



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: December 1st, 2019 – Wind/Ice Storm

Prior to the Major Event

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

Environment Canada issued alerts warning of possible inclement weather the day prior to the event.

- 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. Arrangements for additional staff on duty or on standby were not made for this 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?*

There were no media announcements issued prior to the ice storm.

- 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 twenty 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 wind/ice storm on December 1st 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 high winds and freezing rain was unavoidable. Wind speed gusted at 74 km/h resulting in several broken tree branches coming in contact with the power lines and galloping of conductors in some areas causing widespread outages.

Using the Institute of Electrical and Electronics Engineers (IEEE) Standard 1366, the calculated KWHI threshold for a major event (TMED) for 2019 is 4.76 minutes/customer. The impact of this event was 9.22 minutes/customer which exceeds the TMED. The primary cause for the outages was the ice build-up and the high winds in the morning, and trees falling on lines.

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

Yes, the IEEE Standard 1366 was used.

- 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 Weather Event

- 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)?*

December 1st at 6:18 AM

- 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 event.

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.

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 posted at 8:07 a.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?*

There were updated ETRs issued on the outage map. Information was updated as it became available.

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 tweets received during the event, providing more detail where requested.

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, though KWHI's VP of Operations provided CTV News Kitchener with an on-camera interview in response to a media request. KWHI sent approximately 23 tweets to customers during the event, publicly and directly, providing updates on the status of restoration, cause of the outage, 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 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?*

8,745 customers were affected by the outage this represents 8.9% of the total customer base for Kitchener-Wilmot Hydro Inc.

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

It took 6 hours to restore 90% of the customers.

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:

- Exploring the feasibility of having a KWHI resource with overall responsibility for maintaining and updating the public outage map with estimated time to restore (ETR).
- Finalizing deployment of a crew call out software to reduce the time spent by Control Room Operators in dialing telephone numbers for crews to come in and respond to outages during Major Events.

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

KWHI learned that customers and the media rely on the ETR posted on the public facing outage map to determine when power will be restored. The current process of posting the initial ETR on the outage map is based on a pre-set ETR for a typical outage (3 hours). KWHI normally update this ETR after feedback is received from crews in the field. During a Major Event, the time taken to provide feedback on all outages may exceed the initial ETR resulting in erroneous values being left on the outage map. KWHI will be discussing alternative options with the OMS vendor to have a "TBD - To Be Determined" posted as the initial ETR until crews are able to provide a definite time frame.

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