

July 27, 2018

VIA HAND DELIVERY & ELECTRONIC MAIL

Luly E. Massaro, Division Clerk
Rhode Island Division of Public Utilities and Carriers
89 Jefferson Boulevard
Warwick, RI 02888

**RE: Docket D-11-94 – Review of Preparedness and Restoration Efforts by the State’s Electric Utility Companies Related to Tropical Storm Irene
March 21, 2018 Summary Report**

Dear Ms. Massaro:

In accordance with Rhode Island Public Utilities Commission (PUC) Order No. 15360 (August 19, 1997) and paragraph 4(a) of the Joint Proposal and Settlement in Lieu of Comments Submitted by The Narragansett Electric Company¹ and the Division of Public Utilities and Carriers (Division) (the Settlement) approved by the PUC in Docket No. 2509, I have enclosed 10 copies of National Grid’s summary report on the planning and restoration activities associated with the March 21, 2018 Winter Storm Toby (Winter Storm Toby or the Storm), which will likely qualify for inclusion in the Company’s Storm Contingency Fund. Paragraph 4(b) of the Settlement requires the Company to file with the PUC within 90 days after the Storm a report providing a description of the Storm along with a summary of the extent of the damage to the Company’s system, including the number of outages and length of the outages. On June 12, 2018, the Company submitted a request for an extension of time through July 27, 2018 to submit the summary report for Winter Storm Toby, to which the Division stated it had no objection.

A supplemental report detailing the incremental restoration costs caused by Winter Storm Toby will be submitted to the PUC once the total costs have been accumulated by the Company, and final accounting of storm costs has been completed.

Thank you for your attention to this matter. If you have any questions, please contact me at 401-784-7288.

Very truly yours,



Jennifer Brooks Hutchinson

Enclosure

cc: Docket 2509 Service List
Docket D-11-94 Service List
Leo Wold, Esq.
John Bell, Division
Al Mancini, Division

¹ The Narragansett Electric Company d/b/a National Grid (National Grid or the Company).

Certificate of Service

I hereby certify that a copy of the cover letter and any materials accompanying this certificate was electronically transmitted to the individuals listed below.

The paper copies of this filing are being hand delivered to the Rhode Island Public Utilities Commission and to the Rhode Island Division of Public Utilities and Carriers.



Joanne M. Scanlon

July 27, 2018
Date

**Docket No. 2509 – National Grid – Storm Fund
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Docket D-11-94 Review of National Grid's Storm Reports

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National Grid

The Narragansett Electric Company

**Report on
March 21, 2018, Winter Storm
Toby Damage Assessment and
Service Restoration**

July 27, 2018

Docket No. 2509

Submitted to:
Rhode Island Public Utilities Commission

Submitted by:

nationalgrid

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**REPORT ON BEHALF OF
THE NARRAGANSETT ELECTRIC COMPANY d/b/a NATIONAL GRID
ON THE MARCH 21, 2018 STORM DAMAGE ASSESSMENT AND SERVICE
RESTORATION EFFORTS**

I. EXECUTIVE SUMMARY

The Narragansett Electric Company d/b/a National Grid (National Grid or the Company) presents the following report on the planning and restoration activities associated with the March 21, 2018 winter storm Toby (Winter Storm Toby or the Storm), which impacted Rhode Island and other states in the mid-Atlantic and Northeast regions of the United States. Winter Storm Toby was the fourth and final of a series of winter weather events the Company prepared for and/or experienced within three weeks. For pre-planning purposes, the Company classified Winter Storm Toby as a National Grid Type 4 emergency event, meaning that the Company estimated that restoration activities would generally be accomplished within a 24 hour period and the event would typically result in up to three percent of customers interrupted. Winter Storm Toby was projected to bring heavy snowfall and hazardous winds that could potentially cause significant damage to the Company's electric infrastructure. Ultimately, Winter Storm Toby brought widespread snowfall from the Ohio and Tennessee valleys through much of the Mid-Atlantic, into southeastern New York and southern and eastern New England. Strong winds were experienced in southeastern Massachusetts and Rhode Island. The heaviest amounts of snow impacted portions of the Mid-Atlantic, with lighter snowfall in southern and eastern New England. Despite the severity of the forecast, portions of Rhode Island that received snowfall saw less than two inches of snow. Wind gusts generally ranged between 40 – 55 miles per hour (mph) along the southern and eastern New England coast. The Rhode Island coast experienced wind gusts in this range. Peak wind gusts of 51 mph occurred on Block Island. The winds and wind gusts caused some damage to the Company's electric infrastructure across Rhode Island, interrupting power to approximately 1,469 (approximately 1,235 at peak) of the Company's customers. Overall, less than one percent (1%) of the Company's customers in Rhode Island experienced outages, with 13 of the 38 communities served in Rhode Island impacted.

