

October 7, 2016

**VIA HAND DELIVERY & ELECTRONIC MAIL**

Luly E. Massaro, Commission Clerk  
Rhode Island Public Utilities Commission  
89 Jefferson Boulevard  
Warwick, RI 02888

**RE: Docket 2509 – Storm Contingency Fund  
April 3, 2016 Storm Summary Report**

Dear Ms. Massaro:

The 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 Company<sup>1</sup> and the Division of Public Utilities and Carriers (the Settlement) approved by the PUC in Docket 2509 require the Company to file a report with the PUC within 90 days after the occurrence of a storm that qualifies for inclusion in its Storm Contingency Fund, 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. In accordance with the Settlement, I have enclosed one (1) original and ten (10) copies of National Grid's summary report on the planning and restoration activities associated with the April 3, 2016 storm event (the storm), which will qualify for inclusion in the Company's Storm Contingency Fund.

With respect to the April 3, 2016 storm, as of July 2, 2016, preliminary O&M storm-related costs had not reached the \$819,000 threshold required to qualify for inclusion in the Storm Contingency Fund because the Company had not yet received or accounted for all outstanding invoices from its third-party contractors. Therefore, at that time, the Company was unable to determine whether or not this storm would likely qualify for inclusion in the Storm Contingency Fund. The Company subsequently received or accounted for outstanding invoices from its third-party contractors and believes that the storm will now qualify for inclusion in the Storm Contingency Fund.

A supplemental report detailing the incremental restoration costs caused by the storm 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.

The Company is simultaneously submitting a copy of this report to the Rhode Island Division of Public Utilities and Carriers pursuant to Order No. 20814 in Docket D-11-94.

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<sup>1</sup> The Narragansett Electric Company d/b/a National Grid (referred to herein as National Grid or the Company).

Luly E. Massaro, Commission Clerk  
Docket 2509 – April 3, 2016 Storm Summary Report  
October 7, 2016  
Page 2 of 2

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

Very truly yours,

A handwritten signature in blue ink that reads "Celia B. O'Brien". The signature is written in a cursive style.

Celia B. O'Brien

cc: Docket 2509 Service List  
Leo Wold, Esq.  
Steve Scialabba, Division

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.

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

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Date

**Docket No. 2509 – National Grid – Storm Fund  
Service List as of 5/15/15**

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National Grid

The Narragansett Electric Company

**Report on  
April 3, 2016 Event,  
Damage Assessment and  
Service Restoration Efforts**

October 7, 2016

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 APRIL 3, 2016 STORM PREPAREDNESS, 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 April 3, 2016 storm (April 3, 2016 Storm), which was forecasted to impact Rhode Island and other states along the Eastern Seaboard. The Company monitored the weather and braced for the possibility of a Nor'easter forecasted to bring very high winds and possible snow to New England. For pre-planning purposes, the storm was initially classified to be a Level 4 emergency event (i.e., up to 3 percent of customers impacted, and a 24-hour restoration effort). The storm was expected to bring very strong winds on Sunday from 9:00 a.m. – 7:00 p.m. with gusts up to 50-55 mph which could cause significant damage to the Company's electric infrastructure, causing electrical outages to a large number of customers

The Company began preparing for the April 3, 2016 Storm on Friday morning, April 1, 2016, with its first New England operations pre-event storm call. The Company followed its Emergency Response Plan (ERP), 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 contacted contractors from outside the Company's service territory to secure resources to help with restoration. Using its own crews and contractor resources, the Company restored power to 70 percent of its Rhode Island customers by approximately 10:30 a.m. on Sunday, April 3. The Company restored power to 90% of its customers by approximately 1:45 p.m. on April 3, and the final customer was restored at approximately 9:20 p.m. that same evening.

Although the storm caused widespread damage in many states, power outages were significantly less than anticipated in Rhode Island, impacting approximately 8,490 (approximately 6,100 at peak) of the Company's customers. Overall, approximately 1.75 percent of the Company's customers in Rhode Island experienced outages.

The Company is grateful for the support of customers, employees, state and local officials, and public safety officials, who experienced the effects of the April 3, 2016 storm and were an integral part of the Company's restoration efforts.

## **II. INCIDENT ANTICIPATION**

### **A. Determination of Incident Classification**

The Providence Emergency Operations Center (EOC) opened at approximately 7:00 a.m., Sunday, April 3, 2016. As noted below, a State Incident Commander was named and was primarily responsible for establishing the projected and actual Incident Classification level for the storm.

