

May 15, 2013

**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**  
**November 7, 2012 Snowstorm Summary Report**

Dear Ms. Massaro:

In accordance with Order No. 15360 (August 19, 1997) in Docket 2509 and paragraph 4(b) of the Settlement approved by the Commission in that docket, I have enclosed one original and ten (10) copies of National Grid's<sup>1</sup> summary report on the planning and restoration activities associated with the November 7, 2012 snowstorm (the "November 2012 Storm" or the "storm"), which will qualify for inclusion in the Company's Storm Contingency Fund. Paragraph 4(b) of the Settlement requires the Company to file with the Commission 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.

Because the Company recently implemented a new Enterprise Resource Planning ("ERP") system, certain financial information was not available in time for the Company to determine whether the November 2012 Storm would qualify for inclusion in the Storm Fund within the required 90-day timeframe for filing the report. However, the Company has since determined that this storm met the storm threshold and, therefore, will qualify for inclusion in the Storm Fund.

A supplemental report detailing the incremental restoration costs caused by the November 7, 2012 Storm will be submitted to the Commission 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 transmittal. If you have any questions, please feel free to contact me at (401) 784-7288.

Very truly yours,



Jennifer Brooks Hutchinson

Enclosures

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

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<sup>1</sup> The Narragansett Electric Company d/b/a National Grid ("the Company").

Certificate of Service

I hereby certify that a copy of the cover letter and/or any materials accompanying this certificate were electronically transmitted and sent via U.S. Mail to the individuals listed below. Copies of this filing were hand delivered to the RI Public Utilities Commission.



\_\_\_\_\_  
May 9, 2013

**Docket No. 2509 – National Grid – Storm Fund  
Service List as of 9/11/12**

<b>Name/Address</b>	<b>E-mail</b>	<b>Phone</b>
Jennifer Brooks Hutchinson, Esq. National Grid 280 Melrose St. Providence, RI 02907	<a href="mailto:Jennifer.hutchinson@us.ngrid.com">Jennifer.hutchinson@us.ngrid.com</a>	401-784-7288
	<a href="mailto:Thomas.teehan@nationalgrid.com">Thomas.teehan@nationalgrid.com</a>	
	<a href="mailto:Celia.obrien@nationalgrid.com">Celia.obrien@nationalgrid.com</a>	
	<a href="mailto:Joanne.scanlon@nationalgrid.com">Joanne.scanlon@nationalgrid.com</a>	
	<a href="mailto:Raquel.webster@us.ngrid.com">Raquel.webster@us.ngrid.com</a>	
Leo Wold, Esq. Dept. of Attorney General 150 South Main St. Providence, RI 02903	<a href="mailto:LWold@riag.ri.gov">LWold@riag.ri.gov</a>	401-222-2424
	<a href="mailto:Sscialabba@ripuc.state.ri.us">Sscialabba@ripuc.state.ri.us</a>	
	<a href="mailto:Jlanni@ripuc.state.ri.us">Jlanni@ripuc.state.ri.us</a>	
	<a href="mailto:Acontente@ripuc.state.ri.us">Acontente@ripuc.state.ri.us</a>	
	<a href="mailto:Tkogut@ripuc.state.ri.us">Tkogut@ripuc.state.ri.us</a>	
	<a href="mailto:Dmacrae@riag.ri.gov">Dmacrae@riag.ri.gov</a>	
Greg Booth PowerServices, Inc 1616 E. Millbrook Road, Suite 210 Raleigh, NC 27609	<a href="mailto:Gbooth@powerservices.com">Gbooth@powerservices.com</a>	919-256-5900
<b>File an original &amp; 10 copies w/:</b> Luly E. Massaro, Commission Clerk Public Utilities Commission 89 Jefferson Blvd. Warwick, RI 02888	<a href="mailto:Lmassaro@puc.state.ri.us">Lmassaro@puc.state.ri.us</a>	401-780-2107
	<a href="mailto:Anault@puc.state.ri.us">Anault@puc.state.ri.us</a>	
	<a href="mailto:Nucci@puc.state.ri.us">Nucci@puc.state.ri.us</a>	
	<a href="mailto:Adalessandro@puc.state.ri.us">Adalessandro@puc.state.ri.us</a>	
	<a href="mailto:Dshah@puc.state.ri.us">Dshah@puc.state.ri.us</a>	

