



Major Event Report

Date of Major Event: May 4, 2018

Prior to the Major Event

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

Yes, Environment Canada issued a high wind warning for southwestern 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.

The Major Event happened during normal working hours. London Hydro had all employees available to assist during the 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?

No, we did not issue any media announcements as Environment Canada had issued a potential severe weather warning and we were monitoring the conditions in our area.

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.

London Hydro provides annual training to all supervisory staff that are involved in major event response on their roles and responsibilities. The last training session was held on December 5th, 2017. This session included training on the roles and responsibilities of each member of the team along with the execution of a mock table top exercise (i.e. an ice storm scenario was used in the training session).

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)?

Yes, London Hydro does have third party mutual assistance agreements with other distributors and private contractors. During this event, no additional third party mutual assistance was required; however, London Hydro utilized the private contractors.

During the Major Event

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

Based on the IEEE Standard 1366 (2.5 Beta method) this event was considered to be a Major Event Day where the daily SAIDI and SAIFI values exceeded the daily SAIDI and SAIFI threshold values. The SAIDI and SAIFI threshold values were set based on the daily SAIDI and SAIFI values for the past 5 years.

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

Yes, IEEE Standard 1366 was used to identify the scope of the Major Event

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

6- Adverse Weather (Extreme Wind).

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 Major Event Day began on May 4th, 2018 at 4:20pm

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

London Hydro used all available staff (regular and on-call) at the start and during the event. In addition to our staff, London Hydro utilized four external contractors to expedite the restoration process. The private contractors provided two additional tree trimming crews and four additional overhead line crews.

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

Yes, London Hydro issued ETR through Twitter, IVR, Email, and Text. London Hydro also issued ETR through the outage map on our website, which gets updated every minute with the most updated information.

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

The first notification went out at 4:12pm on May 4th, 2018.

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

Yes, The outage map on our website is updated every minute with the most up-to-date information, including revised ETRs and new outages in the city. London Hydro also conducted live media interviews throughout the event.

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.

Through live media interviews London Hydro gave updates on the situation and estimated restoration times and customers were encouraged to access our outage map on our website and/or register for outage notifications through our website where they could then receive emails, texts or phone calls to advise them of an outage affecting their property.

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?

London Hydro conducted live media interviews to update the public hourly as well as sending texts, emails, phone calls, and tweets.

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

48% of calls were handled by the IVR system.

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?

London Hydro provided updates on the outage map found on our website. The map was refreshed every minute with data from our outage management system.

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, the website was accessible throughout the event.

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

There were 20,890 customer interruptions during the Major Event Day. This accounts for individual customers who were interrupted more than once, and represents 13% of London Hydro's total customer base. The maximum number of customers interrupted at any one time was 13,406. This represents 9% of London Hydro's total customer base.

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

It took 20 hours to restore more than 90% of the customers who were interrupted since 12:00am on May 4th. However, the Major Event outage occurred at 4:20pm and contributed 51% of customer interruptions on May 4th. These customers were restored in just over 4 hours.

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.

No.

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

London Hydro did not require assistance through its third party mutual assistance agreement; however, London Hydro did use third party contractors through the private contractor's agreement.

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

No equipment or material shortages were encountered by London Hydro during the Major Event.

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)?

London Hydro has an Emergency Procedures Plan; training and mockups are performed annually. The purpose of the Emergency Procedures Plan is to define the roles and responsibilities of London Hydro personnel in the event of extensive damage to London Hydro's electrical distribution system. Also, London Hydro performs post event analysis following each Major Event in order to identify points of strength and areas for improvement.

Also, in 2017 London Hydro conducted a review of its tree trimming practices. This review resulted in additional tree trimming efforts during the 4th quarter of 2017 and first quarter of 2018. The additional trimming during this time helped to decrease the number of limbs down on power lines during the storm.

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

During the Major Event, London Hydro observed the benefit of the following while identifying and responding to outages:

- Annual Emergency Procedures Plan
- Private contractor agreements
- Outage Management System (OMS)
- Communicating with customers through different channels (e.g. twitter, email, text, outage map website, live interviews).

Finally, London Hydro realized the benefit of an effective damage assessment process during the storm, which led to an efficient use of available crews.

3. Did the distributor survey its customers after the Major Event to determine the customers' opinions of how effective the distributor was in responding to the Major Event? If so, please describe the results.

London Hydro conducts Annual Customer Satisfaction Surveys. These surveys include general questions regarding outages and reliability. We also monitor customer communications during and after the event. London Hydro received many emails and tweets from customers thanking our staff for their quick response to the outages.