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March 28, 2012

Ms. Mary Jo Kunkle
Executive Secretary
Michigan Public Service Commission
6545 Mercantile Way, Suite 15
Lansing, MI 48911

Re: In the matter on the Commission's own motion, to provide electric power reliability information in its annual power quality report
MPSC Case No. U-16065

Dear Ms. Kunkle:

Pursuant to the Commission's September 15, 2009 Opinion and Order in the above-referenced matter, attached please find The Detroit Edison Company's January 1, 2011 through December 31, 2011 Report to the Michigan Public Service Commission Regarding Electric Distribution System Power Quality.

Yours truly,

Michael J. Solo, Jr.

Digitally signed by Michael J. Solo, Jr.
DN: cn=Michael J. Solo, Jr., o=DTE Energy, ou=General Counsel-Regulatory Affairs, email=solom@dteenergy.com, c=US
Date: 2012.03.28 15:27:02 -04'00'

Michael J. Solo

MJS/lah
Attachments

STATE OF MICHIGAN

BEFORE THE MICHIGAN PUBLIC SERVICE COMMISSION

In the matter, on the Commission's own motion, to provide electric power reliability information in its annual power quality report	))))	Case No. U-16065

THE DETROIT EDISON COMPANY
JANUARY 1, 2011 THROUGH DECEMBER 31, 2011 REPORT TO THE MICHIGAN PUBLIC SERVICE COMMISSION REGARDING ELECTRIC DISTRIBUTION SYSTEM POWER QUALITY

Background

On September 15, 2009, the Michigan Public Service Commission issued an Opinion and Order in Case No. U-16065, in which it directed that the two major Michigan utilities 1) provide information related to SAIFI, CAIDI, and SAIDI reliability indices with and without major events, on a rolling five year average basis, using the industry standard IEEE method of calculation, and 2) file an annual power quality report which contains data on all primary customer power quality investigations conducted in the past year for end-use customers, derived from their power quality meters, and the outcome of each investigation. This report contains Detroit Edison's January 1, 2011 through December 31, 2011 results and compliance status per those requirements.

1. 2011 Reliability Performance

Reliability data is presented below in tabular form for both all weather conditions and without major event days (MEDs) as defined per IEEE 1366-2003.

	All Weather						Excluding MEDs per IEEE 1366-2003					
	SAIFI		SAIDI		CAIDI		SAIFI		SAIDI		CAIDI	
Year	Year	5 yr Avg.	Year	5 yr Avg.	Year	5 yr Avg.	Year	5 yr Avg.	Year	5 yr Avg.	Year	5 yr Avg.
2001	0.87		227		263		0.70		162		232	
2002	1.01		457		452		0.76		202		266	
2003	1.11	0.93	987	463	891	476	0.75	0.70	195	167	262	238
2004	0.95	0.93	363	456	381	467	0.70	0.70	156	169	223	240
2005	1.03	0.99	303	467	295	456	0.88	0.76	194	182	220	241
2006	0.81	0.98	146	451	180	440	0.78	0.77	130	175	166	227
2007	1.02	0.98	280	416	275	404	0.87	0.80	168	169	193	213
2008	1.12	0.99	733	365	655	357	0.74	0.79	137	157	185	197
2009	0.84	0.96	306	354	366	354	0.61	0.78	127	151	208	194
2010	1.04	0.97	434	380	416	378	0.72	0.74	155	143	214	193
2011	1.33	1.07	606	472	455	433	0.92	0.77	211	160	230	206

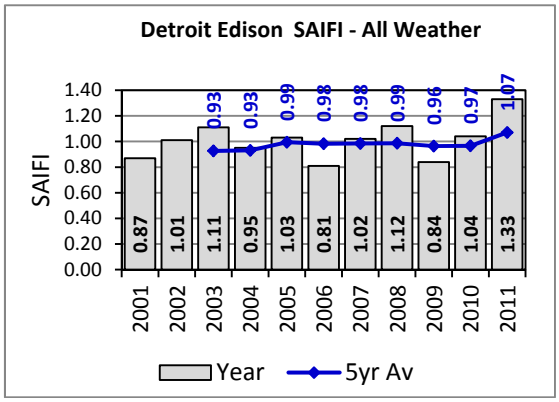
System reliability, driven by unusual weather patterns that produced a hotter and stormier summer season, declined some in 2011. Despite the decline, SAIFI is still expected to compare well with other utilities once benchmarking data is available.

