milford, North Haven, Norwalk, Orange, Wallingford, Weston, Westport, Wilton, and Woodbridge, Connecticut before the Connecticut Siting Council concerning an application for a Certificate of Environmental Compatibility and Public Need for a new transmission line facility between the Scoville Rock Switching Station in Middletown and the Norwalk Substation in Norwalk, Connecticut.
67. **In re: Metropolitan Edison Company, Pennsylvania Electric Company, and Pennsylvania Power Company,** Docket No. I-00040102, on behalf of the Pennsylvania Office of Consumer Advocate before the Pennsylvania Public Utility Commission concerning electric service reliability performance.
68. **In re: Entergy Louisiana, Inc.,** Docket No. U-20925 RRF-2004 on behalf of Bayou Steel before the Louisiana Public Service Commission concerning a proposed increase in base rates.
69. **In re: Jersey Central Power & Light Company,** Docket No. ER02080506, Phase II, on behalf of the New Jersey Division of Ratepayer Advocate before the New Jersey Board of Public Utilities concerning reliability issues involved in the approval of an increase in base tariff rates.
70. **In re: Maine Public Service Company,** Docket No. 2004-538, on behalf of the Main Public Advocate before the Maine Public Utilities Commission concerning a request to construct a 138 kV transmission line from Limestone, Maine to the Canadian border near Hamlin, Maine.
71. **In re: Pike County Light and Power Company,** Docket No. M-00991220F0002, on behalf of the Pennsylvania Office of Consumer Advocate before the Pennsylvania Public Utility Commission concerning the Company's Petition to amend benchmarks for distribution reliability.
72. **In re: Atlantic City Electric Company,** Docket No. EE04111374, on behalf of the New Jersey Division of Ratepayer Advocate before the New Jersey

**Proceedings In Which
Peter J. Lanzaotta
Has Testified**

Board of Public Utilities concerning the need for transmission system reinforcement, and related issues.

73. **In re: Bangor Hydro-Electric Company**, Docket No. 2004-771, on behalf of the Main Public Advocate before the Maine Public Utilities Commission concerning a request to construct a 345 kV transmission line from Orrington, Maine to the Canadian border near Baileyville, Maine.
74. **In re: Eastern Maine Electric Cooperative**, Docket No. 2005-17, on behalf of the Main Public Advocate before the Maine Public Utilities Commission concerning a petition to approve a purchase of transmission capacity on a 345 kV transmission line from Maine to the Canadian province of New Brunswick.
75. **In re: Virginia Electric and Power Company**, Case No. PUE-2005-00018, on behalf of the Town of Leesburg VA and Loudoun County VA before the Virginia State Corporation Commission concerning a request for a certificate of public convenience and necessity for transmission and substation facilities in Loudoun County.
76. **In re: Proposed Electric Service Reliability Rules, Standards, and Indices To Ensure Reliable Service by Electric Distribution Companies**, PSC Regulation Docket No. 50, on behalf of the Delaware Public Service Commission Staff before the Delaware Public Service Commission concerning proposed electric service reliability reporting, standards, and indices.
77. **In re: Proposed Merger Involving Constellation Energy Group Inc. and the FPL Group, Inc.**, Case No. 9054, on behalf of the Maryland Office of Peoples' Counsel before the Maryland Public Service Commission concerning the proposed merger involving Baltimore Gas & Electric Company and Florida Light & Power Company.
78. **In re: Proposed Sale and Transfer of Electric Franchise of the Town of St. Michaels to Choptank Electric Cooperative, Inc.**, Case No. 9071, on behalf of the Maryland Office of Peoples' Counsel before the Maryland Public Service Commission concerning the sale by St. Michaels of their electric franchise and service area to Choptank.

