



2019 Annual Municipal Franchise Report Prepared for the Village of Glenview

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ComEd
An Exelon Company

2019 Annual Municipal Franchise Report

- A. Electrical System Performance/Reliability
 - i. Definition of Reliability Performance Indices
 - ii. Electric System Performance Reliability Charts
 - iii. Interruption Summary Report
 - iv. Glossary of Interruption Causes
- B. Smart Grid Implementation
- C. Customer Service Report
- ~~D. Electrical System Improvements~~
- ~~E. Circuit Reference~~
 - ~~i. Circuits Serving Glenview~~
 - ~~ii. Circuit Map~~
- ~~F. Current General Purpose Letter on Franchise Consideration~~
- ~~G. Contact Information~~
 - ~~i. How to Contact ComEd~~
 - ~~ii. How ComEd contacts the Village of Glenview~~

APPENDIX

~~Appendix 1 - Glossary of Terms~~

~~Appendix 2 - Electronic Interruption Report~~

~~*Portions of the Annual Report contain confidential and proprietary information and have been marked for limited distribution pursuant to the ComEd-Municipal franchise agreement.*~~

A. Electrical System Performance/ Reliability

Definition of Reliability Performance Indices

On the following page, ComEd provides three charts containing reliability indices for your municipality.

CHART ONE – SAIFI (Average Number of Interruptions per Customer)

Chart shows the average number of interruptions per customer on an annual basis for your municipality for the previous year and the past ten years. Municipality SAIFI is shown as non-storm and storm. Storm statistics are determined by events achieving either of the following criteria: 1) primary sustained interruptions that reach or exceed 125 interruptions or 25,000 customer interruptions within a 24 hour period due to inclement weather; 2) defined by the 83 Illinois Administrative Code Part 411.120(a) reporting threshold (10,000 customers experiencing interruptions for three hours). Storm events are excluded from the non-storm portion. For comparison purposes, this chart also shows the average number of interruptions per customer for the municipalities operating region and the ComEd system.

CHART TWO – CAIDI (Average Length of Customer Interruptions in minutes)

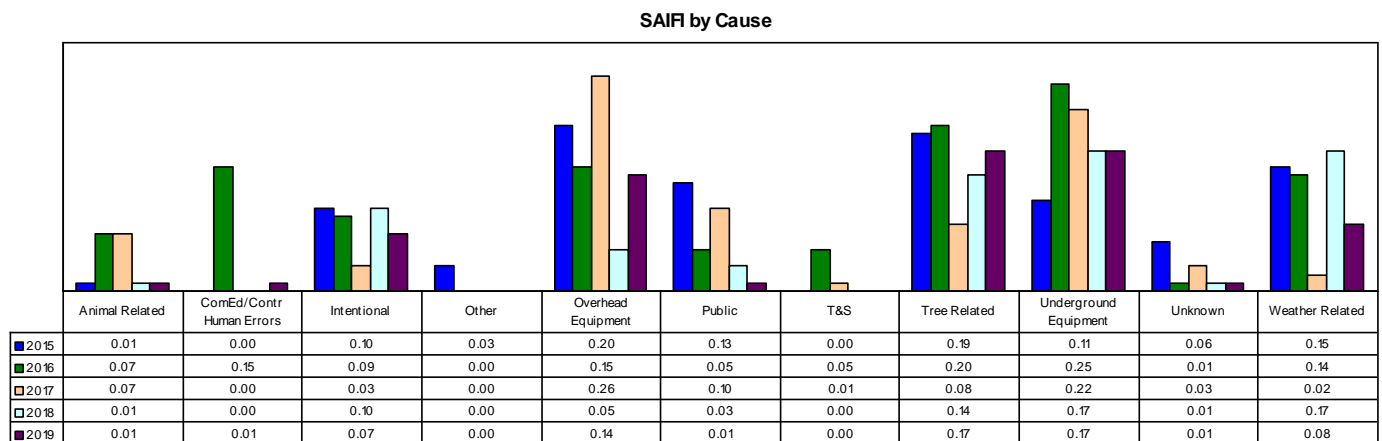
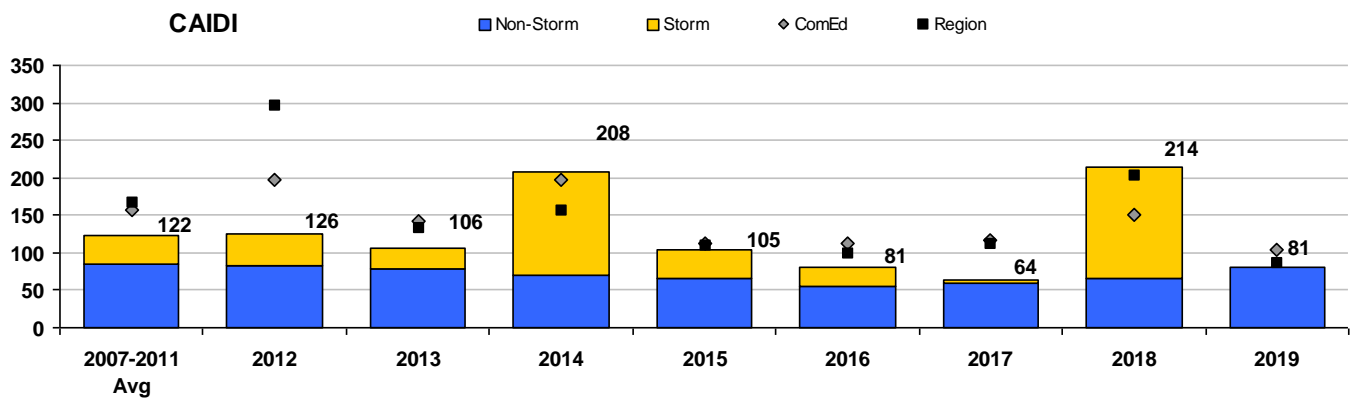
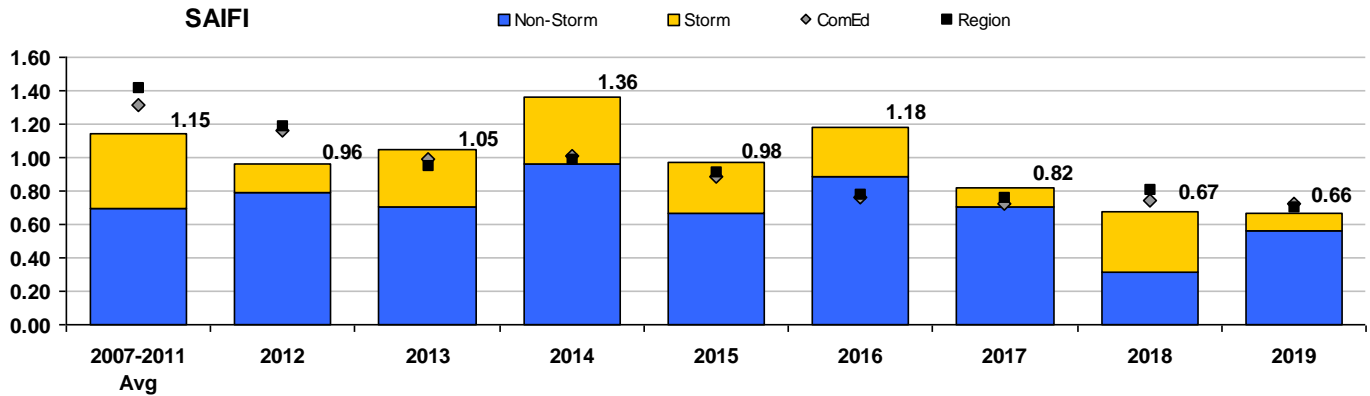
Chart shows the average length of customer interruptions in minutes on an annual basis for your municipality for the previous year and the past ten years. Municipality CAIDI is shown as non-storm and storm. Storm statistics are determined by events achieving either of the following criteria: 1) primary sustained interruptions that reach or exceed 125 interruptions or 25,000 customer interruptions within a 24 hour period due to inclement weather; 2) defined by the 83 Illinois Administrative Code Part 411.120(a) reporting threshold (10,000 customers experiencing interruptions for three hours). Storm events are excluded from the non-storm portion. For comparison purposes, this chart also shows the average length of interruptions for the municipalities operating region and for the ComEd system.