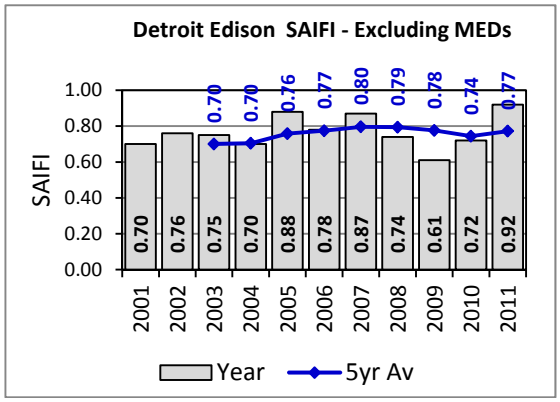
In 2011, the Detroit Edison service area experienced an unusual number of adverse weather days.

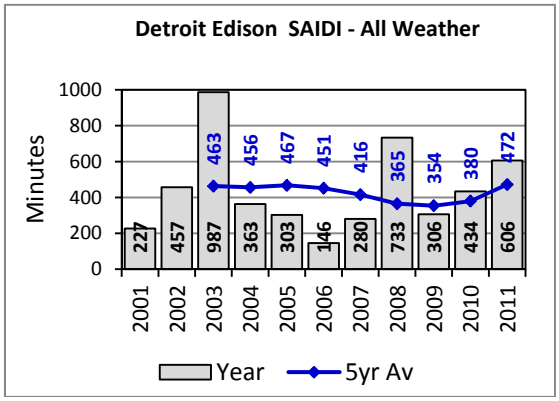
	2011	**Average**
Days with Temperature ≥ 95°F	10	1.4
Days with Temperature >90°F, <95°F	17	10.6
Days with winds ≥ 35 mph	83	67.2
Days with Thunderstorms	56	36.0

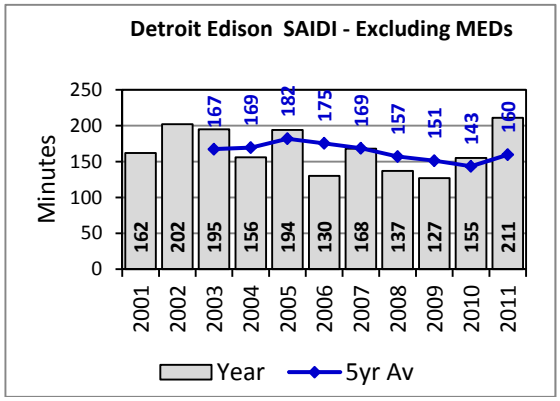
The unusually high number of days with temperatures above 90°F resulted in two situations where customers experienced outages over several days. In both instances, multi-contingency equipment outages at the substations and/or cable feeds to the substations led to forced outages and scheduled outages in order to complete repairs. Due to the high temperatures and resulting high demand, it was not possible to serve the entire load of the affected substations with the remaining substation capacity.

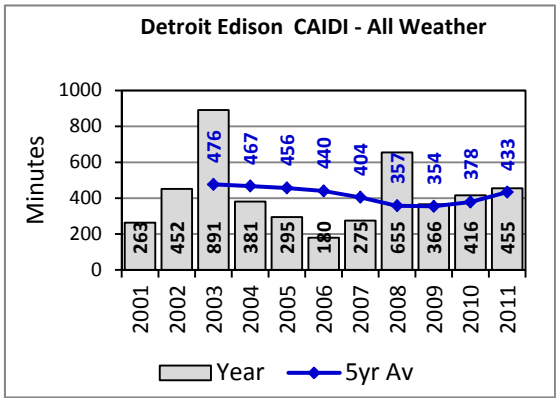
Reliability data is presented below in graphical form for both all weather conditions and without major event days (MEDs) as defined per IEEE 1366-2003.