The Company began monitoring the weather around Winter Storm Toby on Friday, March 16, 2018, only a day after restoring the last customer affected by the March 13, 2018 Winter Storm Skylar. The Company began preparing for Winter Storm Toby on Monday, March 19 by conducting an operational planning call at 1:30 p.m. during which the New England Incident Commander declared the event classification as a Type 4. On Wednesday, March 21 at 12:00 noon, the Providence Storm Room was opened. The Company followed its Emergency Response Plan, and mobilized employees and contractors for the restoration using a damage forecast based on its experience in previous storms. As part of its preparation efforts, and based on the severity of the forecast, the Company also secured contractors from outside the Company's service territory to ensure the availability of resources with which to respond to the

Storm, and to help with restoration. Using its own crews and contractor resources, the Company restored power to 98 percent of its customers impacted in less than 4 hours from the time of peak impact. The final customer from Winter Storm Toby was restored on March 22 at approximately 2:38 p.m.

The Company is grateful for the support of customers, employees, state and local officials, and public safety officials, who experienced the effects of Winter Storm Toby and were an integral part of the Company's restoration efforts.

II. INCIDENT ANTICIPATION

A. Determination of Incident Classification

While the Company did not officially activate the System level Emergency Response Organization (ERO) in response to Winter Storm Toby, a System Level Briefing was conducted on Tuesday, March 20, 2018 at 4:30 p.m. For its response to Winter Storm Toby, the Company established a Branch Storm Room in Providence on Wednesday, March 21 at approximately 12:00 noon, and did not open the Regional Emergency Operations Center in Worcester, Massachusetts, consistent with a Type 4 event. As explained below, the Company named a New England Incident Commander, who was primarily responsible for establishing the projected and actual incident classification level for Winter Storm Toby.

As set forth in the Company's Emergency Response Plan, factors considered in initially establishing or revising the expected incident classification level included the following:

- Expected number of customers without service;
- Expected duration of the restoration event;
- Recommendations of the State Planning Section Chief, Transmission and Distribution Control Centers, and other key staff;
- Current operational situation (such as number of outages, resources, and supplies);
- Current weather conditions;
- Damage appraisals;
- Forecasted weather conditions;
- Restoration priorities;
- Forecasted resource requirements; and
- Forecasted scheduling and pace of restoration work crews.

Through the system and operations storm conference calls, the New England Incident Commander communicated the incident classification to Company leadership and organizations that the Company expected to engage in restoration or support activities. The New England Incident Commander classified the event as a National Grid Type 4 event.

B. Activation of Incident Command System

The Company utilizes the Incident Command System, a component of the National Incident Management System, which is a comprehensive national approach to incident management applicable at all levels of the Company's Emergency Response Organization and addresses the operation of Company Emergency Operation Centers.

In the days leading up to Winter Storm Toby, prior to the activation of the Incident Command System, the Company's Operations management personnel held several operational calls to discuss planning efforts for the possibility of yet another snow and wind storm forecasted to bring hazardous conditions to New England. As a result of these calls, and in accordance with the Company's Emergency Response Plan and anticipated Type 4 event, the Company activated the Branch Level Emergency Response Organization in Rhode Island prior to its Pre-Event Stage Briefing Call, scheduled for Tuesday, March 20, 2018, at 3:00 p.m. At that time, the Company planned to open its Rhode Island Storm Room in Providence at approximately 12:00 noon on Wednesday March 21 to support Rhode Island restoration. The New England Incident Commander activated the Rhode Island Branch Director, who would be in charge of Rhode Island restoration and located in the Providence Storm Room, as well as several other Branch Directors in Massachusetts. Thereafter, the Company activated a number of other positions at the discretion of the Incident Commander and Branch Directors, considering the level of response expected for the Storm in their respective areas. As mentioned above, the Regional Emergency Operations Center in Worcester, Massachusetts was not planned to open, consistent with a Type 4 event.

