



# Major Event Report

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*Date of Major Event: April 15, 2018*

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## **Prior to the Major Event**

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

Yes, Environment Canada issued a freezing rain and 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.**

London Hydro had employees available on standby to assist during the event. London Hydro also contacted several private contract resources (overhead linemen and arborists) and requested that they be available if needed.

**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 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 has 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 began on April 15th, 2018 at 2:09pm

**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 at the start and during the event. In addition to our on-call distributor staff, London Hydro invoked the use of the crews of four separate external contracting firms to expedite the restoration process. The external contract crews used included: three additional tree trimming crews and two 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 ETR was issued via Twitter for an outage leading up to the major event one day prior. It was issued at 12:08pm on April 14th, 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, 452 Emails, 5 calls (in addition to those who called in), 44 texts, and 8 tweets were issued throughout the event. Furthermore, 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 weekend.

**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, through live media interviews London Hydro gave updates on the situation and estimated restoration times and encouraged customers 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 tweeting.

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

The IVR system dealt with 82% while live representatives dealt with 18%.

**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 23,682 customer interruptions during the Major Event Day. This accounts for individual customers who were interrupted more than once, and represents 15% of London Hydro's total customer base. The maximum number of customers interrupted at any one time was 13,571. 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 17 hours to restore more than 90% of the customers who were interrupted since 12:00am on April 15th. However, the most significant outage occurred at 2:09pm and contributed 97% of customer interruptions on April 15th. These customers were restored in just over 3 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, there were no outages associated with Loss of Supply during the Major Event Day.

**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 mockup is 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 where we need to improve.

### **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 saw the merits and benefits of its annual Emergency Procedures Plan and the contractual agreement with the private contractors. London Hydro also saw the huge benefit of the Outage Management System (OMS) when identifying outages and restoring customers. London Hydro was also active in terms of communicating with our customers through different channels (Twitter, Email, Text, Outage Map website, Live Interviews). Finally, London Hydro found that the additional tree trimming efforts that were implemented over the last seven months proved to be effective as a proactive measure to reduce outages due to tree contacts. The additional tree trimming efforts were implemented as a result of a 2017 review of London Hydro's vegetation management practices and the risks associated with severe weather events.

### **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.