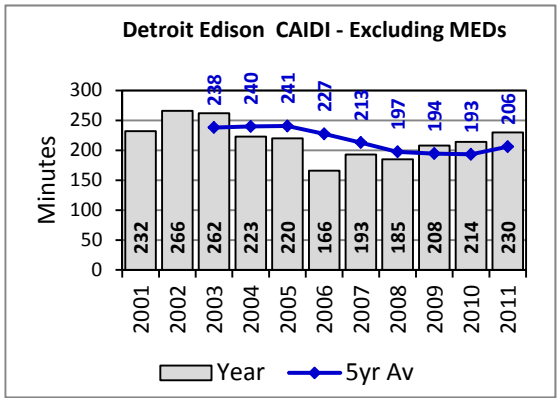












2. Power Quality Inquiry Process

Detroit Edison has a proven effective process in place that enables its large industrial and commercial customers typically served off the subtransmission or transmission system to obtain resolution of power quality issues. The customers contact their assigned account representative who in turn starts the process of helping the customer by engaging the appropriate engineer in Distribution Operations.

The response to the customer normally includes the following steps:

(1) Obtain pertinent information about what is troubling the customer (old or new equipment, one device or many)
(2) Gather the dates and times from the customer to correlate with EMS Alarm Logger events (cap switching, line trips)
(3) Correlate the customer's experiences with the power quality meters at his service point or with power quality meters in the area
(4) Meet with the customer about the correlation of system and customer events.

Based on the correlation of Detroit Edison and customer events, the following outcomes or additional steps are possible:

(1) Special power quality monitoring (DECo or customer) could be installed to determine customer equipment sensitivity and source of problem
(2) Customer conducts site survey to determine if his operating voltage is optimal
(3) Trouble with minor sags from DECo system (sensitive equipment) - customer's responsibility to make compatible
(4) Internal system trouble - customer's responsibility to make equipment compatible
(5) ITC/DECo will seek resolution of problems caused on the ITC/DECo systems where the customer equipment wouldn't be expected to have ride-through to significant voltage sags. The rate of occurrence, system exposure and service method determine if remedies are commercially feasible.

3. Power Quality Monitoring

Detroit Edison has an array of power quality meters across its system at key industrial, subtransmission, and distribution buses that have proven to be very effective. New meters are installed at new or upgraded industrial substations and on subtransmission buses.

The power quality meters at the industrial locations allow Detroit Edison to correlate the recorded voltage sags with system events from the SCADA-EMS system. This system provides Detroit Edison with information unique to the customer and a tool to track the performance of the system. The system performance data is used to prioritize capital improvements and system maintenance.

The power quality meters on the subtransmission and distribution buses provide system performance data plus the ability to calculate the probable locations of faults on the lines. This

information will reduce the time and cost to find causes of voltage sags and facilitate repair the system when necessary.

Also, voltage sags on the Detroit Edison system can be correlated with faults on the ITC-Transmission system. The Detroit Edison power quality data is shared with ITC for the benefit of resolving customer power quality issues.

4. 2011 Power Quality Inquiries Summary

The data below indicates the total number of power quality issues brought to the attention of Detroit Edison – Distribution Operations in 2011. Each power quality issue is categorized by service methods, power quality events, source of events and actions taken.

Inquiries			Power Quality Event[1]							Source of PQ Event			Detail[6]
Month	Total	Loc. Impacted[2]	Transient	Voltage Sag	Voltage Swell	Interruption	Over voltage	Under voltage	Other	DECo[3]	ITC[4]	Customer[5]	Inquiry Numbers
Jan	6	6		3		2			1	2	1	1	1489,1499,1509,1546
Feb	6	7		4		2			1	2	1	1	1485,1510,1545,1547,1548, 1549
Mar	9	18		17		1				3	1		1499,1545,1546,1547,1548, 1549
Apr	15	18		14		4				13	1		1499,1516,1546,1548,1549
May	26	33		26		4			3	14	1	3	1498,1548,1546,1549,1499, 1520,1545,1514,1547,1497
June	15	18		12		5			1	10		1	1499,1545,1547,1516,1498, 1495,1546,1548,1520
July	24	25		19		2			4	18		4	1499,1546,1548,1516,1515, 1520,1539,1549,1540
Aug	15	17		16					1	7	3	1	1548,1549,1520,1545,1546, 1518,1547,1499
Sept	24	27	3	14		7			3	15		3	1529,1548,1549,1546,1520, 1531,1519,1521
Oct	7	8		7		1				4	1		1548,1549,1546,1499,1523
Nov	16	19		15		1			3	8	1	3	1545,1547,1532,1524,1533, 1536,1549,1546,1525,1535, 1548,1537
Dec	3	3							3			3	1527,1538,1526
Year	**166**	**199**	**3**	**147**	**0**	**29**	**0**	**0**	**20**	**96**	**10**	**20**	

