

January 25, 2019

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 October 27, 2018 Storm Summary Report

Dear Ms. Massaro:

In accordance with Order No. 20814 (November 20, 2012) in Docket D-11-94, I have enclosed four copies of National Grid's¹ summary report on the planning and restoration activities associated with the October 27, 2018 storm event. Order No. 20814 directs National Grid to file a final written report with the Division within 90 days following major storm events. The October 27, 2018 storm event will likely qualify for inclusion in the Company's Storm Contingency Fund. Accordingly, the Company is filing this summary report simultaneously with the Rhode Island Public Utilities Commission in Docket No. 2509.

Thank you for your attention to this transmittal. If you have any questions, please contact me at 781-907-2153.

Very truly yours,



Celia B. O'Brien

Enclosures

cc: Christy Hetherington, Esq.
John Spirito, Esq.
Kevin Lynch, Division
John Bell, Division
Greg Booth, 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

January 25, 2019
Date

**Docket No. 2509 – National Grid – Storm Fund
Service List as of 1/25/2019**

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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
October 27, 2018 Nor'easter,
Damage Assessment and Service
Restoration**

January 25, 2019

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 OCTOBER 27, 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 October 27, 2018 Nor'easter (October Nor'easter or the Storm), which moderately impacted Rhode Island and other states in the Northeast region of the United States. For pre-planning purposes, the Company classified the October Nor'easter as a National Grid Type 4 emergency event, meaning that the Company estimated that restoration activities generally would be accomplished within a 24-hour period, and the event typically would result in up to three percent of customers interrupted. The October Nor'easter was projected to bring heavy rain and hazardous winds, especially along the coast, which, combined with partially foliated trees in some areas and already saturated ground, potentially could cause significant damage to the Company's electric infrastructure. Ultimately, the October Nor'easter brought rain, strong winds, coastal flooding, and even some inland snow along the east coast of the United States, from New Jersey to Maine. The highest winds were confined predominantly to the coast, and coastal areas saw the heaviest rainfall as well. Rhode Island received 1 to 2.5 inches of rainfall, with higher amounts in the southern part of the state. Coastal portions of the state experienced gusts in the 35 to 40 mph range, with a peak wind gust of 41 mph in Westerly. Although the October Nor'easter brought heavy rain and high winds to the state, the impact of the Storm was less than anticipated in Rhode Island, interrupting power to 5,372 (approximately 4,295 at peak) of the Company's customers. Overall, less than one percent of the Company's customers in Rhode Island experienced outages, with 21 of the 38 communities served in Rhode Island impacted.

The Company began preparing for the October Nor'easter on Tuesday, October 23, at 1:00 p.m. by conducting an operational planning call, during which the Company reviewed the weather forecast and began planning for the possibility that the Storm would impact the Company's electric distribution system in New England. The Company held its first Pre-Event Stage Briefing Call on Wednesday, October 24, at 2:30 p.m. As part of its preparation for the Storm, the Company opened a Branch Storm Room in Providence on Friday, October 26, at 9:00 p.m. 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, the Company also utilized contractors from outside the Company's service territory to help with restoration. Using its own crews and contractor resources, the Company restored power to 100 percent of its customers impacted in less than a day from the time of the first customer impacted and in approximately three hours from the time of peak impact. Power was restored to the final customer impacted by the October Nor'easter on October 27, 2018, at approximately 10:02 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 the October Nor'easter and were an integral part of the Company's restoration efforts.

II. INCIDENT ANTICIPATION

A. Determination of Incident Classification

For its response to the October Nor'easter, the Company established a Branch Storm Room in Providence on Friday, October 26, 2018, at approximately 9:00 p.m. and, consistent with a Type 4 event, did not open the Regional Emergency Operation Center in Worcester, Massachusetts. As explained below, on Wednesday, October 24, the Company named a New England Incident Commander, who primarily was responsible for establishing the projected and actual incident classification level for the October Nor'easter.

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 operational planning 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 under the Emergency Response Plan.

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 the October Nor'easter, prior to activation of the Incident Command System, the Company's Operations management personnel were monitoring the weather forecast closely and held an operational call on Tuesday, October 23, to discuss planning efforts for the possibility of a severe wind and rain storm forecasted to bring hazardous conditions to New England. As a result of this call, 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 the first Pre-Event Stage Briefing Call scheduled for Wednesday, October 24, 2018, at 2:30 p.m. At that time, the Company planned to open its Branch Storm Room in Providence on Friday, October 26, at 9:00 p.m. to support Rhode Island restoration. The New England Incident Commander activated the Rhode Island Branch Director, who was in charge of Rhode Island restoration and located in the Branch Storm Room in Providence, 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 October Nor'easter in their respective areas, including Rhode Island. As mentioned above, the Company did not plan to open the Regional Emergency Operation Center in Worcester, Massachusetts, consistent with the anticipated Type 4 event level for this storm.