CHART THREE – SAIFI by Cause

Chart shows the average number of interruptions per customer by interruption causes for the past five years. For purposes of this Annual Report only, causes reflect interruptions as defined by the Illinois Administrative Code - Title 83: Public Utilities, Chapter I: Illinois Commerce Commission Subchapter c: Electric Utilities Part 411 Electric Reliability - Section 411.20 Definitions.

Glenview Reliability Performance Year End Report

ComEd customers in the Village of Glenview experienced a 99.99% reliability rate in 2019.



Note: For purposes of this Annual Report only, reliability statistics reflect interruptions as defined by the Illinois Administrative Code - Title 83: Public Utilities, Chapter I: Illinois Commerce Commission Subchapter c: Electric Utilities Part 411 Electric Reliability - Section 411.20 Definitions. See also Glossary contained herein.

2019 Interruption Summary Report From 1/1/2019 Through 12/31/2019 Glenview

For purposes of this Annual Report only, the following interruption cause code categories are reflected in Section 411.20 of the Illinois Administrative Code. Regardless of the category description set out in Section 411.20 and the tables herein, all or some of the cause codes identified below may be the result or consequence of severe weather conditions. See also Glossary contained herein for definition of cause codes utilized below.

Interruption Summary

Cause	Interruption Count	Total Number of Customer Interruptions	SAIFI	CAIDI
Animal Related	19	314	0.01	50
ComEd/Contractor Personnel-Errors	4	115	0.01	122
Intentional (e.g., unplanned)	15	1,414	0.07	40
Other	2	67	0.00	104
Overhead Equipment Related	40	2,920	0.14	82
Public	13	265	0.01	142
Transmission and Substation Equipment Related	0	0	0.00	0
Tree Related	28	3,546	0.17	87
Underground Equipment Related	39	3,612	0.17	95
Unknown	7	108	0.01	70
Weather Related	22	1,644	0.08	63
Secondary	1	1	0.00	102
Services	16	16	0.00	184
Total	206	14,022	0.66	81

Notes: For purposes of this Annual Report only, reliability statistics reflect interruptions as defined by the Illinois Administrative Code - Title 83: Public Utilities, Chapter I: Illinois Commerce Commission Subchapter c: Electric Utilities Part 411 Electric Reliability - Section 411.20 Definitions. Interruptions may be shown on circuits that currently serve less than 5 customers and are not included in other sections of this report.

Interruption Report

* Service / Secondary Interruption (low voltage) ** Excluded from Interruption Summary as part of ICC reporting requirements

Circuit	Interruption ID	Start Date/Time	Cause of Interruption	Cause Detail	Duration (minutes)	Customers Affected
C1211	1998449	8/8/2019 08:49 AM	Public	Dig-in by Others	70	7
					115	7
					335	1
C1211	2009465	10/25/2019 04:45 AM	Customer	** Customer Request	93	6
C1212	1975286	2/24/2019 05:02 PM	Intentional (e.g., unplanned)	Emergency Repairs	37	127
C1220	1968510*	1/9/2019 01:03 AM	Underground Equipment Related	Malfunction	102	1
C1220	1970097	1/29/2019 05:59 PM	Weather Related	Extreme Cold	70	85
C1220	1975936	3/4/2019 07:48 AM	Overhead Equipment Related	Malfunction	77	1
C1220	1977170	3/14/2019 08:01 PM	Weather Related	Wind / Tornado	168	32
C1220	1978788	4/2/2019 02:31 PM	Overhead Equipment Related	Malfunction	52	9
C1220	1978787	4/2/2019 03:16 PM	Intentional (e.g., unplanned)	Emergency Repairs	8	25
C1220	1981558	4/27/2019 09:19 PM	Weather Related	Ice / Snow	191	71
C1220	2004091	9/14/2019 12:53 PM	Underground Equipment Related	Underground Failure	60	10
C1220	2009779	10/27/2019 03:44 PM	Animal Related	Squirrels	45	47
C1220	2015185	12/8/2019 01:59 AM	Underground Equipment Related	Underground Failure	46	24
C124	1978671	4/1/2019 01:00 PM	Intentional Scheduled Construction, Maintenance or Repair	** Maintenance Switching	30	1
C124	1995759	7/21/2019 05:18 AM	Weather Related	Lightning	76	1
C124	2003648	9/13/2019 12:43 AM	Underground Equipment Related	Underground Failure	137	1
C129	1967834	1/2/2019 09:01 AM	Customer	** Customer Request	217	7
C129	1983962	5/19/2019 02:57 PM	Overhead Equipment Related	Malfunction	143	30
C129	1986429	6/5/2019 01:30 AM	Weather Related	Lightning	79	9
C129	1997493	8/2/2019 06:19 AM	Underground Equipment Related	Underground Failure	7	399

Interruption Report

* Service / Secondary Interruption (low voltage)

