

**BEFORE
THE PUBLIC UTILITIES COMMISSION OF OHIO**

In the Matter of the Annual Report of	:	
	:	
Pursuant to Rule 10 of the Electric	:	Case No. 16-288-EL-ESS
Service and Safety Standards, Ohio	:	
Administrative Code 4901:1-10-10	:	

**ANNUAL REPORT
OF THE DUKE ENERGY OHIO COMPANY**

Pursuant to Rule 10 of the Electric Service and Safety Standards, Ohio, Administrative Code 4901:1-10-10, ("Duke") submits the following Annual Report. The Report is attached.

Report Date & Time: March 24, 2016 1:12 pm

**Duke Energy
Duke Energy Ohio
Rule #10
2015
Distribution System Reliability Report**

**Duke Energy
Duke Energy Ohio
Rule #10
2015
Distribution System Reliability Report**

1. 4901:1-10-(C)(1)

**CAIDI - Customer Average Interruption Duration
Index (In Minutes)**

a.	b.	c.
CAIDI Performance Standard	CAIDI After Exclusions	CAIDI Before Exclusions
122.81	117.32	163.64

2. 4901:1-10-(C)(1)

SAIFI - System Average Interruption Frequency Index

a.	b.	c.
SAIFI Performance Standard	SAIFI After Exclusions	SAIFI Before Exclusions
1.05	1.04	1.38

**Duke Energy
Duke Energy Ohio
Rule #10
2015
Distribution System Reliability Report**

3. 4901:1-10-(C)(1) Supporting Data Report

a.	b.	c.	d.	e.
Number Of Customers Served	Number Of Customer Interruptions After Exclusions	Number Of Customer Interruptions Before Exclusions	Number Of Customer Minutes Interrupted After Exclusions	Number Of Customer Minutes Interrupted Before Exclusions
697,961	722,659	963,820	84,783,646	157,723,577

**Duke Energy
Duke Energy Ohio
Rule #10
2015
Distribution System Reliability Report**

4. 4901:1-10-10(C)(2) Major Event Outage (MEO)

a.	b.	c.	d.	e.	f.
Major Event Date	Major Event Description	Customers Interrupted During MEO	Customer Minutes Interrupted During MEO	CAIDI During MEO (in minutes)	SAIFI During MEO
07/13/2015	Severe thunderstorms and 56 mph wind gusts (3 days of storms - 7/13-7/15)	69,809	36,739,761	526.29	0.10
07/13/2015	Transmission portion of Major Event Day on 7/13/2015	23,452	5,270,510	224.74	0.03
07/14/2015	Transmission portion of Major Event Day on 7/14/2015	2,531	731,459	289.00	0.00
07/14/2015	Severe thunderstorms and 37 mph wind gusts (3 days of storms - 7/13-7/15)	42,538	15,672,357	368.43	0.06
09/04/2015	Severe thunderstorms and 70 mph wind gusts	17,986	6,593,774	366.61	0.03

**Duke Energy
Duke Energy Ohio
Rule #10
2015
Distribution System Reliability Report**

5.a. 4901:1-10-10(C)(2) Transmission Circuit Interruption Supporting Data

1.	2.	3.	4.	5.	6.
Date Transmission Outage Began	Reference ID Of Transmission Circuit Impacted	Time Outage Occurred	Size (in kilovolts) Of Transmission Circuit Or Equipment Involved	Cause Of Outage Including Specific Type Of Equipment And/Or Facility Causing Interruption	Total Length Of Interruption (in minutes)
01/20/2015	300 - 3762	11:10 am	69	Auto Damage	202,062
01/20/2015	300 - 3762	11:10 am	69	Other	40
02/25/2015	012 - 2166	2:48 pm	69	Equipment Failure	364,304
04/07/2015	081 - 1862	2:48 pm	69	Tree Fell	283,920
04/08/2015	017 - 1762	7:55 pm	69	Weather	763,720
04/12/2015	017 - 1762	2:39 pm	69	Equipment Failure	12,348
04/24/2015	300 - 3762	8:27 am	69	Equipment Failure	166,822
06/08/2015	043 - 4366	10:53 pm	69	Unknown	336,736
06/21/2015	037 - 3763	6:46 am	69	Equipment Failure	186,255

**Duke Energy
Duke Energy Ohio
Rule #10
2015
Distribution System Reliability Report**

5.a. 4901:1-10-10(C)(2) Transmission Circuit Interruption Supporting Data ... Continued ...