1 Voltages and durations (IEEE Std 1159 Table 2 – Categories and Typical Characteristics of Power System Phenomena)
2 Number of customer locations impacted
3 Equipment owned by DECo (120, 40, 24, 13.2 and 4.8 kV)
4 Equipment owned by ITC (345, 230 and 120 kV)
5 Equipment owned by the customer or other power systems not owned by DECo or ITC
6 Inquiry numbers – event detail provided in the table below

The number of power quality inquiries (166) identified by power quality monitors, system monitors and customers during 2011 exceeded the 2010 total. The total number of unique events was 126 as inquiries from different customers sometime occur for the same system event. The unusual weather discussed earlier contributed to the increase. The follow-up investigations indicate that most of the power quality inquiries were due to either voltage sags (82%) or interruptions (16%) and correlated with events occurring on the Detroit Edison (76%) and ITC (8%) systems. Other inquiries were determined to be a result of events occurring on customer systems (16%). Of the events on the Detroit Edison or ITC system, 42% were attributed to adverse weather or vehicular, animal, or other interference. Trees were the suspected cause for many of the unknowns. Along with line clearance, modifications such as operating practice changes, equipment changes, adding animal protection and/or equipment are typical actions taken to remediate these issues.

The following table lists addition information about each inquiry.

Inquiry	Date - Time	System Event	PQ Event	Comments
1546	1/1 - 0201	Sterling Trk 2742	Voltage Sag	Unknown – weather influence
1499	1/1 - 0201	Sterling Trk 2742	Interruption	Unknown – weather influence
1499	1/18 - 1505	Sterling Trk 2713	Interruption	Structure failure
1546	1/24 - 1027	Enrico Fermi – Radka	Voltage Sag	GOAB – switch flashed
1509	1/24 - 1027	Enrico Fermi – Radka	Voltage Sag	GOAB – switch flashed
1489	1/28 - 0720	Praxair Substation	Other	Customer – auxiliaries failed
1548	2/4 - 1051	Argo Trk 3160-61	Voltage Sag	Insulator failure
1549	2/4 - 1051	Argo Trk 3160-61	Voltage Sags (2)	Insulator failure
1510	2/11 - 1900	Dade Substation	Other	Customer equipment
1545	2/12 - 1247	Northeast - Sloan	Voltage Sag	Unknown
1547	2/12 - 1247	Northeast - Sloan	Interruption	Unknown
1485	2/16 - 1911	Baltic Trk 8215	Interruption	Line failure – weather influence
1549	3/22 - 2353	Argo Trk 3160-61	Voltage Sags (2)	Cable failure
1548	3/23 - 0829	Pioneer – Superior Tie 1544	Voltage Sag	Unknown – icing suspected
1545	3/24 - 0218	Belle River – Blackfoot	Voltage Sags (5)	Galloping conductors suspected
1546	3/24 - 0218	Belle River – Blackfoot	Voltage Sags (4)	Galloping conductors suspected
1499	3/24 - 0218	Belle River – Blackfoot	Voltage Sag	Galloping conductors suspected
1547	3/24 - 0218	Belle River – Blackfoot	Voltage Sags (2)	Galloping conductors suspected
1548	3/29 - 1459	Argo – Superior Tie 1531	Voltage Sag	Unknown
1549	3/29 - 1459	Argo – Superior Tie 1531	Voltage Sag	Unknown
1549	3/29 - 1459	Argo – Superior Tie 1531	Interruption	Unknown
1516	4/2 - 1743	Northwest Trk 2470	Interruption	Cable failure
1546	4/3 - 1612	Brownstown – Swan Creek	Voltage Sags (2)	Lightning damage
1548	4/6 - 1222	Superior Trk 1555	Voltage Sag	Unknown
1499	4/10 - 1310	Sterling Trk 2713	Interruption	Insulator failure
1546	4/11 - 0003	Brock Trk 8405	Voltage Sag	Cable failure
1516	4/14 - 0836	Northwest Trk 2466	Interruption	Cable failure
1548	4/16 - 0244	Pioneer – Superior Tie 1544	Voltage Sag	Unknown
1548	4/16 - 0545	Pioneer – Superior Tie 1544	Voltage Sag	Unknown
1549	4/19 - 1239	Phoenix Bus 2	Voltage Sags (2)	Capacitor failure
1546	4/20 - 0028	Dayton Trk 5239	Interruption	Arrester failure
1546	4/21 - 0149	Dayton – Raisin Tie 1473	Voltage Sag	Unknown