** Excluded from Interruption Summary as part of ICC reporting requirements

Circuit	Interruption ID	Start Date/Time	Cause of Interruption		Cause Detail	Duration (minutes)	Customers Affected
C129	2006689	10/2/2019 09:01 AM	Intentional Scheduled Construction, Maintenance or Repair	**	Maintenance Switching	264	13
C1313X	2010671	10/31/2019 08:50 AM	Tree Related		Limb Broken - Primary	165	1
C1315	1978626	4/1/2019 06:46 AM	Underground Equipment Related		Underground Failure	119	18
C1315	1990237	6/28/2019 08:58 AM	Underground Equipment Related		Underground Failure	211	3
C1315	1993304	7/8/2019 06:48 AM	Underground Equipment Related		Underground Failure	204	1
C1315	2000658	8/22/2019 09:02 AM	Intentional Scheduled Construction, Maintenance or Repair	**	Maintenance Switching	98	19
C1315	2000928	8/22/2019 09:02 AM	Intentional Scheduled Construction, Maintenance or Repair	**	Maintenance Switching	98	15
C1315	2016972	12/30/2019 06:43 PM	Overhead Equipment Related		Malfunction	105	174
C1315	2016971	12/30/2019 08:18 PM	Intentional Scheduled Construction, Maintenance or Repair	**	Maintenance Switching	10	59
C1322	1970203	1/30/2019 01:47 AM	Weather Related		Extreme Cold	67	27
C1322	1970205	1/30/2019 02:56 AM	Weather Related		Extreme Cold	122	1
C138Y	1996224	7/23/2019 11:45 PM	Unknown		Unknown	96	1
C169	1989164	6/24/2019 06:30 AM	Underground Equipment Related		Underground Failure	47	23
C169	1992871	7/5/2019 08:53 AM	Underground Equipment Related		Underground Failure	40	23
C169	1995193	7/19/2019 08:33 AM	Public		Vehicles	47	23
C1723	1998230	8/7/2019 09:47 AM	Public		Dig-in by Others	60	1
C1723	1998204	8/7/2019 02:43 PM	Overhead Equipment Related		Malfunction	10	1
C1726	1997880	8/5/2019 10:19 PM	Public		Foreign Object	74	73
C1726	2012490	11/19/2019 09:54 AM	Underground Equipment Related		Underground Failure	105	1
C1729	2008242	10/16/2019 06:36 AM	Underground Equipment Related		Underground Failure	231	13
C1730	1983376	5/16/2019 05:13 AM	Animal Related		Squirrels	34	26
C1730	2002518	9/4/2019 07:01 AM	Animal Related		Squirrels	61	7
C1730	2004033*	9/13/2019 01:53 PM	Public		Dig-in by Others	488	1
C1730	2011800	11/11/2019 09:00 AM	Customer	**	Customer Request	200	7
C253	1974715*	2/24/2019 11:19 AM	Tree Related		Uprooted Tree - Service Drop	178	1
C253	1978395	3/28/2019 03:04 PM	Intentional Scheduled Construction, Maintenance or Repair	**	Maintenance Switching	6	13
C253	1978394	3/28/2019 03:40 PM	Intentional Scheduled Construction, Maintenance or Repair	**	Maintenance Switching	17	13
C253	1986662	6/6/2019 09:18 AM	Customer	**	Customer Request	230	16
C253	1990393	6/30/2019 07:29 AM	Animal Related		Squirrels	78	1
C253	1993669	7/10/2019 04:58 PM	Other		Other	78	59
C253	1993814	7/11/2019 09:35 AM	Intentional Scheduled Construction, Maintenance or Repair	**	Maintenance Switching	53	41
C253	1996505	7/26/2019 04:01 AM	Other		Other	293	8
C253	1998827	8/11/2019 10:10 PM	Underground Equipment Related		Underground Failure	92	23
C253	2006235	9/28/2019 06:26 PM	Intentional Scheduled Construction, Maintenance or Repair	**	Maintenance Switching	19	163
C253	2013613*	11/27/2019 12:36 PM	Unknown		Unknown	173	1
C4618	1987526	6/12/2019 01:47 PM	Overhead Equipment Related		Malfunction	67	1
C4618	1995192	7/19/2019 08:31 AM	Public		Vehicles	49	1
C485	1988268	2/5/2019 08:50 PM	Overhead Equipment Related		Malfunction	42	1
C526	2001446	8/28/2019 10:16 AM	Intentional Scheduled Construction, Maintenance or Repair	**	Maintenance Switching	354	22
C526	2016881	12/30/2019 07:37 AM	Overhead Equipment Related		Malfunction	54	5
C5810	1974171	2/21/2019 07:25 AM	Overhead Equipment Related		Malfunction	86	75

Interruption Report

* Service / Secondary Interruption (low voltage)

** Excluded from Interruption Summary as part of ICC reporting requirements

Circuit	Interruption ID	Start Date/Time	Cause of Interruption		Cause Detail	Duration (minutes)	Customers Affected
C5810	1976074	3/6/2019 09:00 AM	Intentional Scheduled Construction, Maintenance or Repair	**	Maintenance Switching	236	53
C5810	1977767	3/22/2019 09:56 AM	Animal Related		Squirrels	32 39	7 7
C5810	1977975	3/25/2019 08:57 AM	Intentional (e.g., unplanned)		Emergency Repairs	17	74
C5810	1978801	4/2/2019 09:41 AM	Intentional Scheduled Construction, Maintenance or Repair	**	Maintenance Switching	149	43
C5810	1979795	4/12/2019 02:32 PM	Tree Related		Limb Broken - Primary	152	74
C5810	1981562	4/27/2019 07:13 PM	Tree Related		Uprooted Tree - Primary	343	74
C5810	1981879	4/30/2019 09:00 AM	Intentional Scheduled Construction, Maintenance or Repair	**	Maintenance Switching	110	38
C5810	1981939	4/30/2019 05:35 PM	Intentional (e.g., unplanned)		Emergency Repairs	173	16
C5810	1982566	5/7/2019 08:20 PM	Intentional Scheduled Construction, Maintenance or Repair	**	Maintenance Switching	25	9
C5810	1983299*	5/15/2019 11:50 AM	Unknown		Unknown	103	1
C5810	1983405	5/16/2019 09:01 AM	Intentional Scheduled Construction, Maintenance or Repair	**	Maintenance Switching	119	38
C5810	1989270	6/24/2019 06:03 PM	Intentional (e.g., unplanned)		Emergency Repairs	28	7
C5810	1996146	7/23/2019 09:05 AM	Intentional Scheduled Construction, Maintenance or Repair	**	Maintenance Switching	177	102
C5810	1997400	8/1/2019 08:55 AM	Overhead Equipment Related		Malfunction	44	278
C5810	1997349	8/1/2019 08:56 AM	Overhead Equipment Related		Malfunction	44	75
C5810	1997404	8/1/2019 10:10 AM	Unknown		Unknown	320	1
C5810	1999429	8/15/2019 07:27 PM	Tree Related		Limb Broken - Primary	641	6
C5810	2001217	8/26/2019 11:25 PM	Overhead Equipment Related		Malfunction	75 80	8 16
C5810	2003349	9/11/2019 05:40 PM	Tree Related		Tree Contact - Primary	49	13
C5810	2005520	9/26/2019 09:26 AM	Animal Related		Squirrels	62	7
C5810	2006837	10/3/2019 09:15 AM	Customer	**	Customer Request	219	35
C5810	2016922	12/30/2019 09:00 AM	Intentional Scheduled Construction, Maintenance or Repair	**	Maintenance Switching	194	65
C5812	1990001*	6/27/2019 06:17 PM	Underground Equipment Related		Malfunction	194	1
C5812	1992987*	7/5/2019 09:27 PM	Underground Equipment Related		Underground Failure	79	1
C5812	2004668	9/18/2019 01:30 PM	Underground Equipment Related		Underground Failure	80 90 172 229	379 354 717 40
C5812	2010840	10/31/2019 10:08 PM	Tree Related		Tree Contact - Primary	127	42
C582	2008390	10/17/2019 09:53 AM	ComEd/Contractor Personnel-Errors		Accident by ComEd Contractor	129	6
C583	1970436	1/30/2019 03:59 AM	Tree Related		Limb Broken - Primary	2 6 116 118	524 169 300 927
C583	1987111	6/10/2019 09:26 AM	Underground Equipment Related		Underground Failure	83	19
C583	1994371	7/15/2019 02:02 PM	Overhead Equipment Related		Malfunction	129	15
C583	2001170	8/26/2019 02:29 AM	Underground Equipment Related		Underground Failure	150	1
C583	2001870	8/31/2019 10:25 PM	Public		Foreign Object	39	7
C583	2013110	11/26/2019 09:05 AM	Intentional Scheduled Construction, Maintenance or Repair	**	Maintenance Switching	76	5
C585	1978856	4/3/2019 09:14 AM	Intentional Scheduled Construction, Maintenance or Repair	**	Maintenance Switching	166	105