C. Determination of Crew Needs and Pre-Staging

Given the anticipated magnitude of Winter Storm Toby and forecast of winds and heavy snowfall, the Company secured crews in advance from its contractors of choice and other outside contractors to support restoration efforts for all of New England as part of its regional preparation for Winter Storm Toby, consistent with its Emergency Response Plan. As of March 20 at 11:00 a.m., the Company had 60 internal overhead line crews, 130 external overhead line crews, 80 forestry crews (external), 11 internal underground crews, 34 internal substation resources, 5 internal transmission crews, and 53 internal wires down resources at its disposal to respond to Winter Storm Toby. The Twin River and Community College of Rhode Island staging sites were planned to open to support the additional crews in those areas.

III. THE STORM AND ITS IMPACT

A. Forecast

The Company monitors the weather forecast obtained from its weather provider, DTN, through detailed emails received three times daily. Throughout the day, the Company also monitors the forecast from various weather websites. Beginning on Friday, March 16, 2018, the weather models showed a large area of low pressure across the eastern United States that would gradually consolidate into a single low pressure system as it entered the western Atlantic and

slowly tracked to the northeast, remaining south of New England. This would be the fourth Nor'easter in this region of the country in just three weeks. Early model guidance through March 18 indicated variations from model to model and run to run, but the placement and track of this low pressure system would ultimately determine the location and magnitude of the snowfall across the Mid-Atlantic and Northeast. Much of the early guidance showed the storm organizing offshore and south of New England with slight chances of snowfall for eastern Massachusetts and Rhode Island. However, early guidance also indicated that if the storm tracked closer to the coast, higher snowfall and gusty winds would be seen in southern New England.

By the morning of Monday, March 19, overnight guidance had shown a northern shift to the storm track. The storm system was now forecasted to develop off the Mid-Atlantic coast and pass perilously close to the New England coastline. Snowfall forecasts were broken down into "Likely" and "Worst Case" amounts, due to uncertainty in the forecast track and location of the heaviest snow band. At this time, Rhode Island was expected to receive between 3-6 ("Likely") and 6-10 inches of snow ("Worst Case"). As the day progressed, indications were that the snow would start out as heavy wet snow, but then change to a more normal consistency. Due to the track and development of the coastal low, widespread high winds were not expected. However, coastal areas closest to the low pressure system were expected to see hazard gusts ranging from 40 – 55 mph. Rhode Island was forecasted to see wind gusts of 35 – 45 mph.

On Tuesday, March 20, models began to converge on the track of the low, increasing the confidence in the location of the heavy snow band. The snowfall forecast increased, with Rhode Island now expecting to receive between 5-9 and 9-12 inches of snow. The forecast continued to indicate that the snowfall would start out as heavy wet snow, but then change to a more normal consistency. The forecast for winds and wind gusts remained the same as the previous day. Late in the day, however, the snowfall ranges were reduced slightly to between 5-7 and 7-10 inches of snow.

On Wednesday morning, March 21, the forecasted snowfall for Rhode Island remained the same as late in the previous day. Forecast coastal winds for the state remained the same as well.

B. Impact

Winter Storm Toby was a severe weather event that had strong potential to cause significant damage to the Company's electrical system. Beginning mid-day on Wednesday, March 21, the effects of the storm were beginning to be felt in the Company's service territory. The strong winds occurred exactly where forecasted, along southeastern Massachusetts and Rhode Island. The strongest gusts in Rhode Island occurred over Block Island, where gusts of 51 mph were seen. As the day wore on and the storm continued, snowfall forecasts were refined to 6-10 inches expected in Rhode Island. Later in the day, those forecasts were reduced to 4-7 inches expected in Rhode Island, and snowfall forecasts were reduced even further by the next morning. Snowfall stretched from the Ohio Valley through much of the Mid-Atlantic, and into southeastern New York and southern and eastern New England. Had the storm resulted in conditions originally forecasted, the impact to the Company's electric system could have been

more severe. However, the original snow forecast for parts of southern New England did not fully materialize, with the heaviest actual snowfall remaining well south and west of New England. Ultimately, Rhode Island saw less than 2 inches of snowfall across much of the state.

Winter Storm Toby impacted a total of approximately 1,469 customers in the Company’s Rhode Island service territory. At its peak, the Storm impacted approximately 1,235 customers, which occurred on Thursday, March 22, 2018 at approximately 10:37 a.m. The Company restored power to all customers by March 22 at approximately 2:38 p.m. The Company experienced interruptions in 13 of the 38 Rhode Island communities it serves, with a total of 8 distribution feeders affected. Communities in the central and southern parts of the state experienced the greatest percentage of outages.