C. Determination of Crew Needs and Pre-Staging

Given the potential magnitude of the October Nor'easter and forecast of hazardous winds and heavy rain in areas that had partially foliated trees and saturated ground, 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 the Storm, consistent with its Emergency Response Plan. As of Thursday, October 25, at approximately 3:00 p.m., the Company had 60.5 internal overhead line crews, 132 external overhead line crews, and 79 external forestry crews at its disposal to respond to the Storm. By approximately 5:00 p.m. on Friday, October 26, these numbers had been increased to include 60.5 internal overhead line crews, 131¹ external overhead line crews, 79 external forestry crews, 12 internal underground crews, 42 internal substation resources, 4 internal and external transmission crews, and 155 internal wires down resources. The Company planned to open the Community College of Rhode Island, Twin Rivers Casino, and Raytheon staging sites 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.

¹ As a result of staffing review and resource acquisition, the resource number for external overhead line crews changed from 132 on Thursday, October 25, at approximately 3:00 p.m., to 131 on Friday, October 26, at approximately 5:00 p.m.

On Monday, October 22, the weather models began to indicate a potential storm for Saturday, October 27, into Sunday, October 28. Several weather systems were expected to merge into a single, strong low-pressure system; however, the weather forecast indicated that, if any one of these systems was out of phase, the low would be weaker with less impact for the Northeast states. Heavy rains and strong winds were forecast for the Mid-Atlantic and Northeast, with enough cold air for a band of significant snow to develop. Differences in the storm track with the various weather models had the band of snow setting up anywhere between western New England and central New York to West Virginia and eastern Pennsylvania. Strong gusty winds were also a concern with the strongest winds being forecast along coastal areas. Wind gusts of at least 40 to 50 mph appeared likely from New Jersey northward into New England with higher gusts possible, especially over southeast New England.

Over the next several days, the forecast continued to indicate that a storm system was likely to arrive on Saturday, October 27, bringing the threat of hazard wind gusts and locally heavy rainfall. At this time, warmer air was expected to prevail, and, although it was possible that some of the precipitation would begin as snow for some northern areas, no significant accumulations were expected.

By Thursday, October 25, forecasting confidence had increased that the storm system would bring moderate to heavy rainfall in the range of 0.75 to 2.00 inches through the day Saturday, highest in the southern and eastern portions of the Company's service territory. The strongest winds were expected to occur from the late Saturday morning into the afternoon, decreasing later that day and into the evening. Gusts of 35 to 45 mph were expected, with peak gusts to 45 to 50 mph possible in Rhode Island, southeast and coastal Massachusetts, and up to 55 to 60 mph across Nantucket.

On Friday, October 26, the forecast remained essentially the same. Peak gusts along coastal Massachusetts were revised slightly to be in the 40 to 50 mph range, and the chance for rainfall greater than two inches was increased for Rhode Island, eastern Massachusetts, and Nantucket.

The Storm's impact began during the morning hours of Saturday, October 27. Throughout the day, the forecast remained essentially the same as the previous day for Rhode Island. As the winds and rain began to decrease later in the day, forecast peak wind gusts were lowered to the 42 to 45 mph range.

B. Impact

The October Nor'easter was a significant weather event that resulted in moderate damage to the Company's electrical system. The Storm brought soaking rain, gusty coastal winds and some high elevation snow to the northeastern United States. Rhode Island experienced wind gusts in the 35 to 40 mph range, with peak gusts of 41 mph in Westerly and 39 mph in Providence. Rhode Island also saw heavy rainfall ranging upwards of one inch to over two inches in several municipalities including Charlestown, West Warwick, and North Kingstown.

The October Nor'easter impacted a total of approximately 5,372 customers in the Company's Rhode Island service territory. The Storm impacted approximately 4,295 customers at its peak, which occurred on Saturday, October 27, 2018, at approximately 7:20 p.m. The Company restored power to all customers that same day by approximately 10:02 p.m. The Company experienced interruptions in 21 of the 38 Rhode Island communities it serves, with a total of 24 distribution feeders affected. The Town of Glocester was affected most heavily with approximately 42 percent of its customers impacted by the event.

Figure 1 below shows the number of customers interrupted and restored, by hour, from October 27 to October 28, 2018.