Interruption Report

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Circuit	Interruption ID	Start Date/Time	Cause of Interruption	Cause Detail	Duration (minutes)	Customers Affected
C585	1987006	6/9/2019 11:30 PM	Underground Equipment Related	Underground Failure	79 110	20 8
C585	1987649	6/13/2019 08:10 AM	Customer	** Customer Request	101	39
C585	1989269	6/24/2019 05:45 PM	Intentional (e.g., unplanned)	Emergency Repairs	15	9
C585	2003145	9/10/2019 10:52 AM	Tree Related	Tree Contact - Primary	47	6
C585	2003233	9/10/2019 02:54 PM	ComEd/Contractor Personnel-Errors	Dig-in by ComEd Contractor	82 290	19 8
C585	2005446	9/25/2019 12:12 PM	Underground Equipment Related	Underground Failure	91	30
C585	2008150	10/15/2019 11:15 AM	Intentional Scheduled Construction, Maintenance or Repair	** Maintenance Switching	45	8
C585	2012105	11/14/2019 05:30 PM	Animal Related	Animal - Other	30	7
C585	2014295	11/28/2019 11:48 AM	Animal Related	Squirrels	44 59	95 10
C586	1971975	2/8/2019 12:20 PM	Underground Equipment Related	Underground Failure	250	2
C586	1975806	3/1/2019 09:00 AM	Intentional Scheduled Construction, Maintenance or Repair	** Maintenance Switching	321	11
C586	1976237	3/8/2019 09:35 AM	Overhead Equipment Related	Malfunction	18	9
C586	1978599	3/31/2019 02:10 PM	Public	Accident by Others	145	13
C586	1978598	3/31/2019 04:10 PM	Intentional Scheduled Construction, Maintenance or Repair	** Maintenance Switching	26	14
C586	1978891	4/3/2019 05:00 PM	Intentional Scheduled Construction, Maintenance or Repair	** Maintenance Switching	51	9
C586	1979917	4/14/2019 10:05 AM	Unknown	Unknown	43	8
C586	1979965	4/14/2019 02:19 PM	Weather Related	Ice / Snow	14	8
C586	1980006	4/14/2019 03:51 PM	Weather Related	Ice / Snow	129	8
C586	1981614	4/27/2019 07:57 PM	Overhead Equipment Related	Malfunction	651	8
C586	1983723	5/17/2019 07:41 PM	Overhead Equipment Related	Malfunction	127	10
C586	1984393	5/22/2019 10:56 AM	Customer	** Customer Request	162	12
C586	1986322	6/4/2019 09:08 AM	Customer	** Customer Request	76	46
C586	1993256	7/8/2019 07:38 AM	Unknown	Unknown	51	22
C586	1995776	7/21/2019 07:18 AM	Underground Equipment Related	Underground Failure	80	38
C586	1996260*	7/24/2019 06:52 AM	Underground Equipment Related	Underground Failure	271	1
C586	1996247	7/24/2019 10:09 AM	Intentional Scheduled Construction, Maintenance or Repair	** Maintenance Switching	16	5
C586	1997246	7/31/2019 10:50 AM	Tree Related	Tree Contact - Primary	138	23
C586	1998739	8/11/2019 08:37 AM	Animal Related	Squirrels	40	8
C586	2000744	8/22/2019 05:02 PM	Intentional Scheduled Construction, Maintenance or Repair	** Maintenance Switching	24	12
C586	2000780	8/22/2019 11:38 PM	Customer	** Customer Request	110	1
C588	1968310	1/7/2019 09:11 PM	Underground Equipment Related	Underground Failure	106 129	3 8
C588	1973745	2/15/2019 08:25 PM	Customer	** Customer Request	125	1
C588	1981018	4/23/2019 09:00 AM	Intentional Scheduled Construction, Maintenance or Repair	** Maintenance Switching	120	23
C588	1989861	6/27/2019 09:02 AM	Underground Equipment Related	Underground Failure	171	8
C588	2002630	9/4/2019 11:05 PM	Underground Equipment Related	Underground Failure	59 64	57 63
C588	2004675	9/18/2019 05:36 PM	Underground Equipment Related	Malfunction	124	63
C588	2006471	9/30/2019 03:06 PM	Overhead Equipment Related	Malfunction	214	7
C588	2007905	10/13/2019 08:45 AM	Underground Equipment Related	Underground Failure	90 94	63 57