Figure 1 below shows the number of customers interrupted and restored, by hour, from Wednesday, March 21 through Friday, March 23.

Figure 1

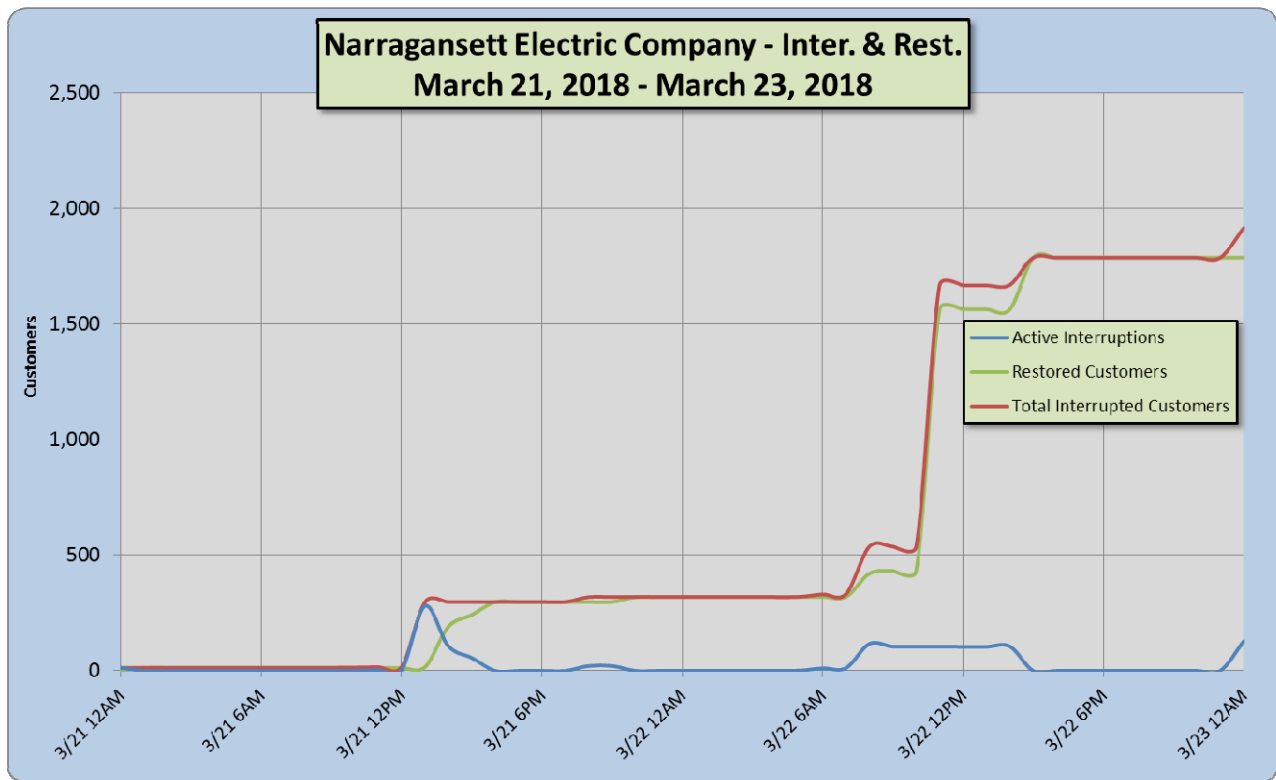


Figure 2 below shows all municipalities that experienced interruptions during the Storm.

Figure 2

Town Name	Total Customers Interrupted	Customers Served	Percent of Total
CHARLESTOWN	17	5,748	0.30%
COVENTRY	176	13,802	1.28%
CRANSTON	3	31,732	0.01%
EAST PROVIDENCE	18	22,143	0.08%
EXETER	104	3,019	3.44%
FOSTER	2	2,028	0.10%
JOHNSTON	307	13,691	2.24%
NARRAGANSETT	55	10,575	0.52%
NORTH KINGSTOWN	16	13,411	0.12%
PAWTUCKET	2	33,552	0.01%
PROVIDENCE	149	72,205	0.21%
SOUTH KINGSTOWN	1,074	14,702	7.31%

The following sections contain additional details and context regarding the Company's Winter Storm Toby restoration efforts.