1.	2.	3.	4.	5.	6.
Date Transmission Outage Began	Reference ID Of Transmission Circuit Impacted	Time Outage Occurred	Size (in kilovolts) Of Transmission Circuit Or Equipment Involved	Cause Of Outage Including Specific Type Of Equipment And/Or Facility Causing Interruption	Total Length Of Interruption (in minutes)
06/30/2015	043 - 4366	1:53 pm	69	Tree Fell	422,208
07/01/2015	300 - 3762	4:27 am	69	Unknown	400,057
07/13/2015	097 - 9787	12:24 pm	138	Weather	1,017,350
07/13/2015	043 - 4366	12:59 pm	69	Tree Fell	4,253,160
07/14/2015	043 - 4366	3:35 pm	69	Tree Fell	731,459
07/15/2015	300 - 3762	7:46 am	69	Auto Damage	266,906
07/19/2015	037 - 3766	11:41 am	69	Other	497
07/28/2015	068 - 6863	4:01 pm	69	Equipment Failure	1,300,533
07/28/2015	068 - 6863	4:01 pm	69	Other	143,066

**Duke Energy
Duke Energy Ohio
Rule #10
2015
Distribution System Reliability Report**

5.a. 4901:1-10-10(C)(2) Transmission Circuit Interruption Supporting Data ... Continued ...

1.	2.	3.	4.	5.	6.
Date Transmission Outage Began	Reference ID Of Transmission Circuit Impacted	Time Outage Occurred	Size (in kilovolts) Of Transmission Circuit Or Equipment Involved	Cause Of Outage Including Specific Type Of Equipment And/Or Facility Causing Interruption	Total Length Of Interruption (in minutes)
08/03/2015	080 - 8062	3:42 am	69	Weather	29,735
08/03/2015	057 - 5767	3:59 am	69	Weather	157,668
08/30/2015	300 - 3762	4:21 pm	69	Equipment Failure	265,072
10/09/2015	057 - 5767	11:38 am	69	Auto Damage	1,198,200
10/29/2015	300 - 3762	10:17 am	69	Tree Fell	336,550
12/03/2015	069 - 6961	5:54 pm	69	Equipment Failure	256,073
12/03/2015	069 - 6961	5:54 pm	69	Tree Fell	118
12/23/2015	081 - 1862	8:27 pm	69	Weather	839,180

**Duke Energy
Duke Energy Ohio
Rule #10
2015
Distribution System Reliability Report**

5.b. 4901:1-10-10(C)(2) Distribution Circuits Impacted By Transmission Outage(s) Supporting Data

1.	2.	3.	4.	5.	6.	7.
Date The Transmission Outage Began	Customers Interrupted Per Transmission Outage	Customer Minutes Interrupted Per Transmission Outage	The Number Of Distribution Circuits Impacted	Circuit Reference ID For Each Of The Distribution Circuits Impacted By The Interruption	Customers Interrupted By Distribution Circuit Reference ID	Customer Minutes Interrupted By Distribution Circuit Reference ID
01/20/2015	2,362	202,102	4	032 - 41 250 - A 352 - 41 352 - A	1 282 1,928 151	40 31,584 158,096 12,382
02/25/2015	4,062	364,304	5	005 - 42 021 - 2123 021 - 44 021 - 47 021 - 49	1,490 1 2,072 19 480	256,280 42 87,024 798 20,160
04/07/2015	3,120	283,920	2	143 - 41 310 - 41	1,740 1,380	158,340 125,580
04/08/2015	5,038	763,720	5	268 - 41	1,261	306,423

**Duke Energy
Duke Energy Ohio
Rule #10
2015
Distribution System Reliability Report**

5.b. 4901:1-10-10(C)(2) Distribution Circuits Impacted By Transmission Outage(s) Supporting Data ... Continued ...

1.	2.	3.	4.	5.	6.	7.
Date The Transmission Outage Began	Customers Interrupted Per Transmission Outage	Customer Minutes Interrupted Per Transmission Outage	The Number Of Distribution Circuits Impacted	Circuit Reference ID For Each Of The Distribution Circuits Impacted By The Interruption	Customers Interrupted By Distribution Circuit Reference ID	Customer Minutes Interrupted By Distribution Circuit Reference ID
				268 - 42	1,720	290,680
				583 - 41	1	81
				583 - 42	1	81
				583 - 43	2,055	166,455
04/12/2015	2,058	12,348	3	583 - 41	1	6
				583 - 42	1	6
				583 - 43	2,056	12,336
04/24/2015	2,866	166,822	3	033 - 43	912	52,896
				083 - 43	22	1,870
				352 - 41	1,932	112,056
06/08/2015	10,777	336,736	16	071 - 41	2,063	138,221
				081 - 51	1,354	14,894

**Duke Energy
Duke Energy Ohio
Rule #10
2015
Distribution System Reliability Report**

5.b. 4901:1-10-10(C)(2) Distribution Circuits Impacted By Transmission Outage(s) Supporting Data ... Continued ...