Interruption Report

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Circuit	Interruption ID	Start Date/Time	Cause of Interruption	Cause Detail	Duration (minutes)	Customers Affected
C588	2008406	10/17/2019 03:27 PM	Animal Related	Squirrels	71	6
C588	2016661	12/28/2019 11:27 AM	Underground Equipment Related	Underground Failure	43	2
					63	23
C7213	1988688	6/20/2019 07:04 AM	Tree Related	Tree Contact - Primary	347	9
C7213	1996350	7/24/2019 09:04 PM	Underground Equipment Related	Underground Failure	63	310
C7213	1999478	8/16/2019 05:30 PM	Intentional Scheduled Construction, Maintenance or Repair	** Maintenance Switching	40	31
C7213	1999569	8/17/2019 11:26 AM	Public	Accident by Others	147	90
C7213	2005629	9/27/2019 09:16 AM	Customer	** Customer Request	136	14
C7215	1978173	3/27/2019 06:47 AM	Unknown	Unknown	75	60
C7215	1979438	4/9/2019 08:16 PM	Overhead Equipment Related	Malfunction	42	1
					43	34
					267	40
C7215	1979436	4/9/2019 10:14 PM	Overhead Equipment Related	Malfunction	94	21
C7215	1981428	4/26/2019 04:20 PM	Tree Related	Limb Broken - Primary	74	41
C7215	1981427	4/26/2019 04:59 PM	Intentional (e.g., unplanned)	Emergency Repairs	38	36
C7215	1985914	5/31/2019 09:42 AM	Overhead Equipment Related	Malfunction	38	36
					174	41
C7215	1998306	8/8/2019 02:13 AM	Weather Related	Lightning	375	7
C7215	2011167	11/4/2019 09:41 AM	Customer	** Customer Request	199	3
C7216	1975289	2/24/2019 05:43 PM	Tree Related	Tree Contact - Primary	129	345
					465	9
C7216	1976072	3/6/2019 10:12 AM	Intentional Scheduled Construction, Maintenance or Repair	** Maintenance Switching	11	17
C7216	1976071	3/6/2019 10:20 AM	Intentional Scheduled Construction, Maintenance or Repair	** Maintenance Switching	7	11
C7216	1980207	4/16/2019 05:13 AM	Animal Related	Squirrels	43	6
C7216	1993513	7/9/2019 05:28 PM	Animal Related	Squirrels	37	4
C7216	2006719	10/2/2019 09:49 AM	Underground Equipment Related	Underground Failure	120	14
					390	3
C7216	2014557	12/1/2019 08:17 AM	Animal Related	Squirrels	37	4
C7218	1971396	2/7/2019 04:24 AM	Underground Equipment Related	Malfunction	166	24
C7218	2015230	12/8/2019 08:30 AM	Intentional Scheduled Construction, Maintenance or Repair	** Maintenance Switching	161	1
C7221	1968454	1/8/2019 04:33 PM	Overhead Equipment Related	Malfunction	159	8
C7221	1969316	1/19/2019 02:44 PM	Tree Related	Limb Broken - Primary	66	2
C7221	1972373	2/12/2019 03:21 AM	Weather Related	Ice / Snow	166	24
C7221	1974201	2/21/2019 09:40 AM	Intentional Scheduled Construction, Maintenance or Repair	** Maintenance Switching	71	51
C7221	1974203	2/21/2019 11:33 AM	Intentional Scheduled Construction, Maintenance or Repair	** Maintenance Switching	92	47
C7221	1976760	3/13/2019 10:01 AM	Intentional Scheduled Construction, Maintenance or Repair	** Maintenance Switching	99	2
C7221	1977375	3/17/2019 10:32 AM	Intentional Scheduled Construction, Maintenance or Repair	** Maintenance Switching	234	25
C7221	1980812	4/21/2019 09:47 AM	Underground Equipment Related	Underground Failure	90	18
					100	17
					172	16
C7221	1986364	6/4/2019 09:33 AM	Public	Dig-in by Others	334	6
C7221	1994852	7/18/2019 08:11 AM	Tree Related	Tree Contact - Primary	115	26
C7221	1996911	7/28/2019 04:24 PM	Underground Equipment Related	Underground Failure	66	17

Interruption Report

* Service / Secondary Interruption (low voltage)

** Excluded from Interruption Summary as part of ICC reporting requirements

Circuit	Interruption ID	Start Date/Time	Cause of Interruption	Cause Detail	Duration (minutes)	Customers Affected
C7221	1997313	7/31/2019 07:39 PM	Overhead Equipment Related	Malfunction	67 140	35 45
C7221	1997314	7/31/2019 09:24 PM	Overhead Equipment Related	Malfunction	36	34
C7221	1997799	8/5/2019 09:05 AM	Customer	** Customer Request	277	7
C7221	1997837	8/5/2019 11:13 AM	Public	Dig-in by Others	407	28
C7221	1999143	8/13/2019 06:46 PM	Underground Equipment Related	Underground Failure	75 259	63 17
C7221	1999670	8/18/2019 08:31 AM	Weather Related	Lightning	207	26
C7221	1999826	8/18/2019 12:18 PM	Weather Related	Lightning	46 212	21 5
C7221	2000437	8/20/2019 07:16 AM	ComEd/Contractor Personnel-Errors	Dig-in by ComEd Contractor	74 275	63 17
C7221	2004679	9/18/2019 03:41 PM	Overhead Equipment Related	Malfunction	42	903
C7221	2006729	10/2/2019 03:50 PM	Animal Related	Squirrels	64	26
C7221	2008739	10/21/2019 11:26 AM	Tree Related	Limb Broken - Primary	98	26
C7222	1968750	1/11/2019 10:19 AM	Animal Related	Squirrels	47	18
C7222	1970181	1/30/2019 03:36 AM	Overhead Equipment Related	Malfunction	159	304
C7222	1970180	1/30/2019 05:31 AM	Intentional (e.g., unplanned)	Protection of System Integrity	44	365
C7222	1971266	2/7/2019 04:28 AM	Overhead Equipment Related	Malfunction	141	289
C7222	1971265	2/7/2019 06:08 AM	Intentional (e.g., unplanned)	Emergency Repairs	84	53
C7222	1971395	2/7/2019 06:24 AM	Intentional (e.g., unplanned)	Emergency Repairs	26 225	321 6
C7222	1976660	3/12/2019 10:05 AM	Intentional Scheduled Construction, Maintenance or Repair	** Maintenance Switching	15	38
C7222	1976659	3/12/2019 02:05 PM	Intentional Scheduled Construction, Maintenance or Repair	** Maintenance Switching	35	60
C7222	1976754	3/13/2019 09:15 AM	Intentional Scheduled Construction, Maintenance or Repair	** Maintenance Switching	30	4
C7222	1984127	5/20/2019 03:14 PM	Overhead Equipment Related	Malfunction	136	16
C7222	1984191	5/21/2019 09:07 AM	Intentional Scheduled Construction, Maintenance or Repair	** Maintenance Switching	263	2
C7222	1985568	5/29/2019 10:33 AM	Intentional Scheduled Construction, Maintenance or Repair	** Maintenance Switching	50	25
C7222	1988083	6/15/2019 09:17 PM	Overhead Equipment Related	Malfunction	43	21
C7222	1994084*	7/13/2019 01:37 PM	Overhead Equipment Related	Malfunction	95	1
C7222	1995538	7/20/2019 09:25 PM	Animal Related	Animal - Other	94	20
C7222	1995989*	7/22/2019 10:55 AM	Tree Related	Limb Broken - Service Drop	61	1
C7222	1996065*	7/22/2019 05:07 PM	Tree Related	Limb Broken - Service Drop	323	1
C7222	2009237	10/23/2019 03:20 AM	Underground Equipment Related	Underground Failure	74 200 215	46 33 6
C7222	2009541	10/25/2019 10:58 AM	Underground Equipment Related	Underground Failure	75	1
C7222	2015447	12/10/2019 09:53 AM	Public	Dig-in by Others	94 95	3 2
C7223	1974064	2/20/2019 12:14 PM	Tree Related	Tree Contact - Primary	40	29
C7223	1976166	3/7/2019 09:10 AM	Customer	** Customer Request	181	5
C7223	1980608	4/19/2019 02:09 PM	Overhead Equipment Related	Malfunction	15	14
C7223	2000712	4/29/2019 03:26 AM	Weather Related	Lightning	77 386	122 17
C7223	2000708	4/29/2019 04:04 AM	Intentional (e.g., unplanned)	Emergency Repairs	39	254
C7223	1981824	4/29/2019 05:13 PM	Overhead Equipment Related	Malfunction	58	1

