



When a distributor determines an outage was caused by a Major Event, it shall file a report with the OEB that outlines the distributor's response to the Major Event, including answers to all of the questions set out below.

The distributor shall file this report with the OEB within 60 days of the end of the Major Event unless there are exceptional circumstances, in which case the report can be filed within 90 days of the end of the Major Event. The distributor shall also post this report on its website at the same time it is filed with the OEB.

Major Event Date April 15th, 2018 Ice Storm

Prior to the Major Event

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

Several days prior to the storm, Environment Canada began issuing alerts warning of a "potential major ice storm" for the upcoming weekend.

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.*

Regular on-call operational resources were in place prior to the event. This included Distribution department employees (2 Powerline Technician's and 1 Foreman), 24/7 Control Room and 1 Supervisory/Emergency Management person. Call Centre staff were notified prior to the event that the afterhours call centre could be activated.

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.*

Kitchener-Wilmot Hydro Inc. (KWHI) began issuing storm-readiness tweets on Twitter in advance of the storm. Twitter was chosen as the medium because local media follow KWHI and consider information provided on the channel as official statement without the need for a media release.

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.*

KWHI Operations staff are provided job-related training and are on-call or on standby as part of their regular employment. This ensures that staff are available 24/7 and are prepared to respond quickly to address outages of varying magnitude.

Applicable staff are trained on the Outage Management System (OMS), customer call handling and routine website and social media updating. Outage response processes are in place to notify Senior Management and Communications to ensure escalation of response



and ensure information is made available to customers calling in, and through social media (Twitter) and a website outage map.

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 – KWHI is one of nineteen Local Distribution Companies (LDC) who participate in the South Central Ontario LDC Mutual Assistance Plan, through our membership in the GridSmartCity Cooperative. KWHI also has the ability to call upon Distribution and Forestry contractors as necessary depending on the type of event.



During the Major Event

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

The ice storm of April 15th meets the definition of a Major Event as defined by the Ontario Energy Board (OEB) in Section 2.1.4.2 of the OEB's Electricity Reporting and Filing Requirements. That is, the event is "beyond the control of the distributor and is unforeseeable; unpredictable; unpreventable; or unavoidable."

The impact to the distribution system as a result of the storm was unavoidable and unpredictable from a planning perspective. The accumulation of ice on trees and wires combined with wind gusts of up to 85 km/h were responsible for a number of fallen trees and broken limbs which took down power lines and caused widespread power outages

Using the Institute of Electrical and Electronics Engineers (IEEE) Standard 1366, the KWHI calculated threshold for a major event (TMED) for 2018 is 5.36 minutes/customer. The impact of this event was 9.56 minutes/customer which exceeds the TMED. The only cause for the outages during that day was the adverse weather.

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

Yes

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

Cause Code 6 – Adverse Weather

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 first feeder outage on April 15th occurred at 3:50 PM. As the evening progressed the number of customers without power continued to increase until approximately 11:00 PM

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

All on-call Distribution department staff were available and responded to the event. Sufficient additional Distribution department staff responded to emergency response call-ins to support the event response. Not all Distribution department staff were required for this particular event.



The afterhours call centre was activated and sufficient call centre staff responded to emergency response call-ins to support the event response.

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

Yes, when available, ETRs were issued on KWHI's outage map and shared publicly using Twitter. In addition, customers who called in to the call centre were informed of ETRs.



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

ETRs are issued as soon they are available and posted real-time on our outage map and shared on Twitter. For this event, the first ETR was issued to customers as soon as crews identified the cause of the outage, less than one hour after the outage started on April 15th, at 4:42 p.m.

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

Crews were able to restore power close to or within the original ETRs issued. There were no updates to the ETRs issued.

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, tweets regularly provided customers with links to the outage map for the most current updates about restoration efforts. Communications staff were also responding real time to any tweets received during the event, providing more detail where requested. Call centre phone calls were directed to KWHI's outage map and Twitter for further 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?*

No press releases or press conferences were held. KWHI sent 65 tweets to customers during the event, publicly and directly, providing updates on the status of restoration, cause of the outages, ETRs, safety messages, and where they could find updated information and/or expect updates.

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

KWHI does not have an IVR system. Calls were handled by KWHI Customer Service Representatives (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?*

Yes, KWHI's outage map is available on its website and provides real-time updates.

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?*



At no time during the event was KWHI's website inaccessible.

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

20,377 customers were affected by this event. This represents 21% of the customer base for KWHI.

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

The power was restored to over 90% of the customers in approximately 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.*

There were no Loss of Supply outages associated with this event.

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

Additional resources through our Mutual Assistance Plan or by Contractor were not required for this event.

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

No, there was no shortage of equipment or materials during this 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)?*

While KWHI's response to the Major Event was successful there are areas of improvement that the organization continues to explore to be able to better respond to the next event. The following steps are being taken:

- Review backup power supply systems for communication equipment to ensure that they are available in the event of loss of power to main building.
- Continue with investigation of an automated crew call out application.
- Continue to train CSRs in use of the OMS for logging of customer calls.
- Continue to have debriefing with relevant staff members after each storm and/or major event.

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

The lessons learned from responding to this event include:

- Activating the storm centre and call centre in a timelier manner to reduce number of customer calls that go unanswered during the first hour of the outage.
- Ensuring that someone is always present in the storm centre to triage OMS calls that are entered by CSRs.
- Ensuring that all communication equipment is supplied by backup power. Some communication equipment at our head office were not on backup power resulting in loss of communication during loss of power at the building.
- Utilizing a manual process for calling out crews is time consuming. That is, having to dial at least two telephone numbers for each crew member and wait for a response.

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.*

No