**Proceedings In Which
Peter J. Lanzaotta
Has Testified**

79. **In re: Petition of Rockland Electric Company for the Approval of Changes in Electric Rates, and Other Relief**, BPU Docket No. ER06060483, on behalf of the Department of the Public Advocate, Division of Rate Counsel, before the New Jersey Board of Public Utilities, concerning electric service reliability and reliability-related spending.
80. **In re: The Complaint of the County of Pike v. Pike County Light & Power Company, Inc.**, Docket No. C-20065942, et al., on behalf of the Pennsylvania Office of Consumer Advocate before the Pennsylvania Public Utilities Commission, concerning electric service reliability and interconnecting with the PJM ISO.
81. **In re: Application of American Transmission Company to Construct a New Transmission Line**, Docket No. 137-CE-139, on behalf of The Sierra Club of Wisconsin, before the Public Service Commission of Wisconsin, concerning the request to build a new 138 kV transmission line.
82. **In re: The Matter of the Self-Complaint of Columbus Southern Power Company and Ohio Power Company Regarding the Implementation of Programs to Enhance Distribution Service Reliability**, Case No. 06-222-EL-SLF, on behalf of The Office of The Ohio Consumers' Counsel, before the Public Utilities Commission of Ohio, concerning distribution system reliability and related topics.
83. **In re: Central Maine Power Company**, Docket No. 2006-487, on behalf of the Maine Public Advocate before the Maine Public Utilities Commission concerning CMP's Petition for Finding of Public Convenience & Necessity to build a 115 kV transmission line between Saco and Old Orchard Beach.
84. **In re: Bangor Hydro Electric Company**, Docket No. 2006-686, on behalf of the Maine Public Advocate before the Maine Public Utilities Commission concerning BHE's Petition for Finding of Public Convenience & Necessity to build a 115 kV transmission line and substation in Hancock County.
85. **In re: Commission Staff's Petition For Designation of Competitive Renewable Energy Zones**, Docket No. 33672, on behalf of the Texas Office

**Proceedings In Which
Peter J. Lanzalotta
Has Testified**

of Public Utility Counsel, concerning the Staff's Petition and the determination of what areas should be designated as CREZs by the Commission.

86. **In re: Virginia Electric and Power Company**, Case No. PUE-2006-00091, on behalf of the Towering Concerns and Stafford County VA before the Virginia State Corporation Commission concerning a request for a certificate of public convenience and necessity for electric transmission and substation facilities in Stafford County.
87. **In re: Trans-Allegheny Interstate Line Company**, Docket Nos. A-110172 et al., on behalf of the Pennsylvania Office of Consumer Advocate, before the Pennsylvania Public Utility Commission, concerning a request for a certificate of public convenience and necessity for electric transmission and substation facilities in Pennsylvania.
88. **In re: Commonwealth Edison Company**, Docket No. 07-0566, on behalf of the Illinois Attorney General, before the Illinois Commerce Commission, concerning electric transmission and distribution projects promoted as smart grid projects, and the rider proposed to pay for them.
89. **In re: Commonwealth Edison Company**, Docket No. 07-0491, on behalf of the Illinois Attorney General, before the Illinois Commerce Commission, concerning the applicability of electric service interruption provisions.
90. **In re: Hydro One Networks**, Case No. EB-2007-0050, on behalf of Pollution Probe, before the Ontario Energy Board, concerning a request for leave to construct electric transmission facilities in the Province of Ontario.
91. **In re: PEPCO Holdings, Inc.**, Docket No. ER-08-686-000, on behalf of the Maryland Office of Peoples' Counsel, before the Federal Energy Regulatory Commission, concerning a request for incentive rates of return on transmission projects.
92. **In re: PPL Electric Utilities Corporation and Public Service Electric and Gas Company**, Docket No. ER-08-23-000, on behalf of the Joint Consumer Advocates, including the state consumer advocacy offices for the States of

**Proceedings In Which
Peter J. Lanzalotta
Has Testified**

Maryland, West Virginia, before the Federal Energy Regulatory Commission, concerning a request for incentive rates of return on transmission projects.