Interruption Report

* Service / Secondary Interruption (low voltage)

** Excluded from Interruption Summary as part of ICC reporting requirements

Circuit	Interruption ID	Start Date/Time	Cause of Interruption	Cause Detail	Duration (minutes)	Customers Affected
C7223	1981914	4/30/2019 03:33 PM	Weather Related	Lightning	120 133	12 40
C7223	1990068	6/27/2019 10:44 PM	Tree Related	Limb Broken - Primary	105	1
C7223	1990218	6/28/2019 03:14 PM	Tree Related	Tree Contact - Primary	75	1
C7223	1991379	7/1/2019 08:50 AM	Underground Equipment Related	Underground Failure	355	1
C7223	1993077	7/6/2019 02:48 PM	Tree Related	Limb Broken - Primary	96	44
C7223	1994408	7/15/2019 05:04 PM	Overhead Equipment Related	Malfunction	234	1
C7223	1994415*	7/15/2019 06:46 PM	Underground Equipment Related	Underground Failure	189	1
C7223	2000193	8/19/2019 02:03 PM	Underground Equipment Related	Underground Failure	266	1
C7223	2001003	8/25/2019 08:34 AM	Underground Equipment Related	Underground Failure	327	1
C7223	2006686	10/2/2019 11:38 AM	Underground Equipment Related	Malfunction	26	19
C7223	2014962*	12/4/2019 02:14 PM	Underground Equipment Related	Underground Failure	154	1
C7223	2016276	12/20/2019 11:34 AM	Public	Dig-in by Others	68	1
C7225	1980336	4/17/2019 09:30 AM	Intentional Scheduled Construction, Maintenance or Repair	** Maintenance Switching	12	5
C7225	1983046	5/13/2019 11:22 AM	Tree Related	Tree Contact - Primary	63	12
C7225	1993512	7/9/2019 03:18 PM	Overhead Equipment Related	Malfunction	176	3
C7225	2004790	9/19/2019 06:17 PM	Overhead Equipment Related	Malfunction	342	4
C7225	2004894	9/21/2019 10:15 AM	Overhead Equipment Related	Malfunction	118	103
C725	1998196	8/7/2019 07:24 AM	Overhead Equipment Related	Malfunction	2	226
C725	1998137	8/7/2019 07:47 AM	Intentional (e.g., unplanned)	Emergency Repairs	53 132	1 19
C727	1974407	2/23/2019 06:42 PM	Underground Equipment Related	Underground Failure	54 87	2 11
C727	1997370*	8/1/2019 11:37 AM	ComEd/Contractor Personnel-Errors	Unclassified Error	11	1
C729	1968724	1/11/2019 06:39 AM	Intentional Scheduled Construction, Maintenance or Repair	** Maintenance Switching	14	15
C729	1970190	1/30/2019 04:40 AM	Unknown	Unknown	269	1
C729	1975789	3/1/2019 10:49 AM	Overhead Equipment Related	Malfunction	64	1
C74	2008384	10/17/2019 11:43 AM	Intentional (e.g., unplanned)	Emergency Repairs	25	35
C74	2016982	12/30/2019 08:32 PM	Intentional (e.g., unplanned)	Protection of System Integrity	41	36
C74	2017034	12/31/2019 10:01 AM	Intentional Scheduled Construction, Maintenance or Repair	** Maintenance Switching	59	36
C75	1994672	7/17/2019 09:04 AM	Intentional Scheduled Construction, Maintenance or Repair	** Maintenance Switching	291	67
C75	2000831	8/23/2019 09:05 AM	Intentional Scheduled Construction, Maintenance or Repair	** Maintenance Switching	302	67
C75	2003326	9/11/2019 09:06 AM	Intentional Scheduled Construction, Maintenance or Repair	** Maintenance Switching	292	67
C801	1974132	2/20/2019 08:41 PM	Tree Related	Limb Broken - Primary	32	295
C801	1983041	5/13/2019 09:00 AM	Intentional Scheduled Construction, Maintenance or Repair	** Maintenance Switching	82	34
C801	1989024	6/22/2019 11:35 PM	Animal Related	Squirrels	42	3
C801	1997288	7/31/2019 01:07 PM	Unknown	Unknown	61	15
C801	2001445	8/28/2019 03:03 PM	Tree Related	Tree Contact - Primary	84	132
C801	2002288	9/3/2019 12:32 PM	Weather Related	Lightning	113	132
C801	2008357	10/17/2019 10:01 AM	Animal Related	Squirrels	150	3
C801	2008989	10/21/2019 07:45 PM	Tree Related	Limb Broken - Primary	82	52
C955	1968363	1/8/2019 10:33 AM	Intentional Scheduled Construction, Maintenance or Repair	** Maintenance Switching	20	25

Interruption Report

* Service / Secondary Interruption (low voltage)

** Excluded from Interruption Summary as part of ICC reporting requirements

Circuit	Interruption ID	Start Date/Time	Cause of Interruption	Cause Detail	Duration (minutes)	Customers Affected
C955	1968362	1/8/2019 10:33 AM	Intentional Scheduled Construction, Maintenance or Repair	** Maintenance Switching	20	81
C955	1968364	1/8/2019 11:55 AM	Intentional Scheduled Construction, Maintenance or Repair	** Maintenance Switching	45	14
C955	1972773*	2/12/2019 11:08 AM	Tree Related	Tree Contact - Service Drop	293	1
C956	1981434	4/26/2019 08:41 PM	Underground Equipment Related	Underground Failure	63 73	137 361
C956	1981437	4/26/2019 10:25 PM	Overhead Equipment Related	Malfunction	160	7
C957	1979367*	4/9/2019 09:38 AM	Public	Dig-in by Others	152	1
C957	1993642	7/10/2019 12:09 PM	Overhead Equipment Related	Malfunction	171	1
C957	1997248	7/31/2019 09:05 AM	Customer	** Customer Request	244	23
C957	2007163*	10/6/2019 08:54 AM	Underground Equipment Related	Underground Failure	186	1
C958	1976790	3/13/2019 10:00 AM	Intentional Scheduled Construction, Maintenance or Repair	** Maintenance Switching	175	13
C958	1987222	6/11/2019 12:08 AM	Tree Related	Limb Broken - Primary	71 348	7 6
C958	1987590	6/13/2019 01:36 AM	Weather Related	Lightning	9	329
C958	1995756	7/21/2019 06:28 AM	Overhead Equipment Related	Malfunction	264	6
C958	2010838	10/31/2019 04:00 PM	Tree Related	Limb Broken - Primary	449	3
C958	2010839	10/31/2019 11:15 PM	Intentional (e.g., unplanned)	Emergency Repairs	15	30
C961	1972305	2/12/2019 02:45 AM	Tree Related	Limb Broken - Primary	52	267
C961	1981534	4/27/2019 07:37 PM	Weather Related	Ice / Snow	106	31
C961	1990421	6/30/2019 02:08 PM	Weather Related	Lightning	3	266
C961	1990833	6/30/2019 02:43 PM	Weather Related	Wind / Tornado	62	65
G612	1993246	7/7/2019 09:52 AM	Animal Related	Animal - Other	19	2
G612	2008036	10/14/2019 05:26 AM	Overhead Equipment Related	Malfunction	118	2
G612	2008683	10/21/2019 08:53 AM	Tree Related	Tree Contact - Primary	74	2
G612	2015871	10/27/2019 12:25 AM	ComEd/Contractor Personnel-Errors	Switching Error	10	2
L4652	1977479	3/15/2019 11:15 AM	Public	Dig-in by Others	54	2
L4866	1980306	4/14/2019 01:52 PM	Weather Related	Ice / Snow	42	300
R6388	1990155	6/28/2019 09:39 AM	Tree Related	Limb Broken - Primary	24	78
W618	1983836	5/18/2019 02:34 PM	Weather Related	Lightning	44	5