1546	4/22 - 1559	Brock Trk 8414	Voltage Sag	Unknown
1549	4/28 - 0644	Argo – Lark Tie 4501	Voltage Sags (2)	Interference – tree
1548	4/30 - 1202	Pioneer – Superior Tie 1544	Voltage Sag	Interference – tree
1549	4/30 - 1202	Pioneer – Superior Tie 1544	Voltage Sag	Interference – tree
1498	5/2 - 0836	Wabash Trk 6841	Interruption	Line equipment
1548	5/18 - 1402	Newburgh – Wayne	Voltage Sag	Interference – public & tree
1546	5/18 - 1402	Newburgh – Wayne	Voltage Sags (4)	Interference – public & tree
1549	5/18 - 1402	Newburgh – Wayne	Voltage Sag	Interference – public & tree
1498	5/18 - 1812	Dunn Substation	Other	Customer equipment
1499	5/22 - 0650	Sterling Trk 2713	Interruption	Line equipment
1549	5/23 - 1745	Pioneer – Saline Tie 7408	Voltage Sag	Unknown – weather influence
1546	5/23 - 1755	Brock Trk 8403	Voltage Sag	Unknown – weather influence
1548	5/25 - 1636	Cody – Phoenix – Pinckney Tie 2812	Voltage Sag	Unknown – weather influence
1549	5/25 - 1636	Cody – Phoenix – Pinckney Tie 2812	Voltage Sags (2)	Unknown – weather influence
1549	5/25 - 1751	Argo – Lark Tie 4501	Voltage Sags (2)	Unknown – weather influence
1520	5/26 - 1804	Booth	Other	Customer equipment
1545	5/27 - 2131	Spokane Trf 101	Voltage Sags (2)	Transformer failure
1546	5/27 - 2131	Spokane Trf 101	Voltage Sag	Transformer failure
1514	5/27 - 2131	Spokane Trf 101	Voltage Sag	Transformer failure
1499	5/28 - 0744	Sterling Trk 2713	Interruption	Line equipment
1545	5/29 - 1812	Northeast Trk 462-63	Voltage Sag	Unknown
1547	5/29 - 1812	Northeast Trk 462-63	Voltage Sag	Unknown
1546	5/29 - 2110	Spokane Trf 101	Voltage Sag	Transformer failure
1498	5/30 - 1203	Dunn Substation	Other	Customer equipment
1499	5/31 - 0138	Sterling Trk 2719	Voltage Sag	Interference – vehicular
1546	5/31 - 0138	Sterling Trk 2719	Voltage Sag	Interference – vehicular
1545	5/31 - 1646	Mack Trf 104	Voltage Sag	Disconnects – flashed
1547	5/31 - 1646	Mack Trf 104	Voltage Sags (2)	Disconnects – flashed
1546	5/31 - 1857	Burns Trf 1	Voltage Sag	Transformer failure
1497	5/31 - 1915	Burns Trf 1	Interruption	Transformer failure
1499	6/3 - 0835	Sterling Trk 2713	Interruption	Line equipment
1545	6/8 - 1814	Northeast Trk 416	Voltage Sag	Cable failure
1547	6/8 - 1814	Northeast Trk 416	Voltage Sags (2)	Cable failure
1545	6/8 - 1834	Northeast Trk 416	Voltage Sag	Cable failure
1547	6/8 - 1834	Northeast Trk 416	Voltage Sags (2)	Cable failure
1516	6/8 - 1945	Northwest Trk 2470	Interruption	Cable failure
1545	6/8 - 2102	Northeast Trk 416	Voltage Sag	Cable failure
1547	6/8 - 2102	Northeast Trk 416	Voltage Sags (2)	Cable failure
1498	6/11 - 0401	Bunce Creek SB 3-4	Voltage Sag	Insulator flashover
1495	6/11 - 0552	Burns Substation	Other	Customer equipment
1499	6/14 - 1116	Sterling Trk 2742	Interruption	Unknown
1546	6/14 - 1116	Sterling Trk 2742	Voltage Sag	Unknown
1546	6/22 - 1458	Baltic Trk 8215	Interruption	Unknown
1548	6/22 - 1716	Superior Trk 1563	Voltage Sag	Unknown
1520	6/28 - 1620	Spokane Trk 6938	Interruption	Interference – tree
1499	7/2 - 1443	Macomb Trk 2305	Voltage Sag	Unknown – weather influence
1546	7/2 - 1948	Brock Trk 8403	Voltage Sag	Line equipment
1546	7/2 - 2032	Brock Trk 8409	Voltage Sag	Arrester failure
1546	7/3 - 0512	Brock Trk 8403	Voltage Sag	Line equipment
1546	7/10 - 1829	Dayton – Romulus Tie 7733	Voltage Sag	Unknown
1546	7/11 - 1235	Dayton – Raisin Tie 1473	Voltage Sag	Interference – tree
1548	7/11 - 1229	Carpenter – Superior – York Tie	Voltage Sag	Unknown – weather influence