1.	2.	3.	4.	5.	6.	7.
Date The Transmission Outage Began	Customers Interrupted Per Transmission Outage	Customer Minutes Interrupted Per Transmission Outage	The Number Of Distribution Circuits Impacted	Circuit Reference ID For Each Of The Distribution Circuits Impacted By The Interruption	Customers Interrupted By Distribution Circuit Reference ID	Customer Minutes Interrupted By Distribution Circuit Reference ID
				081 - 52	1,094	12,034
				114 - A	2	22
				116 - A	155	1,705
				116 - B	1	11
				116 - C	1	11
				141 - 41	2,153	124,874
				193 - A	216	2,376
				193 - B	139	1,529
				212 - 41	484	4,356
				212 - 42	947	8,523
				234 - A	2	22
				341 - 41	569	7,397

**Duke Energy
Duke Energy Ohio
Rule #10
2015
Distribution System Reliability Report**

5.b. 4901:1-10-10(C)(2) Distribution Circuits Impacted By Transmission Outage(s) Supporting Data ... Continued ...

1.	2.	3.	4.	5.	6.	7.
Date The Transmission Outage Began	Customers Interrupted Per Transmission Outage	Customer Minutes Interrupted Per Transmission Outage	The Number Of Distribution Circuits Impacted	Circuit Reference ID For Each Of The Distribution Circuits Impacted By The Interruption	Customers Interrupted By Distribution Circuit Reference ID	Customer Minutes Interrupted By Distribution Circuit Reference ID
				341 - 42	580	7,540
				341 - 43	1,017	13,221
06/21/2015	6,908	186,255	4	179 - 41	708	12,744
				179 - 42	1,727	56,991
				179 - 43	2,355	42,390
				179 - 44	2,118	74,130
06/30/2015	4,262	422,208	12	081 - 51	1,354	93,426
				081 - 52	769	53,061
				114 - A	2	138
				116 - A	155	44,020
				116 - B	1	284
				116 - C	1	284

**Duke Energy
Duke Energy Ohio
Rule #10
2015
Distribution System Reliability Report**

5.b. 4901:1-10-10(C)(2) Distribution Circuits Impacted By Transmission Outage(s) Supporting Data ... Continued ...

1.	2.	3.	4.	5.	6.	7.
Date The Transmission Outage Began	Customers Interrupted Per Transmission Outage	Customer Minutes Interrupted Per Transmission Outage	The Number Of Distribution Circuits Impacted	Circuit Reference ID For Each Of The Distribution Circuits Impacted By The Interruption	Customers Interrupted By Distribution Circuit Reference ID	Customer Minutes Interrupted By Distribution Circuit Reference ID
				193 - A	216	61,344
				193 - B	139	39,476
				234 - A	2	138
				341 - 41	570	39,330
				341 - 42	578	39,882
				341 - 43	475	50,825
07/01/2015	2,361	400,057	4	037 - 42	1	193
				250 - A	276	18,492
				352 - 41	1,931	353,373
				352 - A	153	27,999
07/13/2015	21,336	1,017,350	10	036 - 41	1,325	10,600
				036 - 44	1,735	13,880

**Duke Energy
Duke Energy Ohio
Rule #10
2015
Distribution System Reliability Report**

5.b. 4901:1-10-10(C)(2) Distribution Circuits Impacted By Transmission Outage(s) Supporting Data ... Continued ...

1.	2.	3.	4.	5.	6.	7.
Date The Transmission Outage Began	Customers Interrupted Per Transmission Outage	Customer Minutes Interrupted Per Transmission Outage	The Number Of Distribution Circuits Impacted	Circuit Reference ID For Each Of The Distribution Circuits Impacted By The Interruption	Customers Interrupted By Distribution Circuit Reference ID	Customer Minutes Interrupted By Distribution Circuit Reference ID
				036 - 45	1,803	492,219
				047 - 41	998	10,978
				047 - 43	2,369	26,059
				047 - 44	3,188	35,068
				047 - 46	2,219	24,409
				079 - 41	1,955	99,705
				079 - 43	2,240	118,720
				079 - 44	3,504	185,712
07/13/2015	2,116	4,253,160	1	141 - 41	2,116	4,253,160
07/14/2015	2,531	731,459	1	141 - 42	2,531	731,459
07/15/2015	2,362	266,906	3	250 - A	275	31,075
				352 - 41	1,934	218,542

**Duke Energy
Duke Energy Ohio
Rule #10
2015
Distribution System Reliability Report**

5.b. 4901:1-10-10(C)(2) Distribution Circuits Impacted By Transmission Outage(s) Supporting Data ... Continued ...

