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Introduction

Major Event Description

Late evening March 23rd and early March 24th, ice accumulation and high winds began. Outages began with a bulk outage reportedly caused by a pole fire on the circuit supplying substations in the town of Rockwood. This caused an outage to the distribution system in Rockwood. By 7:09 AM, high winds and accumulated ice caused primary conductors in several areas within the Guelph Hydro system to gallop resulting in several momentary feeder outages, as well as some feeder lockouts. By 8:30 AM, Guelph Hydro began receiving reports of outages due to fallen branches and sagging trees coming into contact with electrical distribution plant, while lockouts due to galloping continued to occur. At 2:28 PM another bulk outage on the circuit supplying Rockwood occurred, reportedly due to a broken insulator. As the wind subsided and freezing rain ended, outages continued due to vegetation contacts and line gallop as conductors and branches shed accumulated ice. During the ice storm, approximately 10 service conductors were damaged by falling branches and required repair. Additionally, approximately 19 customer attachments were damaged resulting in repairs to customer equipment but no damage to Guelph Hydro conductor. One pole developed a slight lean due to stress on conductors from a fallen branch, but requires no additional repair at this time. Overhead primary conductor was damaged at one location and was repaired. The event ended at approximately 2:28PM on March 25th, 2016. Over the course of the event, 964,611 customer minutes were interrupted and a total of 14,901 customer interruptions occurred.

Guelph Hydro's Communications team is alert to the potential for emergencies at all times. As part of the Crisis Communications Plan execution, the team has created template social media messages and news releases which can be deployed at a moment's notice. As has been demonstrated during previous widespread outages, this approach works very well and helps to assuage customer concerns, as well as providing media outlets with up-to-the-minute information about restoration efforts, reducing the number of media calls we receive during these incidents. The communications effort during the March 2016 Ice Storm once again reflected the success of this approach.

Prior to the Major Event

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

Response:

Yes, Guelph Hydro was aware of weather forecasts in the days leading up to the ice storm which predicted freezing rain with the potential for accumulating ice. Weather Canada issued freezing rain warnings on March 23rd in Southern Ontario related to a Colorado Low weather system¹ moving into the area.

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.

Response:

Guelph Hydro had 4 employees on-call prior to the Major Event beginning. Guelph Hydro normally schedules a single on-call Supervisor for the weekly rotation.

Guelph Hydro did not have any extra employees on duty or standby for communications support, however, Guelph Hydro communications staff were alert and ready to respond in the event of any power outages.

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?

Response:

The communications team began sending out preliminary storm-readiness messages through Twitter on March 23 to more than 3,800 followers, including local media outlets, advising customers to be prepared for potential outages due to freezing rain. The tweets were retweeted nine times to approximately 3,000 additional followers. They also appear automatically on the Guelph Hydro website home page.

¹ Source: <https://www.guelphtoday.com/local-news/freezing-rain-warning-issued-for-guelph-269098>



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.

Response:

Control room follows its emergency plan and has on-call supervisors who have the authority to declare an emergency and alert the operation crews. Control room provides training on emergency plan once a year.

Guelph Hydro's communications team has a Crisis Communications Plan in place, which had undergone a thorough review three months prior to the Ice Storm, and power outage communications are considered a typical communications job. As such, there was no need for additional training.

Customer Service has developed a Crisis Communication Plan designed specifically for Customer Service and Billing. The Crisis Communication Plan is reviewed twice a year.

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)?

Response:

Although mutual aid was not required during this event, Guelph Hydro has mutual aid agreements in place with other distributors through the Grid Smart City cooperative. Distributors are:

- Burlington Hydro
- Energy Plus Inc.
- Halton Hills Hydro
- Kingston Hydro
- Kitchener-Wilmot Hydro
- Milton Hydro
- Niagara Peninsula Energy
- Oakville Hydro
- Waterloo North Hydro

Mutual aid agreements for response during previous events have been established as needed with Hydro One and other local utilities.

A template for a mutual aid agreement for communications support exists and is available for use if the need arises.

During the Major Event

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

Response:

Using the IEEE 1366-2012 method, Guelph Hydro has established a major event day threshold (“Tmed”) of 9.138 Average Customer Minutes for 2016 events. The observed SAIDI of the major event day is 17.914 Average Customer Minutes (964,611 customer minutes)/((53,833+53,862)/2 customers). The event involved loss of supply interruptions (which made up 57.89% of the customer minutes interrupted). The event was also related to a freezing rain weather event which was outside of the control of Guelph Hydro.

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

Response:

Yes.

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

Response:

Cause Code	Customer Minutes	Average Customers	SAIDI (average customer minutes)
2 – Loss of Supply	558,450	53,847.5	10.371
3 – Tree Contact	43,057	53,847.5	0.7996
6 – Adverse Weather	363,104	53,847.5	6.743
10 – Major Event	964,611	53,847.5	17.914

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?

Response:

Guelph Hydro was not aware of any declarations by government authorities, regulators or the grid operator of an emergency state of operation in relation to the Major Event.

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

Response:

March 24th, 2016 at 2:24:00 AM

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

Response:

100% of the on-call distributor staff was available to respond to the Major Event.