Factors considered in initially establishing or revising the expected incident classification level included:

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

Through the operation storm conference calls, the State Incident Commander communicated the incident classification to Company leadership and organizations that the Company expected to engage in restoration or support activities. A Branch Director, who was in charge of Rhode Island restoration, was located in Providence, Rhode Island.

### **B. Activation of Incident Command System (ICS)**

In the days leading up to the storm, prior to activation of the ICS, several operational calls were held among operations management personnel to discuss the planning efforts for the possibility of a Nor'easter forecasted to bring very high winds and possible snow to New England. As a result of these calls, the Company decided to open a storm room in Providence at approximately 7:00 a.m. on Sunday, April 3, to support Rhode Island restoration.

In accordance with the ERP and ICS, National Grid activated the State Incident Commander on Friday morning, April 1, 2016 at approximately 7:00 a.m. The State Incident Commander then activated the Rhode Island Branch Director and several other Branch Directors in Massachusetts. Thereafter, all the Incident Commanders activated a number of positions at their discretion, considering the level of response likely required for the event. Throughout the day on Friday, April 1, and throughout the restoration effort, the Company activated additional ICS positions as operating conditions warranted.

### **C. Determination of Crew Needs and Pre-Staging**

Given the weather forecast and potential impact of the April 3, 2016 Storm, the Company secured crews in advance from its alliance vendors 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 ERP. The Company opened a staging site at The Community College of Rhode Island in Warwick to onboard contractors and store material. In addition to the Company's internal distribution line crews, the Company had secured a total of 40 distribution line crews and 40 contractor tree crews ready to respond to the hardest hit areas in the state. Two Transmission line tree crews were also available to be deployed in Rhode Island during the storm.

## **III. THE STORM AND ITS IMPACT**

### **A. Forecast**

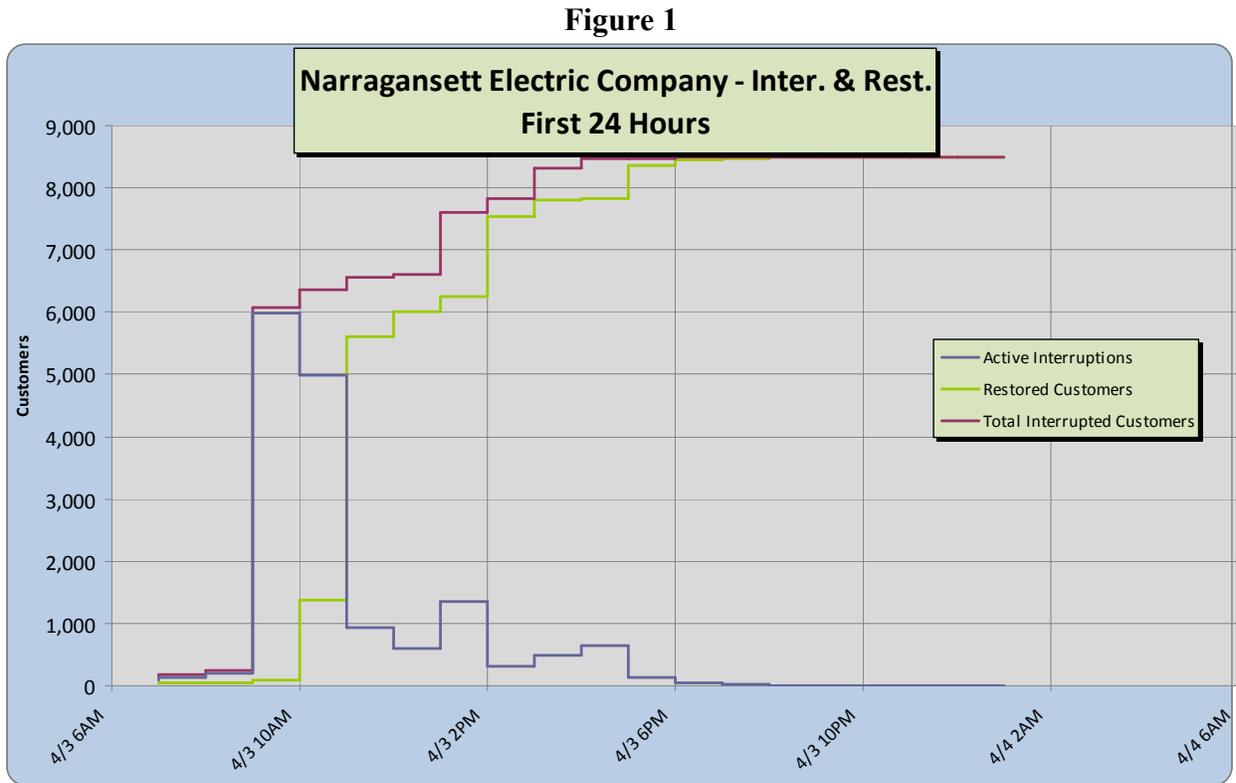
On Friday, April 1, 2016, The National Weather Service issued a high-wind warning for all of Rhode Island through 7:00 p.m. Sunday, April 3, 2016. The service also issued a winter weather advisory for Monday, April 4, 2016. The service was predicting very strong northwest winds with gusts as high as 60 mph on Sunday, April 3, 2016, which had the potential to cause widespread damage throughout the Company's service territory. The National Weather Service also warned of downed trees and power outages. On Monday, April 4, 2016, the weather forecast called for 3 to 6 inches of snow that was expected to begin falling between 5:00 a.m. and 7:00 a.m. On Sunday afternoon, April 3, 2016, the service issued a winter weather advisory for much of Rhode Island, effective Monday, April 4, 2016, from 3:00 a.m. to 8:00 p.m. The service warned of 3 to 6 inches of snow and strong winds. The snow was expected to begin falling in Rhode Island between 5:00 a.m. and 7:00 a.m. Temperatures were forecasted to drop Monday afternoon, "and there could be a rare April flash freeze along the Boston to Providence corridor," according to the advisory. The spring cold snap was expected to deepen Tuesday, April 5, 2016, with temperatures falling overnight into the high teens.