93. **In re: PPL Electric Utilities Corporation,** Docket Nos. A-2008-2022941 and P-2008-2038262, on behalf of Springfield Township, Bucks County, PA, before the Pennsylvania Public Utility Commission, concerning the need for and alternatives to proposed electric transmission lines and a proposed electric substation.
94. **In re: PEPCO Holdings, Inc.,** Docket No. ER08-1423-000, on behalf of the Maryland Office of Peoples' Counsel, before the Federal Energy Regulatory Commission, concerning a request for incentive rates of return on transmission projects.
95. **In re: Public Service Electric and Gas Company, Inc.,** Docket No. ER09-249-000, on behalf of the New Jersey Division of Rate Counsel, before the Federal Energy Regulatory Commission, concerning a request for incentive rates of return on transmission projects.
96. **In re: New York Regional Interconnect Inc.,** Case No. 06-T-0650, on behalf of the Citizens Against Regional Interconnect, before the New York Public Service Commission, concerning the economics of and alternatives to proposed transmission facilities.
97. **In re: Central Maine Power Company and Public Service of New Hampshire,** Docket No. 2008-255, on behalf of the Maine Public Advocate, before the Maine Public Utilities Commission, concerning CMP's and PSNH's Petition for Finding of Public Convenience & Necessity to build the Maine Power Reliability Project, a series of new and rebuilt electric transmission facilities to operate at 345 kV and 115 kV in Maine and New Hampshire.
98. **In re: PPL Electric Utilities Corporation, Docket No. A-2009-2082652 et al,** on behalf of the Pennsylvania Office of Consumer Advocate, before the Pennsylvania Public Utility Commission, concerning the Company's application for approval to site and construct electric transmission facilities in Pennsylvania.

**Proceedings In Which
Peter J. Lanzaotta
Has Testified**

99. **In re: Bangor Hydro-Electric,** Docket No. 2009-26, on behalf of the Maine Public Advocate, before the Maine Public Utilities Commission, concerning BHE's Petition for Certificate of Public Convenience & Necessity to build a 115 kV transmission line in Washington and Hancock Counties.
100. **In re: United States, et al. v. Cinergy Corp., et al.** Civil Action No. IP99-1693 C-M/S, on behalf of Plaintiff United States and Plaintiff-Intervenors State of New York, State of New Jersey, State of Connecticut, Hoosier Environmental Council, and Ohio Environmental Council, before the United States District Court for the Southern District of Indiana, concerning the system reliability impacts of the potential retirement of Gallagher Power Station Unit 1 and Unit 3.
101. **In re: Application of Potomac Electric Power Company, et al.** Case No. 9179, on behalf of the Maryland Office of Peoples' Counsel before the Maryland Public Service Commission concerning the application for a determination of need under a certificate of public convenience and necessity for the Maryland portion of the MAPP transmission line, and related facilities.
102. **In re: Potomac Electric Power Company v. Perini/Tompkins Joint Venture,** Case No. 9210, on behalf of Perini Tompkins before the Maryland Public Service Commission concerning a review of PEPCO's estimates of electric consumption by Perini Tompkins Joint Venture's temporary electric service at National Harbor during a 29 month period for which no metered consumption data is available.
103. **In re: Duke Energy Ohio, Inc.,** Case No. 10-503-EL-FOR, on behalf of the Natural Resources Defense Council and Sierra Club before the Public Utilities Commission Of Ohio, concerning a review of the reliability impacts that would result from closure of selected generating units as part of a review of Duke's 2010 Electric Long-Term Forecast Report and Resources Plan.
104. **In re: Detroit Edison Company,** Case Nos. U-16472 and 16489, on behalf of the Michigan Environmental Council and the Natural Resources Defense Council, before the Michigan Public Service Commission, concerning a review looking for studies of the reliability impacts that would result from closure of selected generating units as part of an electric rate increase case.