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

Response:

Guelph Hydro issued estimated times of restoration to customers through Twitter when they were available. In addition, Guelph Hydro's control room operators provide the ETRs that appear on the outage map found on Guelph Hydro's website.

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

Response:

The first ETR was issued to the public on Thursday, March 24 at 8:59 a.m. and was based on an ETR provided by Hydro One.

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

Response:

Guelph Hydro provided ETRs as often as possible but the nature of the ice storm made it difficult. On Thursday, March 24, ice on lines and galloping lines caused intermittent outages. In an effort to keep customers apprised of outages and restoration progress, Guelph Hydro used Twitter to drive customers to its outage map, which is updated in real time and provides ETR information as it becomes available from Guelph Hydro's control room operators.

As the day continued, so did the rain. Ice continued to build up on lines and interrupt power, making it difficult to provide ETR information. This was shared with customers and the media through regular Twitter updates as an explanation for why an ETR was not 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.

Response:

Guelph Hydro provided updates through Twitter, advising customers to contact customer service or our Power Outage line via telephone to report lines down and branches on lines, and encouraged customers to visit the outage map on its website and mobile site for updates.

The company's Twitter feed appears automatically on the Guelph Hydro website so it can be viewed by customers who are not on Twitter.

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?

Response:

Guelph Hydro did not issue press releases or hold press conferences during the ice storm. The company did provide regular updates to customers through Twitter, which were picked up by local media. Guelph Hydro sent regular updates and responses to enquiries which came through Twitter constantly throughout the storm. At the height of the storm on Thursday, March 24, there were 74 tweets from customers reporting outages, trees down, branches on lines, and flashes, and customers continued to report outages and request updates until 3:00 a.m. on Friday, March 25. Tweets from customers began again on Friday, March 25 at 6:15 a.m. with more reports of outages, damage, and requests for updates.

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

Response:

Guelph Hydro does not have an IVR system available to provide automatic responses to customer calls during major events. All customer calls were dealt by live representatives. In addition, Guelph Hydro Customer Service Representatives provided updates on online chat and email inquiries.

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?

Response:

Information about power outages related to the ice storm were provided via the Twitter feed that appears on the Guelph Hydro website homepage.

In addition, information about outages and ETRs when available is available on Guelph Hydro's dynamic outage map, which is updated in real time.

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?

Response:

Guelph Hydro's website was accessible at all times throughout the ice storm.

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

Response:

5,666 unique customer interruptions occurred during the major event representing 10.5% of the total customer base of 53,847.5 (average customer count for February and March 2016).

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

Response:

Guelph Hydro restored 90% of interrupted customers within 2 hours.

17. Was any distributed generation used to supply load during the Major Event?

Response:

No distributed generation was used to supply load during the Major Event.

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.

Response:

Yes.

Cause Code	Customer Minutes	Customer Interruptions²	Average Customers	SAIDI (average customer minutes)	SAIFI
2 – Loss of Supply	558,450	9,125	53,847.5	10.371	0.169

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

Response:

With respect to outage communications, there was no assistance required through a third party mutual assistance agreement.

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

Response:

Damage during the major event consisted mostly of service conductor damage and one broken primary conductor. Repairs were made using materials on hand and there were no shortages of available materials.

² Five separate events occurred.

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)?

Response:

Guelph Hydro's distribution system in Rockwood has been upgraded with the completion of Rockwood MS1 reconstruction. This allows the majority of load in the village to be supplied by either Rockwood MS1 or Rockwood MS2 which are fed by different bulk supply feeders. During this event, all bulk supply outages were related to the Hydro One 73M4. Guelph Hydro will be able to switch load internally to supply Rockwood from either 73M4 or 73M8 if a similar event happens in the future.

Guelph Hydro's Communications Staff is on alert for emergencies and major events and regularly reviews the Crisis Communications Plan to ensure Guelph Hydro is prepared at all times.

Customer Service offers training twice a year related to the Crisis Communication Plan. The training occurs in October and March. The Customer Service and Billing Crisis Communication Plan is updated periodically from the master Crisis Communication Plan.

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

Response:

During ice storms or inclement weather, the option to work from home is offered to employees. Customer Service Representatives currently do not have the capability to login to the call centre queue from home. Soft phones are being investigated by IT for future 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.

Response:

Guelph Hydro did not survey its customers following the ice storm to determine customer opinions of Guelph Hydro's response. However, the kudos received from customers via Twitter give an indication of the satisfaction level of some customers. (See Appendix A)

Appendix A
March 2016 Ice Storm Twitter Kudos

Ice Storm Kudos

Here are some messages of support and thanks received over Twitter during and after Thursday's ice storm.