Glossary of Interruption Causes Utilized in Interruption Summary Report

For purposes of this Annual Report only, the following interruption cause code category definitions, that are reflected in Section 411.20 of the Illinois Administrative Code, are set out below. Regardless of the category description and the tables herein, all or some of the cause codes identified below may be the result or consequence of severe weather conditions.

Animal Related – interruptions due to any type of wild or domesticated animal causing damage to material or equipment or making contact with energized material or equipment resulting in a short-circuit. It must be apparent upon a normal field inspection that an animal was the root cause of the interruption.

ComEd/Contractor Personnel Errors – interruptions categorized by one of the following descriptions:

- Accident – interruptions resulting from accidental actions made by ComEd Personnel or ComEd Contractors; for example, overhead conductors making contact with replacement conductors during repairs.
- Dig-in – interruptions caused by ComEd Personnel or ComEd Contractors making contact with underground cable while digging.
- Error – interruptions caused by ComEd or ComEd Contractors while performing switching, testing or other duties.

Customer Related – interruptions typically caused by failure of customer-owned equipment, interruption by service/tariff contract, access to equipment denied, non-payment of bill, at the customer's request, or a customer who tampered with their electrical service.

Intentional – interruptions categorized by one of the following descriptions:

- Emergency Repairs – pre-determined interruptions which do not fall into the timely notification limits of Intentional Scheduled. For example, a circuit breaker is opened to remove a metallic balloon from the electrical lines, or an interruption caused by the request of a fire department.
- Protection of System Integrity – interruptions ComEd determines necessary to protect the system from overload and/or to maintain system stability.
- Scheduled Construction, Maintenance, or Repair – interruptions for which the time and duration of the interruption can be pre-determined and permits timely notification of affected customers. For example, ComEd may get a request from a Municipal Authority or Fire Department to remove power to a building or ComEd may need to perform maintenance switching in order to complete a scheduled repair on the electric distribution system.

Other – interruptions that either do not fit into existing cause categories or occur so infrequently that it requires them to be grouped together to be counted.

Other Alternative Retail Electric Supplier/Other Utility – interruptions caused by an Alternative Retail Electric Supplier or another utility.

Overhead Equipment Related – interruptions categorized by one of the following descriptions:

- Contamination – interruptions due to build up of airborne particles and other impurities that affect the operational design specifications of material or equipment, such as salt spray that coats material, and allows tracking until a flash or failure occurs.
- Malfunction – interruptions from material or equipment failure.

Public – interruptions categorized by one of the following descriptions:

- Accident by Others – interruptions caused by accidents such as a crane making contact with the overhead wires, a plane hitting the overhead wires, etc.
- Dig-in by Others – interruptions caused by anyone other than ComEd personnel or ComEd contractor making contact with underground cable when digging.
- Fire – interruptions caused by a public fire such as a house fire that damages ComEd equipment.
- Foreign Object – interruptions caused by a foreign object, such as a kite or metallic balloon.
- Vandalism – interruptions due to willful damage of ComEd equipment.
- Vehicles – interruptions caused by a public vehicle, such as a vehicle striking a pole.

Glossary of Interruption Causes Utilized in Interruption Summary Report

For purposes of this Annual Report only, the following interruption cause code category definitions, that are reflected in Section 411.20 of the Illinois Administrative Code, are set out below. Regardless of the category description and the tables herein, all or some of the cause codes identified below may be the result or consequence of severe weather conditions.

Transmission and Substation Equipment Related – interruptions categorized by one of the following descriptions:

- Contamination – interruptions due to build up of airborne particles and other impurities that affect the operational design specifications of material or equipment, such as salt spray that coats material, and allows tracking until a flash or failure occurs.
- Substation Equipment – interruptions occurring on equipment inside ComEd’s substation property, such as transformers and circuit breakers.
- Transmission System Interruption – interruptions occurring on transmission system (including high-voltage distribution) equipment.

Tree Related – interruptions categorized by one of the following descriptions:

- Broken Limb – interruptions where large limbs, branches, or vegetation debris have been broken, caused by wind, lightning, ice, snow, etc. and have come in direct contact with overhead wires.
- Tree Contact – interruptions that occur due to trees contacting overhead wires. This is intended to mean locations where limbs, which are not broken, have come in direct contact with overhead wires, including if the contact is caused by wind, lightning, ice, snow, etc.
- Uprooted Tree – interruptions where trees have been uprooted due to wind, lightning, ice, snow, etc. and have contacted overhead wire.

Underground Equipment Related – interruptions categorized by one of the following descriptions:

- Contamination – interruptions due to build up of airborne particles and other impurities that affect the operational design specifications of material or equipment, such as salt spray that coats material, and allows tracking until a flash or failure occurs.
- Malfunction – interruptions from material or equipment failure.
- Underground Failure – interruptions caused when an underground cable or associated equipment fails.

Unknown – interruptions whose causes could not be determined after reasonable investigation.

Weather Related – interruptions categorized by one of the following descriptions:

- Extreme Cold – interruptions during an extended period of low temperature that impacts the normal operation of electrical equipment.
- Extreme Heat – interruptions during an extended period of high temperature and humidity that impacts the normal operation of electrical equipment.
- Flooding – interruptions caused by an overflowing of water onto an area that is normally dry.
- Ice/Snow – interruptions where it can be determined that the ice or snow on overhead wires or poles is the primary contributing factor.
- Lightning – interruptions during a lightning storm where it is believed that the primary cause of the interruption was due to lightning.
- Wind/Tornado – interruptions where it appears that the facilities themselves were damaged by high damaging wind.

