

Major Events

RESPONSE REPORT



Issue: May 18th to 20th, 2017 §2.1.4.2 Major Events Response Report

Date Issued: April 18th, 2018

Prepared for: Publication and Electronic Filing with the Ontario Energy Board (OEB)

Summary

A high wind thunderstorm from May 18th to 20th, with wind gusts reaching between 70 and 80 km/h, whipped across many parts of Ontario. The heavily-hit zones included 3A, 3B, 4 and 5. This event impacted ~142,000 (or about 10.3%) of Hydro One's customers.

This is the fifth Major Event in 2017.

1. Prior to the Major Event

- 1) Did the distributor have any prior warning that the Major Event would occur?

On May 18th at approximately 3:45 pm, Environment Canada issued severe thunderstorm watches with high winds for majority of Southern Ontario. A Transmission & Distribution Significant Event Notification System (SENS) was sent out at 3:59 pm on May 18th, advising of potential high winds throughout south-central Ontario.

- 2) If the distributor did have prior warning, did the distributor arrange to have extra employees on duty or on standby prior to the Major Event beginning? If so, please give a brief description of arrangements.

Yes, on May 18th extra staff was added in the Distribution Operations Management Centre (DOMC) during the period of the major event.

- 3) If the distributor did have prior warning, did the distributor issue any media announcements to the public warning of possible outages resulting from the pending Major Event? If so, through what channels?

An internal notification of this impending weather was sent out to staff. To enhance Hydro One's Storm Centre Outage website map, a new initiative enabling high-level real-time information for Major Events was implemented in late 2017.

- 4) Did the distributor train its staff on the response plans for a Major Event? If so, please give a brief description of the training process.

Yes, the response plan for a Major Event is reviewed once a year with the Distribution dispatchers. The work instruction for storm management is posted on the DOMC internal website for quick reference during storm events. In addition, a Storm Team visits various operation centers throughout the year to go over response plans for major events, simulate past major events to gain experience and implement best practices.

- 5) Did the distributor have third party mutual assistance agreements in place prior to the Major Event? If so, who were the third parties (i.e., other distributors, private contractors)?

Hydro One’s response to the Major Event consisted of regular staff and staff from Hydro One’s Hiring Hall. Although the Company has mutual assistance agreements with other local distribution companies (LDCs) and contractors throughout the Province, those other parties were not called upon.

2. During the Major Event

- 1) Please explain why this event was considered by the distributor to be a Major Event.

Hydro One categorizes a Major Event as one that impacts 10 per cent or more of its customers. This event impacted approximately 142,000 (or about 10.3%) of Hydro One’s customers.

- 2) Was the IEEE Standard 1366 used to identify the scope of the Major Event? If not, why not?

No. Hydro One used the fixed percentage method to identify the scope of a Major Event. Hydro One categorizes Major Events as one that impacts 10 per cent or more of its customers. The OEB provides guidance to utilities with three different methods to identifying a Major Event. The fixed percentage method is the one that Hydro One has selected. Hydro One does not use the IEEE1366 method because Hydro One’s interruption data does not follow log-normal distribution as required by the IEEE1366 method.

- 3) Please identify the Cause of Interruption for the Major Event as per the table in section 2.1.4.2.5.

Date Range:	2017-03-08 to 2017-03-09		
PRIMARY CAUSE CODE	Number of Interruptions	Customer Interruptions	Customer Hours of Interruption
0. Unknown/Other Customer interruptions with no apparent cause that contributed to the outage.	82	12877	109132.2
1. Schedule Outage Customer interruptions due to the disconnection at a selected time for the purpose of construction or preventive maintenance.	29	1324	2071.6
2. Loss of Supply Customer interruptions due to problems associated with assets owned and/or operated by another party, and/or in the bulk electricity supply system. For this purpose, the bulk electricity supply system is distinguished from the distributor’s system based on ownership demarcation.	3	20991	17908.8
3. Tree Contacts Customer interruptions caused by faults resulting from tree contact with energized circuits.	564	70178	888927.6
4. Lightning Customer interruptions due to lightning striking the distribution system, resulting in an insulation breakdown and/or flash-overs.	0	0	0.0