Ann Pappert @AnnPappert

6 days ago

Thank you all! #GuelphSafe @cityofguelph @guelphtransit @GuelphFire @PRGWEMS @GuelphHydro @GMPublicWorks @gpsmedia

City of Guelph @cityofguelph

Freezing rain warning for #Guelph. City crews & salt trucks ready to go. Drive according to road conditions. <https://t.co/GebEPV8ZPB>

← 🔄 4 ❤️ 2 ➦ ⋮



Marion Willms @mswillms

5 days ago

@GuelphHydro thank you for letting us know. it makes me feel safe out here in Rockwood! the power has been back on for about 10 minutes

← 🔄 ❤️ ➦ ⋮



Ann Pappert @AnnPappert

5 days ago

Tough storm...Cheers & thanks to the crews of Guelph@cityofguelph @guelphtransit @GuelphFire @PRGWEMS @GuelphHydro @GMPublicWorks @gpsmedia

← 🔄 3 ❤️ 9 ➦ ⋮



jennifer cassista @wustaz

5 days ago

@GuelphHydro thanks for all the hard work in difficult working conditions. We all appreciate it!

← 🔄 ❤️ 1 ➦ ⋮



City of Guelph @cityofguelph

5 days ago

Big thanks to @GuelphHydro crews are out working hard to restore power and fix power lines. #onstorm #Guelph #Wellington

← 🔄 11 ❤️ 45 ➦ ⋮



Arlyn Newbery @mrsnewbery

5 days ago

@GuelphHydro thank you for all you do!

← 🔄 ❤️ 1 ➦ ⋮



Marion Willms @mswillms

5 days ago

@GuelphHydro power is now restored on Inkerman st in Rockwood. thank you again

← 🔄 ❤️ ➦ ⋮



Chris Zimmermann @MrZimmy

5 days ago · Guelph

@GuelphHydro big blue flashes around Waterloo and Glasgow. Thanks for keeping the lights on ;) not easy on a night like tonight.



Joe Blazik @Biz_Blazik

5 days ago

@GuelphHydro Great respect for your crews out there in this 🤔 Let there be light!!!



Jade Sammons @jadeypops24

5 days ago

@GuelphHydro just looked at your outages and we apparently shouldn't have power...am thankful that we do! Just wanted to be prepared!!



Jade Sammons @jadeypops24

5 days ago

@GuelphHydro thank you to all the teams out working to restore power to people! Hope they stay safe!



Leeann Elliott @LeeannSneddon

5 days ago

@GuelphHydro keep up the good work! Rough night ahead! I'm in the affected area ☹️



Bilay Badoe @Beeelay

5 days ago

@GuelphHydro you guys are awesome! Thanks for all the hard work.



Kim Fortune @KimFortune1

5 days ago

@GuelphHydro this map is neat!



Show Conversation



Chris Hesselden @chrishesselden

5 days ago

Thanks to the @GuelphHydro crew who were able to get the power back on in the Grange & Watson area.



Dan Gibson @Ward1Guelph

5 days ago

To my fellow East #Guelph residents without power. Thank you for your patience. One thing I can assure you, @GuelphHydro is working on it.



Dan Gibson @Ward1Guelph

5 days ago

@GuelphHydro you are the best! #guelph.



Show Conversation



Chicken Slacks @FergusonKent
5 days ago

@GuelphHydro good work, be safe tonight.



Show Conversation



Sgt Douglas Pflug @SgtDPflug
4 days ago

Numerous power outages last nite @GuelphHydro worked very hard 2 restore power overnight -if U C #downedlines call us -stay back and call us



Kate Seftel @KSeftel
4 days ago

@GuelphHydro thank-you to all of your staff who worked overnight and will all day today and this weekend!



Valerie Vaz @ValVvaz
4 days ago

Thank you @GuelphHydro for working hard to get everyone's power back! Let's hope Spring will finally prevail now!



Justin Jasmann @JustinJasmann
4 days ago

.@wnhydro @KWHydro @GuelphHydro To all teams who worked throughout the night to restore hydro, thank you. #NotSaidEnough #gratitude



Trish Bizjak @pbizjak
5 days ago

@GuelphHydro thank you for all your hard work tonight! Our power is back and we are warm. Hope your teams are too #thankful #icestorm



Lianne Keais @LianneK
4 days ago

@GuelphHydro Thank you so much for getting our power back on as soon as you could!



Tom @TheTombert
4 days ago

Power is back on and the turkey is saved. Thanks @GuelphHydro for your hard work last night.



Sammie @sammieluna
4 days ago

@GuelphHydro Great job.#ThankYou#SwiftCres



Linda LaRose @lindss
4 days ago

@GuelphHydro @HHHydro Thank you 😊😊



Show Conversation



Jen Rafter @RafterHours
4 days ago · Guelph

@GuelphHydro THANK YOU! Stay safe out there!!





David Taylor @davidmtaylor71

4 days ago

@GuelphHydro thx for your hard work....it's been a rough few days and we appreciate all your work!!



Helen Newman @HelenNe70994901

4 days ago

@GuelphHydro thank you!



Show Conversation



Linda LaRose @lindss

4 days ago

@GuelphHydro @HydroOne thank you! 😊😊



Spotted in Guelph

Friday at 10:36 PM

Spotted !!!

A Great big thank you to the hydro crews out in this weather the last couple of days/nights getting us all back up with power. Has to be a thankless job - so thank you! Buy these guys/girls a coffee if you see them. They're sleepless and frozen to the bone so you can have a nice warm shower and hot breakfast!

63 Likes



Like



Comment



Share