**Proceedings In Which
Peter J. Lanzaotta
Has Testified**

105. **In re: Potomac Electric Power Company**, Case No. 9240, on behalf of the Maryland Office of Peoples' Counsel, before the Maryland Public Service Commission, concerning electric service reliability performance.
106. **In re: ISO New England, Inc.**, Docket No. ER12-991-000, on behalf of the Conservation Law Foundation, before the Federal Energy Regulatory Commission, concerning proposals for procedures for obtaining temporary regulations addressing emissions from electric generating facilities.
107. **In re: Western Massachusetts Electric Company, Docket No. D.P.U. 11-119-C** on behalf of the Attorney General of the Commonwealth of Massachusetts, before the Massachusetts Department of Public Utilities, concerning storm preparation, performance, and restoration of electric service.
108. **In re: Delmarva Power & Light Company**, Case No. 9285, on behalf of the Maryland Office of Peoples' Counsel, before the Maryland Public Service Commission, concerning storm restoration expenses and tree trimming expenses as part of a base rate increase case.
109. **In re: Potomac Electric Power Company**, Case No. 9286, on behalf of the Maryland Office of Peoples' Counsel, before the Maryland Public Service Commission, concerning storm restoration expenses and tree trimming expenses as part of a base rate increase case.
110. **In re: Fitchburg Gas And Electric Company**, Civil Action No. 09-00023, on behalf of Marcia D. Bellerma, et al., before the Commonwealth of Massachusetts Superior Court, concerning company and electric system preparedness and execution in dealing with a major winter storm.
111. **In re: Duke Energy Indiana, Inc.**, Cause No. 44217, on behalf of Citizens Action Coalition of Indiana, Sierra Club, Save The Valley, and Valley Watch, before the Indiana Utility Regulatory Commission, concerning the role of transmission planning studies as part of the process of deciding whether to retire coal-fired generation or equip such generation with environmental retrofits.

**Proceedings In Which
Peter J. Lanzaotta
Has Testified**

112. **In re: Indianapolis Power & Light Company,** Cause No. 44242, on behalf of Citizens Action Coalition of Indiana and the Sierra Club, before the Indiana Utility Regulatory Commission, concerning the role of transmission planning studies as part of the process of deciding whether to retire coal-fired generation or equip such generation with environmental retrofits.
113. **In re: Consumers Energy Company,** Case No. U-17087, on behalf of Michigan Environmental Council and Natural Resources Defense Council, before the Michigan Public Service Commission, concerning the role of transmission planning studies as part of the process of deciding whether to retire coal-fired generation or equip such generation with environmental retrofits.
114. **In re: Potomac Electric Power Company,** Case No. 9311, on behalf of the Maryland Office of Peoples' Counsel, before the Maryland Public Service Commission, concerning electric service reliability matters and tree trimming expenses as part of a base rate increase case.
115. **In re: Jersey Central Power & Light Company,** BPU Docket No. ER12111052, on behalf of the New Jersey Division of Rate Counsel, before the New Jersey Board of Public Utilities, concerning reliability issues and storm performance involved in the approval of an increase in base tariff rates.
116. **In re: Delmarva Power & Light Company,** Case No. 9317, on behalf of the Maryland Office of Peoples' Counsel, before the Maryland Public Service Commission, concerning electric service reliability matters as part of a base rate increase case.
117. **In re: PPL Electric Utilities Corporation,** Docket Nos. A-2012-2340872 et al., on behalf of the Pennsylvania Office of Consumer Advocate, before the Pennsylvania Public Utility Commission, concerning the need for and alternatives to proposed electric transmission lines and proposed electric substations as part of the Northeast Pocono Reliability Project.
118. **In re: Baltimore Gas & Electric Co.,** Case No. 9326, on behalf of the Maryland Office of Peoples' Counsel, before the Maryland Public Service

**Proceedings In Which
Peter J. Lanzaotta
Has Testified**

Commission, concerning electric service reliability matters as part of a base rate increase case.

119. **In re: Jersey Central Power & Light Company**, BPU Docket Nos. EO13050391 and AX13030196, on behalf of the New Jersey Division of Rate Counsel, before the New Jersey Board of Public Utilities, concerning the prudence of costs incurred in response to major storms.
120. **In re: Potomac Electric Power Company**, Case No. 9336, on behalf of the Maryland Office of Peoples' Counsel, before the Maryland Public Service Commission, concerning electric service reliability matters as part of a base rate increase case.
121. **In re: Baltimore Gas & Electric Co.**, Case No. 9355, on behalf of the Maryland Office of Peoples' Counsel, before the Maryland Public Service Commission, concerning electric service reliability matters as part of a base rate increase case.
122. **In re: American Transmission Company LLC and Northern States Power Company – Wisconsin**, Docket No. 5-CE-142, on behalf of Citizens Energy Task Force, Inc. and Save Our Unique Lands of Wisconsin, Inc., before the Public Service Commission of Wisconsin, concerning the need for and the benefits expected from proposed transmission facilities.
123. **In re: Potomac-Appalachian Transmission Highline, LLC and PJM Interconnection, LLC**, Docket Nos. ER09-1256-002 and ER12-2708-003, on behalf of Intervenor's State Agencies, including the Virginia Office Of The Attorney General's Division Of Consumer Counsel, the Delaware Division Of The Public Advocate, the Maryland Office Of People's Counsel, the Maryland Public Service Commission, the Delaware Public Service Commission, and the Pennsylvania Office Of Consumer Advocate, before the Federal Energy Regulatory Commission, concerning transmission line abandonment costs.
124. **In re: The Matter of the Merger of Exelon Corporation and Pepco Holdings, Inc.**, Case No. 9361, on behalf of the Maryland Office of Peoples' Counsel, before the Maryland Public Service Commission, concerning electric service reliability-related matters as part of a proposed merger case.