5. Defective Equipment	239	35146	209345.9
Customer interruptions resulting from distributor equipment failures due to deterioration from age, incorrect maintenance, or imminent failures detected by maintenance.			
6. Adverse Weather	0	0	0.0
Customer interruptions resulting from rain, ice storms, snow, winds, extreme temperatures, freezing rain, frost, or other extreme weather conditions (exclusive of Code 3 and Code 4 events).			
7. Adverse Environment	1	193	346.3
Customer interruptions due to distributor equipment being subject to abnormal environments, such as salt spray, industrial contamination, humidity, corrosion, vibration, fire, or flowing.			
8. Human Element	11	544	1429.9
Customer interruptions due to the interface of distributor staff with the distribution system.			
9. Foreign Interference	37	347	828.7
Customer interruptions beyond the control of the distributor, such as those caused by animals, vehicles, dig-ins, vandalism, sabotage, and foreign objects.			
Total	966	141600	1229990.9

4) Were there any declarations by government authorities, regulators or the grid operator of an emergency state of operation in relation to the Major Event?

No.

5) When did the Major Event begin (date and time)?

The Level 1 emergency was declared at 9:00 pm on May 18th, 2017.

6) What percentage of on-call distributor staff was available at the start of the Major Event and utilized during the Major Event?

100% of on-call distributor staff was available and utilized.

7) Did the distributor issue any estimated times of restoration (ETR) to the public during the Major Event? If so, through what channels?

Yes. ETR notifications were issued to the public through updates via Significant Event Notification System, Proactive Automated ETR notification and social media channels. ETRs were also issued through an auto-dialer, on the Company's Storm Centre Outage website map, phone application and media outlets.

8) If the distributor did issue ETRs, at what date and time did the distributor issue its first ETR to the public?

On May 18th at 8:59:39 PM, the first ETR was issued to the public through the media notification.

- 9) Did the distributor issue any updated ETRs to the public? If so, how many and at what dates and times were they issued?

The ETRs were updated throughout the storm. The Automated ETR systems (iNotify and SENS) updated the ETRs as event status changes.

- 10) Did the distributor inform customers about the options for contacting the distributor to receive more details about outage/restoration efforts? If so, please describe how this was achieved.

Yes, the media notifications included the instruction below as well as a phone number for customers to call into Hydro One's Customer Care Centre.

For up-to-date power interruption information related to [Hydro One's Distribution System](#), please click on the following link, [Power Outage Viewer](#), or download the HydroOne Mobile App.

- 11) Did the distributor issue press releases, hold press conferences or send information to customers through social media notifications? If so, how many times did the distributor issue press releases, hold press conferences or send information to customers through social media notifications? What was the general content of this information?

Media announcements were made through the Hydro One's "Media Notifications" and social media was also used to update followers with restoration efforts regularly along with safety tips.

- 12) What percentage of customer calls were dealt with by the distributor's IVR system (if available) versus a live representative?

58.4% IVR and 20.8% CSR

- 13) Did the distributor provide information about the Major Event on its website? If so, how many times during the Major Event was the website updated?

Power outage updates were provided every 15 minutes on the Company's Storm Centre Outage website map.

- 14) Was there any point in time when the website was inaccessible? If so, what percentage of the total outage time was the website inaccessible?

No.

- 15) How many customers were interrupted during the Major Event? What percentage of the distributor's total customer base did the interrupted customers represent?

141,600 customers, representing about 10.3% of Hydro One's total customer base, were interrupted during the Major Event.

- 16) How many hours did it take to restore 90% of the customers who were interrupted?

At 10:11 pm on May 19th, the Baysville DS F1 was restored, energizing 857 customers. This restoration was the 90% threshold, after 46 hours and 11 minutes from the onset of the event.

17) Was any distributed generation used to supply load during the Major Event?

No.

18) Were there any outages associated with Loss of Supply during the Major Event? If so, please report on the duration and frequency of Loss of Supply outages.

Date Range:	2016-07-08 to 2016-07-09		
PRIMARY CAUSE CODE	Number of Interruptions	Customer Interruptions	Customer Hours of Interruption
2. Loss of Supply	3	20991	17908.8
Customer interruptions due to problems associated with assets owned and/or operated by another party, and/or in the bulk electricity supply system. For this purpose, the bulk electricity supply system is distinguished from the distributor's system based on ownership demarcation.			

19) In responding to the Major Event, did the distributor utilize assistance through a third party mutual assistance agreement?

No.

20) Did the distributor run out of any needed equipment or materials during the Major Event? If so, please describe the shortages.

No.

3. After the Major Event

1) What steps, if any, are being taken to be prepared for or mitigate such Major Events in the future (i.e., staff training, process improvements, system upgrades)?

A pilot project (TWC Outage Prediction) will start in October. This web-based application will be used to forecast weather and predict potential impact on the distribution system.