### **B. Impact**

The April 3, 2016 Storm had the potential to be a severe weather event for Rhode Island. Very high winds were forecasted with gusts as high as 60 mph across Rhode Island. Hazard wind gusts with conditions were likely.

The storm impacted a total of approximately 8,490 customers in the Company's service territory and approximately 6,116 customers at its peak, which occurred on Sunday, April 3 at approximately 9:15 a.m. Seventy percent of all outages were restored on Sunday, April 3 at approximately 10:30 a.m. Ninety percent of all customers were restored by approximately 1:50 p.m. that afternoon. The final customer was restored at approximately 9:20 p.m. that same night, Sunday, April 3, 2016.

Figure 1 below shows the customers interrupted and restored, during the first 24 hours of the storm.



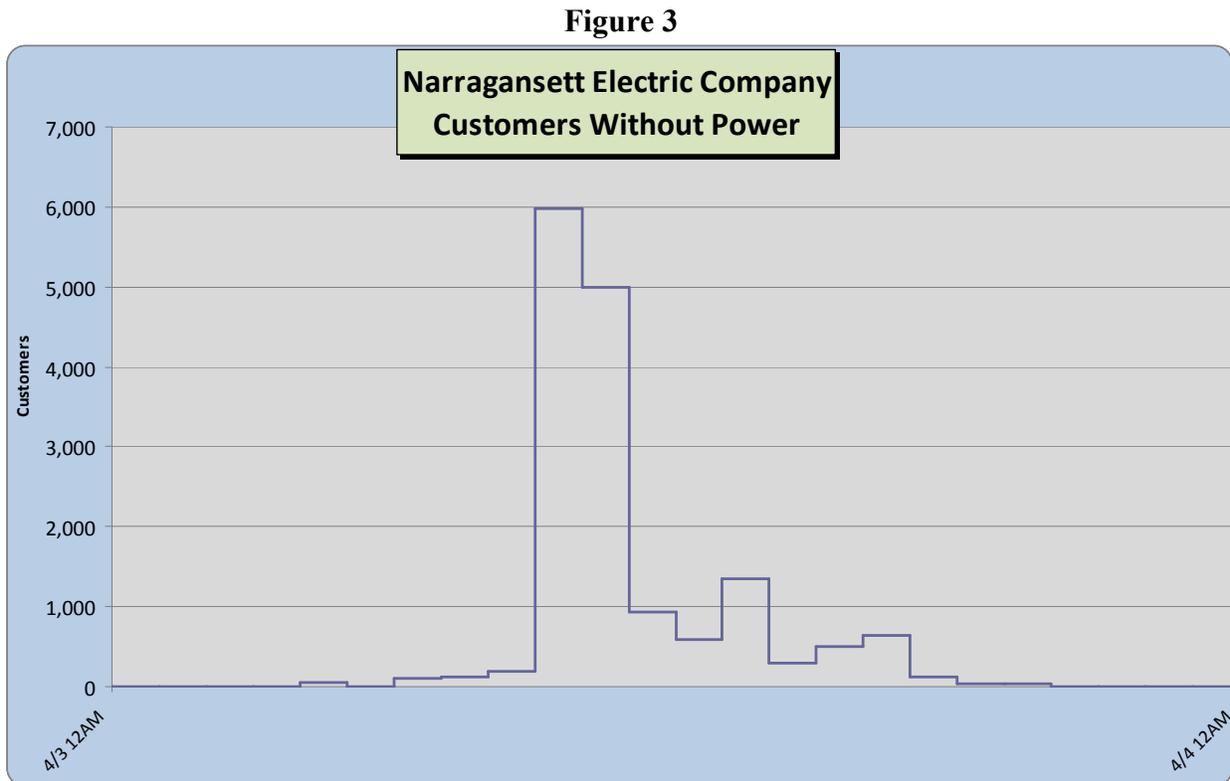
The Company experienced interruptions in 25 of the 38 communities it serves in Rhode Island. The majority of the customer outages were caused by damage to the Company's distribution feeders.