1.	2.	3.	4.	5.	6.	7.
Date The Transmission Outage Began	Customers Interrupted Per Transmission Outage	Customer Minutes Interrupted Per Transmission Outage	The Number Of Distribution Circuits Impacted	Circuit Reference ID For Each Of The Distribution Circuits Impacted By The Interruption	Customers Interrupted By Distribution Circuit Reference ID	Customer Minutes Interrupted By Distribution Circuit Reference ID
				352 - A	153	17,289
07/19/2015	1	497	1	257 - 41	1	497
07/28/2015	12,069	1,443,599	4	185 - 42	2,467	71,543
				223 - 41	2,649	71,523
				267 - 41	4,654	1,148,799
				267 - 42	2,299	151,734
08/03/2015	313	29,735	1	322 - 42	313	29,735
08/03/2015	2,956	157,668	2	207 - 41	1,197	83,790
				327 - 41	1,759	73,878
08/30/2015	3,512	265,072	2	033 - C	388	12,028
				352 - 41	3,124	253,044
10/09/2015	7,992	1,198,200	6	207 - 41	1,200	9,600

**Duke Energy
Duke Energy Ohio
Rule #10
2015
Distribution System Reliability Report**

5.b. 4901:1-10-10(C)(2) Distribution Circuits Impacted By Transmission Outage(s) Supporting Data ... Continued ...

1.	2.	3.	4.	5.	6.	7.
Date The Transmission Outage Began	Customers Interrupted Per Transmission Outage	Customer Minutes Interrupted Per Transmission Outage	The Number Of Distribution Circuits Impacted	Circuit Reference ID For Each Of The Distribution Circuits Impacted By The Interruption	Customers Interrupted By Distribution Circuit Reference ID	Customer Minutes Interrupted By Distribution Circuit Reference ID
				232 - 41	2,431	425,425
				232 - 42	2,698	472,150
				232 - E	2	350
				232 - G	913	159,775
				296 - 41	748	130,900
10/29/2015	4,585	336,550	11	033 - 41	30	1,800
				033 - 42	43	2,580
				033 - 43	917	55,020
				033 - A	526	31,560
				033 - B	1	60
				033 - C	392	23,520
				033 - D	83	4,980

**Duke Energy
Duke Energy Ohio
Rule #10
2015
Distribution System Reliability Report**

5.b. 4901:1-10-10(C)(2) Distribution Circuits Impacted By Transmission Outage(s) Supporting Data ... Continued ...

1.	2.	3.	4.	5.	6.	7.
Date The Transmission Outage Began	Customers Interrupted Per Transmission Outage	Customer Minutes Interrupted Per Transmission Outage	The Number Of Distribution Circuits Impacted	Circuit Reference ID For Each Of The Distribution Circuits Impacted By The Interruption	Customers Interrupted By Distribution Circuit Reference ID	Customer Minutes Interrupted By Distribution Circuit Reference ID
				033 - E 250 - A 352 - 41 352 - A	242 276 1,923 152	14,520 33,120 157,686 11,704
12/03/2015	4,499	256,191	5	051 - 45 051 - 46 051 - 46 318 - 41 318 - 41	2,062 721 1 1,710 5	14,434 56,959 12 184,680 106
12/23/2015	2,742	839,180	5	301 - 41 301 - 42 354 - A	320 404 183	71,040 90,092 61,488

**Duke Energy
Duke Energy Ohio
Rule #10
2015
Distribution System Reliability Report**

5.b. 4901:1-10-10(C)(2) Distribution Circuits Impacted By Transmission Outage(s) Supporting Data ... Continued ...