Hydro one has also implemented a banner on the external Outage Map to provide customers with a high level overview of the major event that is taking place and up-to-date information.

2) What lessons did the distributor learn in responding to the Major Event that will be useful in responding to the next Major Event?

Hydro One continues to develop better early response by field forces, which will utilize weather models and outage prediction tools, so that we can provide better staff planning. Hydro One is also committed to improving ETR outage communications through the use of our Mobile Technology. In addition, we have piloted a project, which will utilize forestry crews from those who have completed switching and grounding qualification on single phase conductors, to safely and efficiently deal with tree impacts to the distribution system.

- 3) Did the distributor survey its customers after the Major Event to determine the customers' opinions of how effective the distributor was in responding?

Yes, Hydro One surveys customers twice a year for Major Events.

APPENDIX

During the Major Event - Supporting Information

11) Did the distributor issue press releases, hold press conferences or send information to customers through social media notifications? If so, how many times did the distributor issue press releases, hold press conferences or send information to customers through social media notifications? What was the general content of this information?

Media announcements were made through Hydro One's "Media Notifications" and social media was also used to update followers with restoration efforts regularly along with safety tips.


Twitter

The image shows a screenshot of three tweets from Hydro One (@HydroOne). The first tweet, dated May 20, states that crews are still responding to 150 outages affecting just under 7,000 customers from Thursday's storm, and provides contact information for ETRs. The second tweet, dated May 19, reports that crews have restored power to over 50,000 customers, with over 9,000 still without power. The third tweet, also dated May 19, shows storm damage in Brancroft with a photograph of a power line tower surrounded by trees. The fourth tweet, dated May 19, provides information on how to find outages, including visiting hydroone.com, downloading an app, or calling 1-800-434-1235.









Hydro One @HydroOne · May 20
Crews still responding to 150 outages affecting just under 7,000 customers from Thursday's storm. ETRs on our app or call 1-800-434-1235.

Hydro One @HydroOne · May 19
Crews have restored power to over 50,000 customers from yesterday's storm. Over 9,000 still without power as crews continue their work.

Hydro One @HydroOne · May 19
Storm damage in Brancroft from yesterday's storm.



Hydro One @HydroOne · May 19
Looking for information on an outage? Visit our Storm Centre at hydroone.com, download our free app or call 1-800-434-1235.

-  **Hydro One** @HydroOne · May 19
Crews are working hard to restore over 15,400 customers affected by 260 outages cause by yesterday's storm. Check our app for latest ETRs.
1 retweet 3 likes
-  **Hydro One** @HydroOne · May 19
Reminder: Off-peak pricing is in effect all day on Victoria Day, Monday, May 22nd.
1 comment 5 retweets 4 likes
-  **Hydro One** @HydroOne · May 19
Crews are responding to 324 outages affecting over 25,000 customers. Visit our map for up-dated ETRs: ow.ly/QI0030bRBXO
2 retweets
-  **Hydro One** @HydroOne · May 19
Hydro One urges everyone to take extra precaution near fallen power lines. Report any downed lines by calling 1-800-434-1235.
2 retweets 1 like
-  **Hydro One** @HydroOne · May 19
Crews are responding to 360 outages affecting over 29,000 customers. Visit our map for updated ETRs: ow.ly/QI0030bRBXO
1 comment 3 retweets 2 likes
-  **Hydro One** @HydroOne · May 19
Hydro One urges everyone to take extra precaution near fallen power lines. Report any downed lines by calling 1-800-434-1235. [#ONstorm](#)
1 comment 6 retweets 8 likes
-  **Hydro One** @HydroOne · May 19
Crews are responding to 331 outages affecting over 32,000 customers. Visit our map for up-dated ETRs ow.ly/QI0030bRBXO
1 retweet
-  **Hydro One** @HydroOne · May 18
Hydro One is working to restore power to more than 60,000 customers affected by the storm [#ONstorm](#)
8 comments 15 retweets 14 likes

Facebook



Hydro One

Published by Social On-Call Team (?) · May 19 ·



Full restoration efforts are underway on 289 active outages approximately 19,945 customers across the province. Our priority is to restore power as quickly and as safely possible to our customers during an outage. For local outage updates, including current estimated restoration times and crew status, please visit our outage map at <http://ow.ly/vk0k307GgRI>, or download our mobile outage app. To report a power outage or hazard such as a fallen tree, please call 1-800-434-1235 and remember to stay away from any downed trees or power lines, even if a power line does not appear to be live.