		1568		
1546	7/11 - 1244	Brock Trk 8414	Voltage Sag	Interference – tree
1516	7/16 - 0925	Northwest Trk 2466	Interruption	Cable failure
1499	7/16 - 1747	Sterling PL 8289	Voltage Sag	Unknown
1515	7/16 - 1900	Manor	Other	Customer equipment
1520	7/16 - 2312	Spokane Trk 6919	Voltage Sag	Unknown
1539	7/17 - 1105	Booth	Other	Customer equipment
1515	7/17 - 1536	Manor	Other	Customer equipment
1546	7/22 - 1535	Brock Trk 8409	Voltage Sag	Arrester failure
1546	7/22 - 1551	Brock Trk 8409	Voltage Sag	Arrester failure
1548	7/28 - 0009	Superior Trk 1563	Voltage Sag	Unknown – weather influence
1548	7/28 - 0025	Pioneer – Superior Tie 1544	Voltage Sag	Unknown – weather influence
1549	7/28 - 0025	Pioneer – Superior Tie 1544	Voltage Sag	Unknown – weather influence
1516	7/28 - 0642	Northwest Trk 2466	Interruption	Unknown – weather influence
1548	7/29 - 0327	Argo – Lark – Phoenix Tie 5513	Voltage Sag	Unknown – weather influence
1549	7/29 - 0327	Argo – Lark – Phoenix Tie 5513	Voltage Sags (2)	Unknown – weather influence
1549	7/29 - 0502	Pioneer – Saline Tie 7408	Voltage Sag	Unknown – weather influence
1540	7/29 - 1345	Lowell	Other	Customer equipment
1548	8/1 - 0228	Superior Trk 1563	Voltage Sag	Interference – tree
1548	8/1 - 1434	Superior Trk 1563	Voltage Sag	Unknown
1549	8/1 - 1434	Superior Trk 1563	Voltage Sag	Unknown
1549	8/1 - 1931	Pioneer – Superior Tie 1544	Voltage Sag	Line equipment
1520	8/2 - 1537	Booth	Other	Customer equipment
1545	8/3 - 0218	Genoa – Madrid	Voltage Sag	Lightning
1546	8/9 - 0032	Gully Trf 1	Voltage Sag	Insulator failure
1545	8/20 - 1734	Pontiac – Stratford	Voltage Sags (2)	Lightning damage
1548	8/22 - 0719	Pioneer Trf 102	Voltage Sag	Interference – animal
1549	8/22 - 0719	Pioneer Trf 102	Voltage Sag	Interference – animal
1518	8/25 - 0620	Ironton – Navarre – Riverview	Voltage Sag	Lightning damage
1545	8/25 - 0925	Northeast Trk 446	Voltage Sag	Line equipment
1547	8/25 - 0925	Northeast Trk 446	Voltage Sags (2)	Line equipment
1499	8/26 - 2256	Sterling Trf 101	Voltage Sag	Breaker failure
1546	8/26 - 2256	Sterling Trf 101	Voltage Sag	Breaker failure
1529	9/2 - 1741	Lowell	Other	Customer equipment
1548	9/3 - 1849	Carpenter – Superior – York Tie 1568	Voltage Sag	Unknown – weather influence
1548	9/3 - 1943	Phoenix Bus 1	Voltage Sag	Interference – weather
1549	9/3 - 1943	Phoenix Bus 1	Voltage Sag	Interference – weather
1548	9/3 - 1958	Superior Trf 1527	Interruption	Interference – tree
1549	9/3 - 1958	Superior Trf 1527	Voltage Sags (2)	Interference – tree
1546	9/3 - 2015	Baltic Trk 8215	Interruption	Line equipment – weather
1549	9/4 - 0301	Argo – Superior Tie 1540	Interruption	Line equipment – weather
1549	9/4 - 0301	Argo – Superior Tie 1540	Voltage Sag	Line equipment – weather
1520	9/9 - 0911	Spokane Trk 6938	Interruption	Unknown – weather influence
1531	9/12 - 0534	Dayton Capacitor 2	Transient	Capacitor switching
1520	9/12 - 1804	Spokane Trk 6938	Interruption	Unknown
1531	9/13 - 0517	Dayton Capacitor 2	Transient	Capacitor switching
1519	9/13 - 1250	Lowell	Other	Customer equipment
1549	9/14 - 0256	Argo – Superior Tie 1540	Interruption	Unknown
1549	9/14 - 0256	Argo – Superior Tie 1540	Voltage Sag	Unknown
1531	9/15 - 0607	Dayton Capacitor 2	Transient	Capacitor switching
1548	9/15 - 1848	Argo – Superior Tie 1540	Voltage Sag	Unknown