**Proceedings In Which
Peter J. Lanzaotta
Has Testified**

125. **In re: the Matter of the Application of the Ohio Edison Company, the Cleveland Electric Illuminating Company and the Toledo Edison Company for Authority to Provide for an Electric Security Plan,** Case No. 14-1297-EL-SSO, on behalf of the Sierra Club, before the Public Utilities Commission Of Ohio, concerning electric system reliability and transmission matters.
126. **In re: Delmarva Power & Light Company,** Case No. 9393, on behalf of the Maryland Office of Peoples' Counsel, before the Maryland Public Service Commission, concerning an application for a CPCN for a new 138 kV electric transmission line.
127. **In re: The Baltimore Gas & Electric Company,** Case No. 9406, on behalf of the Maryland Office of Peoples' Counsel, before the Maryland Public Service Commission, concerning electric service reliability-related matters as part of a base rate increase case.
128. **In re: The Potomac Electric Power Company,** Case No. 9418, on behalf of the Maryland Office of Peoples' Counsel, before the Maryland Public Service Commission, concerning electric service reliability-related matters as part of a base rate increase case.
129. **In re: The Matter Of Nova Scotia Power Performance Standards,** Case No. M07387, on behalf of the Nova Scotia Consumer Advocate, before the Nova Scotia Utility and Review Board, concerning electric service reliability-related performance standards.
130. **In re: the Matter of the Application of the Ohio Power Company,** Case No. 13-1939-EL-RDR, on behalf of the Ohio Consumers' Counsel, before the Public Utilities Commission Of Ohio, concerning Phase 2 of its gridSMART Project and its gridSMART Phase 2 Rider.
131. **In re: PECO Energy Company,** Docket No. P-2016-2546452 et al., on behalf of the Pennsylvania Office of Consumer Advocate, before the Pennsylvania Public Utility Commission, concerning a proposed microgrid pilot plan and recovery of its costs.

**Proceedings In Which
Peter J. Lanzaotta
Has Testified**

132. **In re: The Delmarva Power & Light Company**, Case No. 9424, on behalf of the Maryland Office of Peoples' Counsel, before the Maryland Public Service Commission, concerning electric service reliability-related matters as part of a base rate increase case.
133. **In re: Jersey Central Power & Light Company**, BPU Docket No. EO16080750, on behalf of the New Jersey Division of Rate Counsel, before the New Jersey Board of Public Utilities, concerning a determination that a proposed transmission line in Monmouth County NJ is necessary for the service, convenience, and welfare of the public.
134. **In re: Virginia Electric and Power Company**, SCC Case No. PUE-2016-00021, on behalf of Lancaster County, Virginia, before the Virginia State Corporation Commission, concerning the need for rebuilding an existing electric transmission line across the Rappahannock River and the desirability of placing such rebuilt transmission line underground.
135. **In re: Virginia Electric and Power Company**, SCC Case No. PUR-2017-00002, on behalf of Fairfax County, Virginia, before the Virginia State Corporation Commission, concerning the need for rebuilding an existing electric substation and the desirability of transmission lines in the vicinity being placed underground.
136. **In re: The Potomac Electric Power Company**, Case No. 9443, on behalf of the Maryland Office of Peoples' Counsel, before the Maryland Public Service Commission, concerning electric service reliability-related matters as part of a base rate increase case.
137. **In re: The Delmarva Power & Light Company**, Case No. 9455, on behalf of the Maryland Office of Peoples' Counsel, before the Maryland Public Service Commission, concerning electric service reliability-related matters as part of a base rate increase case.