1.	2.	3.	4.	5.	6.	7.
Date The Transmission Outage Began	Customers Interrupted Per Transmission Outage	Customer Minutes Interrupted Per Transmission Outage	The Number Of Distribution Circuits Impacted	Circuit Reference ID For Each Of The Distribution Circuits Impacted By The Interruption	Customers Interrupted By Distribution Circuit Reference ID	Customer Minutes Interrupted By Distribution Circuit Reference ID
				359 - 41	1,532	514,752
				359 - A	303	101,808

**Duke Energy
Duke Energy Ohio
Rule #10
2015
Distribution System Reliability Report**

5.c. 4901:1-10-10(C)(2) Index Values During Transmission Outage(s) Supporting Data

1.	2.	3.
Date Transmission Outage Began	CAIDI For Period Of Outage (minutes)	SAIFI For Period Of Outage
01/20/2015	86	0.00
01/20/2015	0	0.00
02/25/2015	90	0.01
04/07/2015	91	0.00
04/08/2015	152	0.01
04/12/2015	6	0.00
04/24/2015	58	0.00
06/08/2015	31	0.02
06/21/2015	27	0.01

**Duke Energy
Duke Energy Ohio
Rule #10
2015
Distribution System Reliability Report**

5.c. 4901:1-10-10(C)(2) Index Values During Transmission Outage(s) Supporting Data

... Continued ...

1.	2.	3.
Date Transmission Outage Began	CAIDI For Period Of Outage (minutes)	SAIFI For Period Of Outage
06/30/2015	99	0.01
07/01/2015	169	0.00
07/13/2015	48	0.03
07/13/2015	2,010	0.00
07/14/2015	289	0.00
07/15/2015	113	0.00
07/19/2015	497	0.00
07/28/2015	120	0.02
07/28/2015	0	0.00

**Duke Energy
Duke Energy Ohio
Rule #10
2015
Distribution System Reliability Report**

5.c. 4901:1-10-10(C)(2) Index Values During Transmission Outage(s) Supporting Data

... Continued ...

1.	2.	3.
Date Transmission Outage Began	CAIDI For Period Of Outage (minutes)	SAIFI For Period Of Outage
08/03/2015	95	0.00
08/03/2015	53	0.00
08/30/2015	75	0.01
10/09/2015	150	0.01
10/29/2015	73	0.01
12/03/2015	57	0.01
12/03/2015	0	0.00
12/23/2015	306	0.00

**Duke Energy
Duke Energy Ohio
Rule #10
2015
Distribution System Reliability Report**

6.a. 4901:1-10-10(C)(3)(a) Data Excluding Major Events And Transmission Outages

Outage Cause	Events	Customers Interrupted	Customer Minutes Interrupted
Animal/Bird	1,678	39,234	3,767,775
Auto Damage	1,071	104,457	11,692,002
Crew Planned Outage	7,782	51,778	5,296,342
Equipment Failure	3,701	211,706	25,297,970
Lightning	503	13,382	2,384,507
Other	2,932	60,701	5,101,798
Tree Fell	2,480	128,070	19,825,575
Unknown	1,138	52,411	3,877,761
Weather	565	60,920	7,539,916

**Duke Energy
Duke Energy Ohio
Rule #10
2015
Distribution System Reliability Report**

6.b. 4901:1-10-10(C)(3)(b) Data For Major Events Only

Outage Cause	Events	Customers Interrupted	Customer Minutes Interrupted
Animal/Bird	7	48	22,268
Auto Damage	5	365	35,445
Crew Planned Outage	36	924	242,558
Equipment Failure	75	10,229	3,466,284
Lightning	51	1,647	856,108
Other	89	1,748	1,978,633
Tree Fell	577	75,623	38,219,664
Unknown	42	3,078	578,433
Weather	321	62,654	19,608,468

**Duke Energy
Duke Energy Ohio
Rule #10
2015
Distribution System Reliability Report**

6.c. 4901:1-10-10(C)(3)(c) Data For Transmission Outages Only

Outage Cause	Events	Customers Interrupted	Customer Minutes Interrupted
Animal/Bird	0	0	0
Auto Damage	12	12,715	1,667,168
Crew Planned Outage	0	0	0
Equipment Failure	28	30,852	2,551,407
Lightning	0	0	0
Other	4	5,118	143,603
Tree Fell	31	11,973	1,042,796
Unknown	23	15,156	1,414,841
Weather	10	9,031	1,112,255

7. 4901:1-10-(C)(4) Momentary Interruptions

Total Number = 1,084,198

This foregoing document was electronically filed with the Public Utilities

Commission of Ohio Docketing Information System on

3/31/2016 10:58:10 AM

in

Case No(s). 16-0288-EL-ESS

Summary: Annual Report ANNUAL REPORT OF THE DUKE ENERGY OHIO COMPANY
electronically filed by Ms. E Minna Rolfes on behalf of Amy B. Spiller and Elizabeth H. Watts
and Duke Energy Ohio, Inc.