



Major Event Response Reporting Loss of Supply – May 26, 2021

Prior to the Major Event

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

Yes No

Additional Comments: *N/A*

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?

Yes No

Brief description of arrangements, or explain why extra employees were not arranged: *N/A*

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?

Yes No

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

Yes No

During the Major Event

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
- Other

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

Hydro One Thornton transformer station is supplied by two 230 kV circuits, T24C & T26C respectively. On May 26, 2021, the T26C 230 kV circuit was out of service for planned insulator replacement work. At 22:09, Hydro One's T24C 230 kV circuit was automatically removed from service, initiated from a customer equipment protection trip. This resulted in a complete loss of supply to Thornton transformer station and two Oshawa Power municipal stations (MS5 & MS11). Precisely, 10,554 customers were affected by this power outage.

All of Hydro One's high voltage transformer customers were contacted by the Ontario Grid Control Centre and requested to isolate from the grid. Once all customers confirmed they were isolated from the grid, T24C was energized (with no load) from Clarington transformer station at 23:16. Load restoration commenced in stages: Thornton transformer station energized at 23:28, Oshawa G.M. station at 23:31 and Whitby station at 23:36. In addition, at 23:36, other customer loads were in the process of being restored.

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 affected)

*The OEB preferred option

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

Date: Wednesday May 26, 2021

Time: 22:09

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 No

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

During Event:

- *Oshawa Power Social Media (Twitter and Facebook) was updated regularly as new information was received.*

- After hours answering service was contacted to ensure they were prepared for a surge in calls and had the necessary information to relay to customers.
- IVR message for the phone system was updated to let customers know that there was a widespread outage and crews were working on restoration.

After Event:

- Twitter event was created summarizing all the tweets sent out.
- Throughout the evening, Oshawa Power messages were posted to Facebook.
- Summary of the event was posted on the Oshawa Power website and sent to local media and picked up by both Oshawa Express and Oshawa This Week newspapers and Durhamregion.com.

5. How many customers were interrupted during the Major Event?

10,554 customers were affected during this major event.

What percentage of the distributor's total customer base did the interrupted customers represent? 17.6%

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

0.9 Hours. Additional Comments: N/A

7. Were there any outages associated with Loss of Supply during the Major Event?

Yes No

If yes, please report on the duration and frequency of the Loss of Supply outages:

The major event was triggered by a Loss of Supply. 78 minutes/frequency = 1

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

- Yes
 No
 Do not have third party mutual assistance agreements with other utilities

If yes, please provide the name of the utilities who provided the assistance? N/A

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

Yes No

If yes, please describe the shortages: N/A

After the Major Event

1. What actions, if any, will be taken to be prepared for, or mitigate, such Major Events in the future?

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

Additional Comments:

- I. *Oshawa Power will request incident investigation reports from Hydro One following all major loss of supply outages to ensure remedial actions are taken to help prevent similar incidents from occurring in the future.*
- II. *Oshawa Power has requested Hydro One to ensure testing of customer protection equipment connected to applicable 230kV circuits, prior to isolation of a companion circuit.*
- III. *Oshawa Power control room will track and manage risk of abnormal Hydro One circuit conditions it's made aware of, affecting Oshawa Power's supply.*
- IV. *Oshawa Power will proactively transfer load to other transformer stations to minimize/avoid possible outages, prior to isolation of a 230kV companion circuit.*
- V. *Oshawa Power will install additional automated 44kV switches to further improve/minimize future outage durations.*