Figure 1

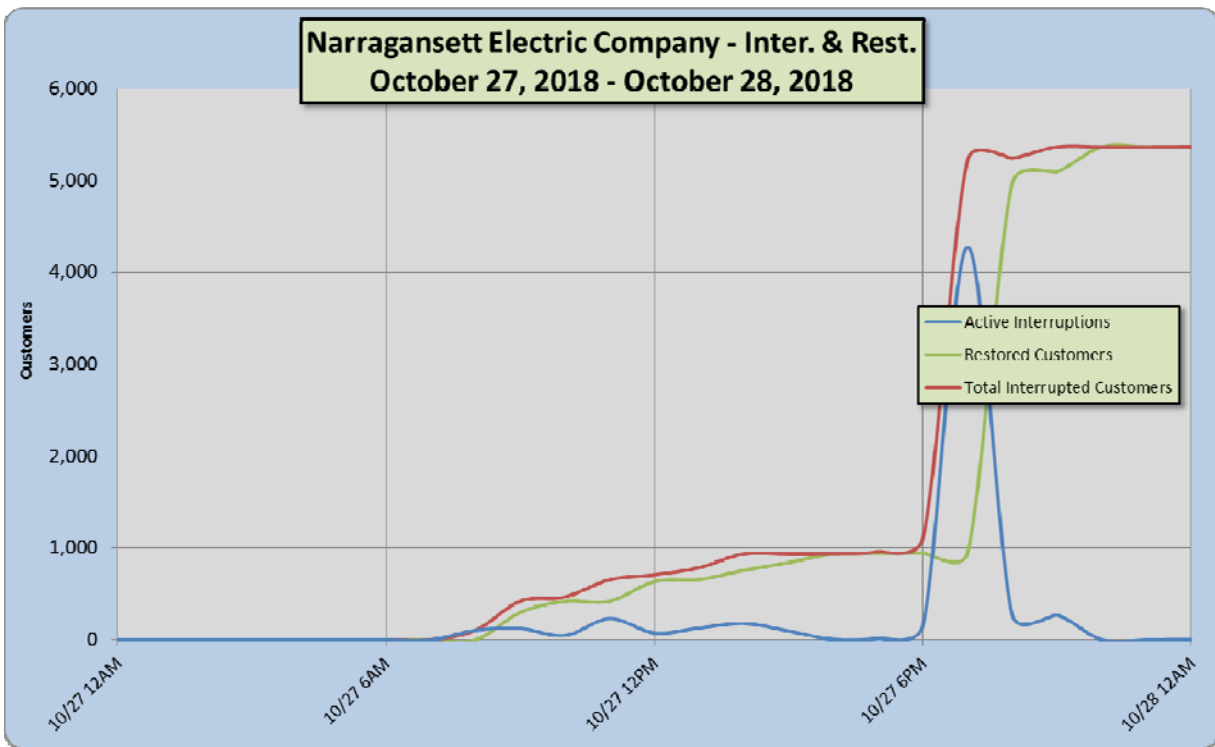


Figure 2 below shows all municipalities that experienced interruptions during the Storm.

Figure 2

Town Name	Total Customers Interrupted	Customers Served	Percent of Total
BURRILLVILLE	12	2,631	0.46%
COVENTRY	54	13,811	0.39%
CUMBERLAND	83	15,317	0.54%
EAST PROVIDENCE	6	22,192	0.03%
EXETER	84	3,037	2.77%
FOSTER	56	2,026	2.76%
GLOCESTER	1,953	4,624	42.24%
JAMESTOWN	18	3,330	0.54%
JOHNSTON	1	13,695	0.01%
LINCOLN	145	10,209	1.42%
NARRAGANSETT	300	10,592	2.83%
NORTH PROVIDENCE	17	16,114	0.11%
PAWTUCKET	2,042	33,631	6.07%
PROVIDENCE	113	72,852	0.16%
RICHMOND	228	3,469	6.57%
SMITHFIELD	12	8,923	0.13%
SOUTH KINGSTOWN	14	14,748	0.09%
TIVERTON	7	8,234	0.09%
WARWICK	4	40,443	0.01%
WEST GREENWICH	109	2,723	4.00%
WESTERLY	123	14,494	0.85%

The following sections contain additional details and context regarding the Company's Storm 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 any life support customers affected as quickly as conditions warranted, also as set forth in the Emergency Response Plan.

B. Restoration Coordination

The Company dispatched crews to respond to outages from the Branch Storm Room in Providence beginning on Friday, October 26, 2018, at approximately 9:00 p.m. through the end of the Storm. Consistent with the Emergency Response Plan, the Company activated Police and Fire Coordinators for the Storm. These employees reported to the Storm Room Leads and were responsible for communicating the estimated times of arrival on all police and fire calls, with a standby condition noted. The Company also activated and coordinated eight Task Force teams in accordance with the Emergency Response Plan consisting of Company and municipal personnel utilized to clear roads during emergencies. The Company also established the following three staging sites to support restoration across the state: Community College of Rhode Island in Warwick, Twin Rivers Casino in Lincoln, and Raytheon in Portsmouth.