All municipalities that had interruptions are shown in Figure 2 below.

**Figure 2**

Municipality	Customers Interrupted	Customers Served	Percent of Customers Interrupted
BRISTOL	34	10,325	0.33%
BURRILLVILLE	1,082	2,605	41.54%
CENTRAL FALLS	123	7,239	1.70%
CHARLESTOWN	1	5,662	0.02%
COVENTRY	47	13,607	0.35%
CUMBERLAND	175	15,110	1.16%
EXETER	500	2,981	16.77%
FOSTER	16	2,018	0.79%
GLOCESTER	1,413	4,518	31.27%
HOPKINTON	12	3,879	0.31%
JOHNSTON	221	13,525	1.63%
LINCOLN	100	10,074	0.99%
LITTLE COMPTON	6	2,533	0.24%
NEWPORT	25	14,909	0.17%
NORTH PROVIDENCE	45	16,068	0.28%
NORTH SMITHFIELD	150	5,647	2.66%
PAWTUCKET	92	32,923	0.28%
PROVIDENCE	13	70,689	0.02%
SCITUATE	84	4,505	1.86%
SMITHFIELD	291	8,708	3.34%
SOUTH KINGSTOWN	19	14,578	0.13%
WARWICK	3	40,105	0.01%
WEST GREENWICH	2	2,580	0.08%
WEST WARWICK	173	13,598	1.27%
WOONSOCKET	3,994	18,711	21.35%

Figure 3 below shows a timeline of the number of customers without power on Sunday, April 3.



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 the ERP, focusing first on public safety and then with the overall goal of maximizing customer restoration when lines were energized. The Company gave priority and consideration to critical facilities and concentrated its efforts to restore service to its life support customers as quickly as conditions warranted, also as set forth in the ERP.

##### **B. Restoration Coordination**

Outages were dispatched out of the Providence storm room beginning on Sunday, April 3 at approximately 7:00 a.m. through the end of the storm. The Company activated police and fire coordinators for the event. These employees reported to the storm room leads and were responsible for communicating the ETAs on all police and fire calls, with a standby condition noted.

In preparation for the storm, the Company also mobilized the Providence wires-down room on Sunday, April 3, at 7:00 a.m. with approximately 20 crews available (including wires-down appraisers and cut and clear crews) and nine office-based employees. The Company monitored activity during the day on April 3 and, based on the lack of significant activity, demobilized the wires-down room at approximately 2:00 p.m. that afternoon. At that point, the Company handled any wires-down issues out of the local Providence storm room. At approximately 7:00 p.m. on Sunday, April 3, the Company closed the storm room and turned over dispatching to the central control center in Northborough, Massachusetts.