IV. RESTORATION

A. Timing and Priority of Service

The Company implemented the system of prioritization for restoration found in its Emergency Response Plan, focusing first on public safety and then on customer restoration that maximized restoration when lines were energized. The Company gave priority and consideration to critical facilities and concentrated efforts to restore service to its life support customers as quickly as conditions warranted, also as set forth in the Emergency Response Plan.

B. Restoration Coordination

The Company dispatched new outages caused by Winter Storm Toby from the Providence Storm Room beginning on Wednesday, March 21, 2018 at approximately 12:00 noon through the end of Winter Storm Toby. Consistent with the Emergency Response Plan, the Company activated Police and Fire Coordinators for Winter Storm Toby. These employees reported to the Storm Room Leads and were responsible for communicating the estimated times

for restoration on all police and fire calls, with a standby condition noted. The Company also activated and coordinated five Task Force teams in accordance with the Emergency Response Plan, consisting of Company and municipal personnel utilized to clear roads during emergencies.

On March 21 at 2:00 p.m., the Company also mobilized the Providence wires-down room with approximately 53 internal resources available, including wires-down appraisers, cut and clear restoration resources, and standby resources.

C. Personnel Resources

As part of its planning process, the Company prepared for a Type 4 event in Rhode Island based on the forecasts. The Company's plan remained consistent throughout the operational planning call on Monday, March 19, 2018 and the System Level, Pre-Event Stage, and Restoration Stage Briefing calls that followed on Tuesday, March 20 and Wednesday, March 21.

The Company secured approximately 373 internal and external field crews¹ to restore power to customers in Rhode Island, consisting of approximately 210 external crews and 163 internal crews. The internal and external field crew numbers included transmission and distribution overhead line, forestry, wires down, substation, and underground personnel.

D. Safe Work Practices

Safety is always at the forefront of Company operations, including and especially during activities associated with storm restoration. For each storm event, both the System and Regional Incident Command System structure designate a lead position for a Safety, Health, and Environment Officer. Safety messages are delivered on all calls to heighten awareness during preparation and restoration.

As with any storm, for Winter Storm Toby, National Grid assembled a safety team with area responsibilities, established the reporting hierarchy, and prepared and communicated organization charts. The safety team prepared safety notices and delivered them to all Company employees through corporate communications. Safety personnel were deployed to assist in specific geographic areas and delivered on-site safety orientations to National Grid workers and contractors prior to the start of each day. During the Storm, safety personnel visited work sites to advise Company personnel and contractors of safety issues and best practices. In addition, prior to the start of each new job, the work was reviewed by assigned crews, with a focus on safe working conditions for the specific job. These safety efforts helped the Company experience minimal injuries during Winter Storm Toby. One employee was injured as a result of a slip and fall incident.

¹ Crews typically include two or three people, although there may be some one-person crews in damage assessment, wires down, distribution line (troubleshooters), and substation personnel. Transmission crews typically include 6-10 resources.

V. COMMUNICATIONS DURING AND AFTER THE EVENT

A. Communication Regarding Estimated Times for Restoration

The Company posted Estimated Times for Restoration (ETRs) on its website during Winter Storm Toby using Outage Central, which provided real time ETR updates approximately every 15 minutes.

As crews were assigned and reported ETR updates based on their actual findings in the field, the Company uploaded the updated ETRs into Outage Central. The Company continued to update ETRs throughout the restoration process as information became available to the Company.

B. Intra-Company

The Company began preparing for Winter Storm Toby on Monday, March 19, 2018 by conducting an operational planning call at 1:30 p.m., during which the Company reviewed the weather forecast and began planning efforts in anticipation that Winter Storm Toby would impact the Company's electric distribution system in New England, only a few days after restoring all customers impacted by Winter Storm Skylar.

The Company held a Pre-Event Stage Briefing call for Winter Storm Toby on Tuesday, March 20 at 3:00 p.m. The Company also held a System Level Briefing call on that same day at 4:30 p.m. A single Restoration Stage Briefing Call was conducted on Wednesday, March 21 at 1:00 p.m. No further calls were required after this Briefing.

Additionally, the Company issued communications to field crews with both restoration and safety information throughout Winter Storm Toby.

C. Public Officials

1. Governor's Office

The Company's Jurisdictional President communicated regularly with the Governor's office during Winter Storm Toby.