On Friday, October 26, at approximately 9:00 p.m., the Company also mobilized the Providence wires-down room, with approximately 155 internal wires down resources available, including wires-down appraisers, cut and clear restoration resources, and stand-by 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 and Pre-Event Stage Briefing Calls on Tuesday, October 23, through Friday, October 26, 2018, as well as both Restoration Stage Briefing Calls on Saturday, October 27.

The Company initially had secured 271.5 internal and external field crews² to restore power to customers in Rhode Island. By Friday, October 26, at approximately 5:00 p.m., the Company had increased the number of available field crews to approximately 483.5 field crews to restore power to customers in Rhode Island, consisting of approximately 211 external crews

² 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.

and 272.5 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 the October Nor'easter, 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 the day. 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 no injuries during the October Nor'easter.

V. COMMUNICATIONS DURING AND AFTER THE EVENT

A. Communication Regarding Estimated Times of Restoration

The Company posted Estimated Times of Restoration (ETRs) on its website during October Nor'easter 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 the October Nor'easter on Tuesday, October 23, 2018, at 1:00 p.m., by conducting an operational planning call during which the Company reviewed the weather forecast and began planning for the possibility that the Storm would impact the Company's electric distribution system in New England. The Company held its first Pre-Event Stage Briefing Call on Wednesday, October 24, at 2:30 p.m., its second Pre-Event Stage Briefing Call the next day at 8:00 a.m., and its third Pre-Event Stage Briefing Call on Friday, October 26, at 11:00 a.m.

On Saturday, October 27, the Company conducted its first Restoration Stage Briefing Call at 8:00 a.m. and its second and final Restoration Stage Briefing Call at 6:00 p.m. that same

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

C. Public Officials

1. Governor's Office

The Company's Jurisdictional President conducted an initial notification to the Governor's office; further communications were not necessary because of the limited number of outages.

2. Rhode Island Public Utilities Commission (PUC), Division of Public Utilities and Carriers (Division), and Rhode Island Emergency Management Agency (RIEMA)

The Company's Manager of Regulatory Affairs first reached out to the Division on Tuesday, October 23, 2018 regarding the Company's preparation for the October Nor'easter and provided updates on Thursday, October 25 and Friday, October 26. Two additional updates were provided on Saturday, October 27, as the event was unfolding. In addition, the Company's Jurisdictional President sent an email to the PUC Commissioners with an update on the event. The Company utilized its RIEMA Liaisons to post outage number updates virtually on RIEMA's WebEOC throughout the day on Saturday, October 27.

3. Municipalities

The Company opened a Municipal Room in Providence on Saturday, October 27, 2018, at 7:00 a.m. The purpose of the Company's Municipal Room was to manage and communicate effectively 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 that same day at 4:00 p.m.

The Company activated its Area Community Liaison Coordinators 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 placed its Community Liaisons on standby in the event that the Storm escalated and outages increased, requiring additional community support. The Company's Area Community Liaison Coordinators 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. In particular, they requested that communities prioritize their requests on items such as blocked roads and other emergencies, which in turn would be forwarded to the Storm Room Leads to provide Task Force teams with prioritized work.

D. Customers

The Company communicated with customers during and after the October Nor'easter through its Customer Contact Center, website, direct email, and social media. The Company monitored social media channels throughout the event and posted messages, responding to general customer issues. This included, but was not limited to, communications in the following subject areas: promoting storm safety messages; information on how customers could contact the Company; and information on how customers could report outages.

On Thursday, October 25, 2018, at 1:00 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 well-being 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 by outages during the October Nor'easter.

E. Media

The Company activated its Public Information Officer (PIO) who participated in the Pre-Event and Restoration Stage Briefing Calls conducted by Company Operations, along with additional PIO support staff for the Storm. The Company distributed one Storm-related news release on Friday, October 26, to all Rhode Island news media outlets. The Company engaged both traditional and social media channels to distribute the news releases, as well as additional Storm and safety-related information. The Company's Strategic Communications Department fielded six media requests for information and interviews related to the October Nor'easter in Rhode Island. Overall sentiment generally was neutral to positive as feedback and comments from media outlets and social media were received and monitored regularly.

VI. CONCLUSION

The October Nor'easter moderately impacted the Company's electrical system on Saturday, October 27, 2018, resulting in power outages to approximately 5,372 customers. The damage to the Company's distribution infrastructure was somewhat less than expected because of actual peak wind gusts being lower than forecast. Damage primarily was limited to falling trees and limbs coming into contact with the Company's poles and wires. The Company was fully prepared to respond to the Storm, 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 power to 100 percent of its customers impacted in less than a day from the time of the first customer impacted and in approximately three hours from the time of peak

impact, in a safe and expeditious manner. The Company restored power to the final customer impacted by the Storm on October 27, 2018, at approximately 10:02 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 the October Nor'easter and is grateful for the support of customers, employees, state and local officials, and public safety officials, who experienced the effects of the Storm and were an integral part of the Company's restoration efforts.