**Proceedings In Which
Peter J. Lanzaotta
Has Testified**

138. **In re: Entergy New Orleans, Inc.,** Docket No. UD-16-02, on behalf of the Sierra Club, the Deep South Center For Environmental Justice, and the Alliance For Affordable Energy, before the Council of the City of New Orleans, concerning electric service reliability-related matters.
139. **In re: Delmarva Power & Light Company,** Docket No. 17-0977, on behalf of the Delaware Division of the Public Advocate, before the Delaware Public Service Commission, concerning electric service reliability-related matters.
140. **In re: Virginia Electric and Power Company,** SCC Case No. PUR-2017-00143, on behalf of Fairfax County, Virginia, before the Virginia State Corporation Commission, concerning the need for building a new 230 kV transmission line and related facilities and the desirability of this new transmission line being placed underground.

Staff guidelines for electric utility reliability standards under rule 4901:1-10-10(B)

Rules 4901:1-10-10(B)(2), (3), (4), and (5) of the Ohio Administrative Code (O.A.C.) require each electric utility in the state to file with the PUCO an application to establish company-specific minimum reliability performance standards, and prescribe what should be included in the application's supporting justification and work papers. The following are guidelines for electric utilities to use in developing their reliability standards applications, supporting justification and supporting work papers.

1. Service reliability performance standards for CAIDI and SAIFI should be calculated by averaging historical performance and using the average as a baseline for adjustments that would result in a proposed standard.
2. Historical system performance should include at least five years of reliability performance data or an explanation of why that is not possible. Such performance data must reflect the exclusion of major events and transmission outages as defined in rules 4901:1-10-1(T) and (GG), O.A.C., respectively.
3. The application should separately quantify the adjustment that the electric utility proposes for each factor it believes should be considered in adjusting the average historical performance to develop the standard. All factors listed in rule 4901:1-10-10(B)(4)(a), O.A.C., should be addressed, including those for which no adjustment is made.
4. Work papers should include the following:
 - Supporting rationale, methodology, analysis, calculations, underlying assumptions and documentation for each adjustment used to arrive at the proposed reliability standards.
 - The methodology used to exclude major events and transmission outages from historical performance data.

- A description of how major event day thresholds were calculated, including a description of and justification for any adjustments to any data used for such calculations.
- The results of the customer perception survey conducted under rule 4901:1-10-10(B)(4)(b).
- The status in implementing and an updated schedule for completing any grid modernization program which the Commission has approved under section 4928.143(B)(2)(h), Ohio Revised Code.

<https://www.puco.ohio.gov/rules/pending-rules/staff-guidelines-for-electric-utility-reliability-standards-under-rule-4901-1-10-10-b/>

accessed: 06 19 18

**Duke Energy Ohio
Case No. 17-0032-EL-AIR, *et al.*
OCC Third Set of Interrogatories - Stipulation
Date Received: May 11, 2018**

OCC-INT-03-052

REQUEST:

Referring to the Reliability Standards section on page 13 of the Stipulation and Recommendation, please describe the methodology that was used to develop both of the proposed SAIFI and CAIDI standards for each year between 2018 through 2025.

RESPONSE:

The values included in the Stipulation resulted from settlement discussions and represent compromises on behalf of the Company. Such discussions are confidential.

PERSON RESPONSIBLE: Legal

**Duke Energy Ohio
Case No. 17-0032-EL-AIR, *et al.*
OCC Third Set of Interrogatories - Stipulation
Date Received: May 11, 2018**

OCC-INT-03-053

REQUEST:

Referring to the Reliability Standards section on page 13 of the Stipulation and Recommendation, please provide calculations supporting the proposed SAIFI and CAIDI reliability standards for each year between 2018 through 2025.

RESPONSE:

See Response to OCC-INT-03-052.

