

Major Events

RESPONSE REPORT



Issue: March 8th to 9th, 2017 §2.1.4.2 Major Events Response Report

Date Issued: April 18th, 2018

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Summary

A high wind storm exceeding 100km/h, from March 8th to 9th, 2018, was recorded in southern Ontario and a few other locations in Ontario. Many interruptions occurred in Zones 1, 2, 5, and 7. This event impacted ~143,000 (or about 10.4%) of Hydro One's customers.

This is the second 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 March 7th at 1:43 pm, a Transmission & Distribution "Significant Event Notification System" (SENS) was issued to advise of high winds weather, starting on the morning of March 8th throughout the Province.

- 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.

On Tuesday, March 7th, extra employees were called into the Distribution Operations Management Centre (DOMC) to assist with the expected high winds. Extra employees were also called in to assist during the time 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?

Media announcements were made through Hydro One's "Media Notifications". Email notices were sent to media outlets and local government officials. We also issued advanced notification solutions through Hydro One's Storm Centre Outage website and social media channels. In the future, Hydro One's Storm Centre Outage website will include an alert banner to provide information of a pending Major Event as well as our proactive preparations.

- 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 centres 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 143,000 (or about 10.4%) 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 a Major Event 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.	56	13069	23459.5
1. Schedule Outage Customer interruptions due to the disconnection at a selected time for the purpose of construction or preventive maintenance.	26	5878	4602.8
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	17513	111603.8
3. Tree Contacts Customer interruptions caused by faults resulting from tree contact with energized circuits.	359	57999	380276.9
4. Lightning	0	0	0.0

Customer interruptions due to lightning striking the distribution system, resulting in an insulation breakdown and/or flash-overs.

5. Defective Equipment	352	47742	278412.7
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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
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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	0	0	0.0
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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	1	23	73.1
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Customer interruptions due to the interface of distributor staff with the distribution system.

9. Foreign Interference	9	485	1638.7
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Customer interruptions beyond the control of the distributor, such as those caused by animals, vehicles, dig-ins, vandalism, sabotage, and foreign objects.

Total	806	142709	800067.5
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- 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?

Yes, a Level 2 Event was declared by ICCD manager.

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

The emergency was declared at 2:00 pm on March 8th, 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, through our Media Notifications.

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

The first ETR was issued to the public on March 8th, 2017, at 17:35.

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

ETRs were updated and issued on March 8th, 2017 at 21:40, March 9th at 09:00, and March 9th at 15:45.

- 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?

Three press releases were issued along with numerous social media posts during this timeframe. The up-to-minute content included restoration efforts and safety tips.

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

54.7% IVR and 21.7% 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?

142,709 customers, representing ~10.4% 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 12:57 pm on March 9th, the Margach DS was restored, energizing 2,693 customers. This restoration was the 90% threshold, after 36 hours and 57 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	17513	111603.8

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?

Three press releases were issued along with numerous tweets during this timeframe. Content was updated on restoration efforts, and Hydro One also provided safety tips.

Twitter



-  **Hydro One** @HydroOne · Mar 9 ⌵
Thank you for your patience as Hydro One works to restore power to 12,000 customers affected by the wind storm yesterday [#ONstorm](#)
🗨️ 2 ↻ 15 ❤️ 17 📊
-  **Hydro One** @HydroOne · Mar 8 ⌵
News Release: Hydro One restores power to more than 48,000 customers; 20,000 remain without power [ow.ly/VfFS309Jgu0](#)
🗨️ ↻ 5 ❤️ 8 📊
-  **Hydro One** @HydroOne · Mar 8 ⌵
Crews are responding to 260 outages affecting over 20,000 customers. Visit our map for updated restoration times [ow.ly/YydM309JfGF](#)
🗨️ 2 ↻ 5 ❤️ 📊
-  **Hydro One** @HydroOne · Mar 8 ⌵
The best place to get power outage information is our power outage app, or you can call 1-800-434-1235 for updates.
🗨️ 1 ↻ 1 ❤️ 2 📊