### **C. Personnel Resources**

When the forecast indicated that a storm event was possible, the Company began preparations to secure supplemental contractor crews who would be strategically placed throughout New England. The deployment plan allowed for the greatest degree of flexibility to move the resources to where they were needed, especially if the storm's track or intensity changed. Pre-staging crews and equipment in key locations throughout the region enabled the Company to restore service to customers as quickly and safely as possible.

### **D. Safe Work Practices**

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

As with any storm, prior to the April 3, 2016 arrival, 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 Company-wide to all 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 were regularly assigned to work sites to advise Company personnel and contractors of safety issues and 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.

## **V. COMMUNICATIONS DURING AND AFTER THE EVENT**

### **A. Communication Regarding Estimated Times for Restoration (ETR)**

The Company posted ETRs on its website during the April 3, 2016 storm, using Outage Central which provided real time ETR updates approximately every 15 minutes.

As ETRs changed, the updated restoration information was entered into the system and reflected on Outage Central. Throughout the event, the ETRs for each outage were revised to show the most accurate restoration information.

## **B. Intra-Company**

New England operations storm calls were held at least once daily, beginning on Friday, April 1, 2016 through the end of restoration. The final New England Operations call was held on Sunday evening, April 3, 2016.

Communications were also issued to field crews with both restoration and safety information.

## **C. Public Officials**

### **1. Governor's Office**

The Company's Jurisdictional President, Timothy F. Horan, had communication with the Governor's office before and during the April 3, 2016 storm to advise on the Company's storm preparations and restoration activities.

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

The Company's Director of Regulatory Affairs first notified the Division on Friday, April 1, 2016 regarding the Company's expectations and plans regarding the anticipated storm. In addition, daily updates were provided to the Division through April 4, 2016.

The Company contacted Peter Gaynor, Executive Director of The Rhode Island Emergency Management Agency (RIEMA), to discuss the Company's storm preparedness. RIEMA was monitoring the event and did not request National Grid personnel to staff their Emergency Operations Center. The Company posted updates on an hourly basis to WebEOC.

### **3. Municipalities**

The Company's Community and Customer Management team sent out blast e-mails on Friday, April 1, 2016 to municipal officials informing them of the impending storm and provided the municipal room contact information. The Company opened a Municipal Room on Sunday, April 3, 2016 at approximately 7:00 a.m. in Providence to effectively manage and communicate with the impacted communities in Rhode Island. The municipal room was co-located with the Company's branch operations response personnel. This arrangement afforded efficient access to key restoration personnel in researching and communicating the priorities of the municipalities. The Company activated the Operations Coordinator and the Jurisdictional On-Call Representative who reported to the Municipal Room for this event. The Company's Community Liaison Leads were put on "standby" notice for the storm.

Based on limited outage activity, the Municipal Room was closed at approximately 2:00 p.m. on Sunday, April 3, 2016. At that time, the Company released the Municipal Room personnel and the Operations Coordinator. The jurisdictional on-call representative resumed normal coverage.

#### **D. Customers**

The Company notified life support customers regarding possible outages through its Call Center. On Saturday, April 2, at approximately 5:00 p.m., an outbound call was made to all life-support customers and critical facilities. The Call Center secured additional staffing to respond to incoming life-support calls for those affected by outages. The Company continued to conduct pro-active calls to its life support customers until all power was restored.

#### **E. Media**

The Company did not distribute any storm-related press releases for this event. Peak outage numbers in Rhode Island never exceeded approximately 6,100 customers, limiting media storm coverage.

### **VI. CONCLUSION**

The Company prepared for the April 3, 2016 Storm with expectations of outages resulting from very high winds and possible snow. The Company mobilized consistent with its ERP and consistent with its communications with state agencies regarding restoration expectataions. A storm room was opened, supplies and equipment for restoration were prepared, and both internal and contractor crews were deployed in anticipation of a major storm. The Company maintained communications with stakeholders using a variety of channels throughout the event. Ultimately, the track of the storm changed and its intensity weakened, resulting in a less-severe impact than was forecasted. Nonetheless, the April 3 Storm caused service interruptions to thousands of Rhode Island customers, mostly as a result of damage to the Company's distribution infrastructure. However, the Company was well-prepared, having secured all necessary crews and other outside contractors to aid in the restoration effort. Through use of the Company's own distribution line resources, contractor distribution, transmission line crews, and contractor tree crews, the Company restored service to its customers in the wake of the April 3 Storm in a safe and expeditious manner.