Major Event Response Report

Toronto Hydro

July 16, 2024

Loss of Supply

Filed: September 12, 2024

1 Prior To The Major Event

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

No

Additional Comments:

As the Major Event was initiated by a Loss of Supply, Toronto Hydro did not have any prior warning that the Major Event would occur.

1.2 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?

No

Brief description of arrangements, or explain why extra employees were not arranged

While Toronto Hydro did not have prior warning of the event, it did arrange to have additional crews on standby due to the weather forecast. Toronto Hydro maintains a standby schedule requiring senior management, supervisory and operational staff to be available on a 24/7 basis to support with event restoration. This standby schedule was in place and operationalized during the Major Event.

1.3 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?

Toronto Hydro did not have prior warning about the Major Event and so it did not make any media announcements prior to its onset. At the onset of the Major Event, Toronto Hydro began notifying customers of power outages on all of its social media platforms.

1.4 Did the distributor train its staff on the response plans to prepare for this type of Major Event?

Yes

2 During The Major Event

2.1 Please identify the main contributing cause of the Major Event as per the table in section 2.1.4.2.5 of the electricity reporting and record-keeping requirements.

- ☑ Loss of Supply
- ☐ Lightning
- ☐ Adverse Weather- Wind
- ☐ Adverse Weather- Snow
- ☐ Adverse Weather- Freezing rain/ice storm
- ☐ Adverse Environment- Fire
- ☐ Adverse Environment- Flooding
- ☐ Others

Please provide a brief description of the event (i.e. what happened?). If selected 'Others', please explain.

This Major Event was initiated by a cause code 2.1 Loss of Supply Transmission. In July, 2024, Toronto experienced unprecedented rainfall totaling over 208mm. Nearly half of this occurred on July 16, 2024, when 100mm of rain fell, marking the fifth largest rainfall in the city's recorded history. This resulted in severe flooding throughout the Greater Toronto Area (GTA). Manby TS, a Hydro One Networks Inc. (HONI) transmission station on the west end of the GTA, experienced significant flooding in all four relay room basements, resulting in the maloperation of several protection systems. This removed multiple 230kV and 115kV transmission lines from service at 11:41 am, resulting in the disconnection of nine different Toronto Hydro transformer stations throughout the city and the interruption of approximately 878 MW of power, impacting over 200,000 Toronto Hydro customers.

2.2 Was the IEEE Standard 1366 used to derive the threshold for the Major Event?

- ☑ Yes, used IEEE Standard 1366
- ☐ No, used IEEE standard 1366 2-day rolling average
- ☐ No, used fixed percentage (i.e., 10% of customers effected)

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

The Major Event began on July 16, 2024, at approximately 11:41 am.

2.4 Did the distributor issue any information about this Major Event, such as estimated times of restoration, to the public during the Major Event?

Yes

If yes, please provide a brief description of the information. If no, please explain.

Toronto Hydro used several forums to engage with customers. Toronto Hydro shared frequent updates on Facebook, Instagram, and X/Twitter that detailed restoration updates. Toronto Hydro also communicated outage boundaries through the Toronto Hydro mobile app and through its online outage map.

Between Tuesday, July 16 and Wednesday, July 17, Toronto Hydro issued the following types of updates for customers on social media:

- Status updates on restoration efforts, including customer counts
- Damage assessments and challenges in the field (e.g., flooding of stations)
- Breakdowns of the restoration process

Toronto Hydro's usual communication channels, including online live chat, were also available to customers.

2.5 How many customers were interrupted during the Major Event?

Approximately 207,000 customers were interrupted during the Major Event.

2.6 What percentage of the distributor's total customer base did the interrupted customers represent?

This represents approximately 26% of the total customer base.

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

Approximately 10 hours.

Additional comments:

N/A

2.8 Were there any outages associated with loss of supply during the Major Event?

Yes

If so, please report on the duration and frequency of the loss of supply outages.

All of the Major Event outages were associated with the Loss of Supply, as discussed under section 2.1.

2.9 In responding to the Major Event, did the distributor utilize assistance through a third-party mutual assistance agreement with other utilities?

No. Toronto Hydro did not use assistance through a third-party mutual assistance agreement.

If so, please provide the name of the utilities who provided the assistance?

N/A

2.10 Did the distributor run out of any needed equipment or materials during the Major Event?

No. Toronto Hydro did not run out of any needed equipment or materials during the Major Event.

If so, please describe the shortages.

N/A

3 After The Major Event

3.1 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)?

- ☐ No further action is required at this time
- ☐ Additional staff training
- ☐ Process improvements
- ☐ System upgrades
- ☑ Others

Additional comments:

Toronto Hydro recently collaborated with Hydro One Networks Inc. (HONI) to conduct an operations-based workshop aimed at enhancing protocols for major incident communication between their operations centres. Additionally, HONI will undertake a Post-Event Investigation and will share any relevant recommendations and actions with Toronto Hydro upon completion. Furthermore, Toronto Hydro is conducting its own review of the event to identify further opportunities to bolster resilience.