2. Division of Public Utilities and Carriers (Division), Rhode Island Office of Energy Resources (OER), and Rhode Island Emergency Management Agency (RIEMA)

The Company's Manager of Regulatory Affairs first reached out to the Division and OER the morning of Tuesday, March 20, 2018 regarding the Company's preparation for Winter Storm Toby, and twice-daily updates were provided that same day as well as the next day. The final update was provided the morning of Thursday, March 22. Additionally, the Company activated its RIEMA liaisons on March 21 at 10:00 a.m. The Company utilized RIEMA's WebEOC to facilitate communications with Emergency Support personnel throughout the event.

3. Municipalities

The Company opened a Municipal Room in Providence on Wednesday, March 21, 2018 at 7:00 p.m. The purpose of the Company's Municipal Room was to effectively manage and communicate with any potentially impacted communities in Rhode Island. The Municipal Room was located together with the Company's Branch Emergency Response Organization personnel. This arrangement afforded efficient access to key restoration personnel in researching and communicating the priorities of municipalities, including regarding critical customers such as hospitals, nursing homes, and schools. The Company deactivated the Municipal Room on Thursday, March 22, at approximately 7:35 a.m.

The Company also assigned Community Liaisons to work with each Rhode Island city or town's emergency, Department of Public Works, and/or public officials as a dedicated liaison. The Company's Community Liaisons served as full-time resources supporting impacted communities and enabled direct communications back into the Company's Branch Municipal Room, public information coordinators, and Branch operations personnel. Community Liaisons requested the communities to prioritize their requests on blocked roads and other local emergencies, which, in turn, were forwarded to the Storm Room Leads in order to provide Task Force Teams with prioritized work. Throughout the duration of Winter Storm Toby, the Community Liaisons were activated and contacted each of the communities in the Company's Rhode Island service territory as needed.

D. Customers

The Company constantly communicated with customers during and after Winter Storm Toby through its call center, website, direct email, and social media. The Company monitored social media channels every day throughout Winter Storm Toby from 6:00 a.m. through 11:00 p.m. and posted messages, shared resources, and responded to customer issues. This included, but was not limited to, communications in the following subject areas: information on how customers could stay safe during Winter Storm Toby; information on what the Company was doing to respond to Winter Storm Toby; information on how customers could contact the Company; information on how customers could receive text message alerts and updates from the Company; updates on the Company's damage assessment and restoration efforts; and updates on ETRs.

On Tuesday, March 20, 2018, at 2:00 p.m., the Company made an outbound call to all life-support customers to notify them of the upcoming weather and to recommend taking necessary precautions and preparations to ensure their wellbeing in the event of an outage. The outbound call also informed life-support customers to contact 911 or their local public safety officials in the event of an emergency. The Company's Customer Contact Center secured additional staffing to respond to incoming life-support calls for those affected by outages, as well as additional staff to support an expected high call volume. No life-support customers were affected during the Storm.

E. Media

The Public Information Officer and related support staff were activated for the event, and participated in the System, Pre-Event, and Restoration Stage Briefing Calls conducted by Company operations. The Company distributed one Storm-related news release on Tuesday, March 20, 2018 to all Rhode Island news media outlets. On Wednesday, March 21, the Company also held a press conference with the Company's Jurisdictional President. The Company engaged both traditional and social media channels to distribute the news release, as well as additional Storm, restoration, and safety-related information. The Company's Strategic Communications Department fielded 12 media requests for information and interviews related to Winter Storm Toby in Rhode Island. Overall sentiment was generally positive as feedback and comments from media outlets and social media were received and regularly monitored.

VI. CONCLUSION

Winter Storm Toby impacted the Company's electrical system on March 21, 2018 and power outages related to the Storm continued into the next day as well. While the impact of the Storm was not as significant as originally forecasted, the Company fully prepared for Winter Storm Toby, having secured all necessary resources and outside contractors to aid in the restoration effort required for the forecast predicted, and maintained communications with stakeholders through a variety of channels throughout the Storm.

Through use of the Company's own distribution line resources and transmission line crews, contractor distribution and transmission line crews, and contractor tree crews, the Company restored service to 98 percent of its customers impacted in less than 4 hours from the time of peak impact in a safe and expeditious manner. The Company restored the final customer by March 22, 2018 at approximately 2:38 p.m.

The Company understands the impact that electrical outages have on its customers, and continually seeks to improve the restoration time for all outages. The Company is proud of the restoration work that it accomplished during Winter Storm Toby, and is grateful for the support of customers, employees, state and local officials, and public safety officials, who experienced the effects of Winter Storm Toby and were an integral part of the Company's restoration efforts.