PERSON RESPONSIBLE: Legal



April 28, 2017

John Williams, Director
Service Monitoring and Enforcement Department
Public Utilities Commission of Ohio
180 East Broad Street
7th Floor
Columbus, Ohio 43215

Re: Duke Energy Ohio Rule 4901:1-10-10-27 (D) Action Plan

Dear Mr. Williams:

On March 31, 2017, pursuant to Rule 4901:1-10-10, O.A.C., Duke Energy Ohio, Inc., (Duke Energy Ohio) submitted its Annual Report regarding distribution reliability. Specifically, the Company reported that it was not in compliance with requirements for Customer Average Interruption Duration Index (CAIDI) for 2016. In order to remedy the problem, it is first necessary to understand the cause. The Company has determined that the below factors which contributed to the actual performance level.

It is Duke Energy Ohio's conclusion that CAIDI increased during 2016 as the result of continued focus on improvements to SAIDI and SAIFI. One such improvement focuses on minimizing the effect of a fault through the installation of sectionalizing devices such as reclosers and fuses. These sectionalizing devices limit the impact of a fault by isolating the resulting outage to a smaller number of customers. By isolating the fault in this manner, a larger number of customers avoided an outage. However, this benefit also results in less customers being restored in short duration during the restoration process, thus resulting in an impact to CAIDI. An example of how SAIDI, SAIFI, and CAIDI are affected was included in the technical review which occurred on February 2, 2017.

Additionally, when comparing the number of 2016 breaker level events against the five year average, Duke Energy Ohio has experienced a 43% reduction in the number of events and a 22% reduction in the number of Customer Interruptions (CI). Correspondingly, the Company has experienced a 45% increase in the number of recloser events and a 20% increase in the customer interruptions compared to the five year average. Since the overall number of events for Duke Energy Ohio has remained relatively constant, the net effect is a reduction in the number of customers that have experienced a shorter duration outage, which will cause CAIDI to increase. This demonstrates that the Company's sectionalizing strategy is being effective with mitigating outages to a larger number of customers.

John Williams, Director
April 28, 2017
Page 2 of 2

Duke Energy Ohio offers the following proposal for improving performance to the required level, including actions to be taken and anticipated completion date.

1. The Company plans to continue the sectionalizing strategy to isolate outages to impact a smaller number of customers thus mitigates impacts to a larger customer count.
2. The Company will leverage technology that enables two way communication and control to our distribution control center to pinpoint trouble and to restore power quicker to our customers.
3. The Company will continue to review and correct outage events data. Two additional efforts are being initiated:
 - a. Ensuring events are modeled to reflect the actual customers associated with an outage with less than 500 customers. While the Company has been focused on larger events greater than 500 customers, this initiative is focusing on events that affect less than 500 customers.
 - b. Ensure outage restoration time is entered to more accurately to reflect the actual time customer service is restored.
4. The Company will begin a program called "Switch Before Fix" as an initiative that will identify opportunities to restore power to as many customers as possible as quick as possible, through switching and fault isolation before beginning repairs that take a longer duration. While this effort is not new, additional reviews are taking place to identify additional opportunities.
5. Resource Response Time Performance - Duke Energy Ohio will develop metrics to track and measure the time to get a first responder to the outage location to drive operational improvement. Faster response equates to faster outage restoration.

It is anticipated that this information will respond to any concerns regarding this year's compliance submissions. Please let us know if you need additional information or clarification.

Respectfully submitted,

A handwritten signature in blue ink that reads "Elizabeth H. Watts". To the right of the signature, the word "DAIC" is written in blue ink.

Amy B. Spiller
Deputy General Counsel
Elizabeth H. Watts
Associate General Counsel
Duke Energy Shared Services, Inc.
155 East Broad Street, 21st Floor
Columbus, Ohio 43215
Phone: 614-222-1330
Fax: 614-222-1337
Amy.Spiller@duke-energy.com
Elizabeth.Watts@duke-energy.com

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Case No(s). 17-0032-EL-AIR, 17-0033-EL-ATA, 17-0034-EL-AAM, 17-0872-EL-RDR, 17-0873-EL-ATA, 1

Summary: Testimony Direct Testimony of Peter J. LanzaLotta in Opposition to the Joint Stipulation and Recommendation electronically filed by Ms. Jamie Williams on behalf of Michael, William Mr.