1549	9/15 - 1848	Argo – Superior Tie 1540	Voltage Sag	Unknown
1549	9/15 - 1848	Argo – Superior Tie 1540	Interruption	Unknown
1548	9/16 - 1928	Argo – Superior Tie 1540	Voltage Sag	Unknown
1549	9/30 - 1437	Phoenix Trk 5510	Voltage Sags (2)	Unknown – weather influence
1549	9/30 - 1515	Argo – Lark Tie 4501	Voltage Sags (2)	Unknown – weather influence
1521	9/30 - 1600	Mopar	Other	Customer equipment
1548	10/1 - 0305	Superior Trk 1525	Voltage Sag	Unknown
1549	10/1 - 0305	Superior Trk 1525	Voltage Sags (2)	Unknown
1546	10/12 - 0901	Brock Trk 8403	Voltage Sag	Interference – tree
1499	10/15 - 1447	Sterling Trk 2713	Interruption	Line equipment – weather
1546	10/15 - 1447	Sterling Trk 2713	Voltage Sag	Line equipment – weather
1549	10/19 - 1734	Piedmont – Saline Tie 7430	Voltage Sag	Unknown – weather influence
1523	10/19 - 2237	Enrico Fermi – Swan Creek	Voltage Sag	Conductor spacing
1545	11/1 - 1144	Northeast Trk 459	Voltage Sag	Cable failure
1547	11/1 - 1144	Northeast Trk 459	Voltage Sags (2)	Cable failure
1532[1]	11/4 - 1200	Lowell	Other	Customer equipment
1533	11/6 - 2325	Lowell	Other	Customer equipment
1536	11/7 - 0001	Lowell	Other	Customer equipment
1549	11/9 - 1408	Dorset – Saline Tie 6517	Voltage Sag	Interference – tree
1549	11/9 - 1712	Argo – Lark Tie 4501	Voltage Sags (2)	Interference – tree
1549	11/9 - 1832	Argo – Lark Tie 4501	Voltage Sags (2)	Interference – tree
1546	11/14 - 1404	Dayton – Romulus Tie 7745	Voltage Sag	Unknown – weather influence
1546	11/14 - 1412	Enrico Fermi – Swan Creek	Voltage Sag	Conductor spacing
1525	11/14 - 1412	Enrico Fermi – Swan Creek	Voltage Sag	Conductor spacing
1535	11/14 - 1412	Enrico Fermi – Swan Creek	Voltage Sag	Conductor spacing
1548	11/23 - 1145	Superior Trk 1518	Voltage Sag	Unknown – weather influence
1549	11/23 - 1145	Superior Trk 1518	Voltage Sag	Unknown – weather influence
1546	11/29 - 1322	Carpenter – Dayton Tie 5208	Voltage Sag	Unknown – weather influence
1537	11/29 - 2213	Amherst Trf 1	Interruption	Other customer equipment
1527	12/14 - 0742	Norway	Other	Customer equipment
1538	12/14 - 1115	Noble	Other	Customer equipment
1526	12/14 - 2230	Arctic	Other	Customer equipment

1 1532 and 1524