B. Smart Grid Implementation

ComEd safely completed smart meter deployment three years ahead of plan and under budget.

ComEd System AMI Plan and Deployment

EIMA and AMI Overview

The Energy Infrastructure Modernization Act (“EIMA”) provides the blueprint for Illinois electric utilities, working with the Illinois Commerce Commission (“ICC”) and stakeholders, to accomplish a decade-long transformation. EIMA establishes policies and goals, calls for utilities to make the investments necessary to achieve them, defines investment timetables and performance metrics to measure that achievement, and provides the means to fund those investments.

Foremost among the actions called for by EIMA is the deployment of Smart Grid technologies. ComEd shares the view that these Smart Grid technologies benefit customers through improved reliability, operational efficiency, and improved customer service. Advanced Metering Infrastructure (“AMI”) and the Smart Grid also provide customers with newfound levels of control over their energy use and, ultimately, the ability to lower total energy costs. Smart Grid technologies can also benefit the entire State by promoting greater energy efficiency, assisting the market by enabling other innovative technologies, and assisting in job creation.

The successful and cost-beneficial deployment of the AMI/Smart Grid Network is essential to the development of a mature Smart Grid. AMI significantly contributes to a fully functioning Smart Grid by enabling the measurement of energy use, and the ability to communicate and interact in real time with other systems and devices. Operational efficiencies that AMI provides are also an important share of the delivery cost savings that a mature Smart Grid can deliver. A robust AMI communication system permits meters to interact directly with other utility systems, enabling reliability and improved efficiency of operations. The benefits and shared savings that are enabled by the installation of the AMI/Smart Grid Network throughout ComEd’s service territory benefit the entire service territory, and lay the foundation for more reliable, safe, and efficient delivery of electricity for customers throughout the service territory.

AMI Deployment Progress and Related Benefits

In April 2012, ComEd committed to install over four million smart meters across the service territory over a ten-year period. Through 2019, ComEd had installed more than 4.2 million smart meters, exceeding target in each year of the Program’s operation and fulfilling ComEd’s commitment three years earlier than planned, under budget, and while ensuring the work was completed safely, productively, and of the highest quality. In doing so, AMI has solidified itself as a value-adding technology platform for ComEd’s operations and customers. It has enabled the delivery of enhanced communication and operating capabilities, innovative customer programs, and an enhanced energy marketplace that benefit customers across the service territory, all while streamlining internal operations.

The successful completion of the AMI deployment program drives the realization of benefits to ComEd and customers through broad customer adoption of AMI-enabled programs such as Peak Time Savings which had over 280,000 participants enrolled for the 2019 summer season. There are also improvements in the areas of reliability, outage management, field and back office operations, customer programs and the overall customer experience – all enabled by the AMI technologies.

ComEd continued to deliver a premier customer experience in 2019. ComEd’s J.D. Power customer satisfaction index score continued to improve and has, again, reached new levels. The improvement of satisfaction scores is indicative of the impact of the AMI Program in enhancing the overall relationship and level of engagement between customers and ComEd, including enabling safer power and more efficient responses to outage events.

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C. Customer Service Report

ComEd Outage Map: www.ComEd.com/Map



ComEd System Customer Service Report

Call Center Metrics

Term	Definition
Abandoned Call Rate	The percentage of customers that call the utility's customer call center that hang up before their call is answered. Abandoned rate is calculated by dividing the number of calls abandoned (customer hangs up) by the total number of calls offered (expressed as a percentage). The Administrative Code provides that "the abandon rate for calls placed to the call center shall not exceed 10%."
Average Call Handle Time (in seconds)	The average duration of phone calls handled by Customer Service Representatives (CSRs). The average call handle time is expressed in seconds per call and is calculated by dividing the total time CSRs spent handling calls by the number of calls handled.
Average Speed to Answer (ASA)	Average speed to answer a phone call. "Answer time" means a measurement from the point the last digit of the entity's telephone number is dialed or, if a menu-driven system is used, from the point the last menu digit is dialed by the subscriber and the call is answered by the entity. ASA is expressed in seconds per call and is calculated by dividing the total time calls waited to be answered by the total number of calls answered. The Illinois Administrative Code provides that "the average answer time for calls placed to the call center shall not exceed 60 seconds where a representative or automated system is ready to render assistance and/or accept information to process calls."
Rate of calls answered by CSR vs. VRU	Percent of total offered calls answered by Customer Service Representatives (CSR) vs. Voice Response Units (VRUs) (i.e. Periphonics, Speech recognition and Powerline).

Year	Average Speed to Answer "ASA" (In Seconds)	Rate of Calls Answered by CSR (CSR)	Rate of Calls Answered by VRU (VRU)	Abandoned Call Rate	Average Call Handle Time (In Seconds)
2019	8	40.0%	61.0%	0.7%	339
2018	11	39.8%	60.2%	1.0%	328
2017	7	45.5%	54.5%	0.8%	308
2016	8	46.9%	53.1%	0.9%	300
2015	12	44.6%	55.4%	1.2%	301

eChannels Metrics

Term	Definition
ComEd.com transactions (overall)	Web & mobile site transactions (i.e., Completed Forms or Retrieval of information that would otherwise require a call to the call center - Auto Pay, Pay Bill, View Bill, Report an Outage, Outage Status, Start/Stop/Move, etc.).
Facebook Fans	The number of people who have "Liked" ComEd's page on Facebook.
Mentions of ComEd online	Any mentions of ComEd in online communications, including Twitter, Facebook, blogs, video/photo sites, traditional news sites, and other social media platforms.
Mobile App transactions	Transactions completed within the mobile app (Card payment, eCheck Payment, OneTouch Pay Bank Account, OneTouch Pay Credit Card, Check Balance, View My Current Bill, Get Account History, View my Past Bill, View my Bill, Check Outage Status, Report Outage, View Outage Map, Forgot Password, Forgot Username, Profile Management, Autopay Enrollment, Budget Bill Enrollment, eBill Enrollment, Autopay unenroll, Budget Bill Unenroll, eBill Unenroll, Autopay Modify, Get Outage Alerts, Preference Center, View Usage)
Outage Alerts transactions	Outage Alert transactions are the text messages that a subscriber receives during an interruption; they can also be received as push notifications in the mobile app, emails, and phone calls.
Twitter Followers	The number of people "following" ComEd on Twitter.

Year	ComEd.com Transactions (overall)	Mobile App Transactions	Outage Alerts Transactions	Mentions of ComEd Online	Twitter Followers	Facebook Fans
2019	20,693,940	9,932,102	3,518,741	54,627	41,709	171,174
2018	19,057,134	7,637,952	2,809,999	42,153	38,549	160,918
2017	14,889,689	8,984,636	2,081,666	49,525	33,625	153,053
2016	15,437,268	6,838,356	1,499,419	45,465	26,160	137,555
2015	18,471,590	6,353,711	844,498	200,119	15,363	119,884