National Grid

The Narragansett Electric Company

**Report on  
November 7, 2012 Event,  
Damage Assessment and  
Service Restoration Efforts**

May 15, 2013

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 NOVEMBER 7, 2012 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 November 7, 2012 snowstorm (the “November 2012 Storm” or the “storm”) which affected Rhode Island and the rest of Southern New England. The November 2012 Storm, brought snow and wind and caused power interruptions to approximately 21,200 (approximately 5,100 at peak) of the Company’s customers. Overall, approximately 92 percent (35 communities) of the Company’s 38 communities in Rhode Island experienced outages. In Jamestown, almost 60 percent of customers lost power; in Exeter, almost 30 percent of the customers lost power; and in East Greenwich, more than 20 percent of customers lost power (see Figure 2).

The Company began preparing for the November 2012 Storm on Monday, November 5 with its first system and divisional storm anticipation calls. The Company had just completed restoring service throughout its system to all customers interrupted by Hurricane Sandy at approximately 6:00 p.m. on Sunday, November 4. 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 and contacted other utilities to request additional resources. Using its own crews and contractor resources, the Company restored power to 70 percent of its Rhode Island customers by approximately 4:30 a.m. on Thursday, November 8. The Company restored power to 90 percent of its Rhode Island customers by approximately 10:00 a.m. on the same day.

The Company is grateful for the support of customers, employees, state and local officials, and public safety officials, who experienced the effects of the November 2012 Storm and were an integral part of the Company’s restoration efforts.

**II. INCIDENT ANTICIPATION**

**A. Determination of Incident Classification**

The System Emergency Operations Center (“EOC”) was located in Northborough, MA and was opened on Wednesday, November 7 at 8:00 a.m. The Regional EOC was located in Worcester, MA and opened on the same day at 12:00 p.m. The System Incident Commander 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 system and operation storm conference calls, the System 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.

#### **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 weather forecast and planning efforts for the possibility of an as yet unclassified storm event. As a result of these calls, the Company decided to open a storm room in Providence, RI at approximately 8:00 a.m. on Wednesday, November 7 to support Rhode Island restoration.

In accordance with the ERP and System Incident Command System, National Grid activated the System Incident Commander, the New England Regional Incident Commander, and Branch Director on Wednesday, November 7 at approximately 12:00 p.m. Thereafter, the System Incident Commander activated a number of positions at his discretion, considering the level of response likely required for the event. Throughout the day on Wednesday, November 7, and throughout the restoration effort, the Company activated additional ICS positions as operating conditions changed.

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

Given the potential magnitude of the November 2012 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 had approximately 63 internal Rhode Island distribution line crews working on the evening of Wednesday, November 7 and approximately 69 internal distribution line crews on the morning of Thursday, November 8. By 6:00 a.m. on Thursday, November 8, the Company

pre-positioned 72 distribution line contractor crews in various locations in Massachusetts and Rhode Island, ready to respond to the hardest hit areas. The Company also deployed 83 contractor tree crews in Rhode Island. Transmission line crews were available for the entire New England region and ultimately eight contractor transmission line crews were deployed in Rhode Island during the storm.

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

#### **A. Forecast**

##### Monday, November 5, 2012

On Monday, November 5, the weather forecast called for a strong coastal storm system affecting southern New England, Wednesday night into Thursday. Potential impacts included interior heavy snow, some heavy rain, damaging winds, including up to 60 mph in southern Rhode Island, and some potential coastal flooding. The biggest threat to Rhode Island was the heavy rain and strong winds. Confidence in the forecast was low at this time as several models disagreed regarding the track of the storm.

##### Tuesday, November 6, 2012

On Tuesday, November 6, the forecast continued to suggest a coastal system bringing interior snow, strong to damaging winds, and flooding rain to the entire service area. The latest models pushed the storm a bit farther east, with colder air, increasing the snow potential. For Rhode Island, there was high confidence in a period of strong to damaging winds of up to 60 mph with potential tree damage and power outages.

##### Wednesday, November 7, 2012

On Wednesday, November 7, there was increased confidence on the track of the low-pressure area. The forecast expected a front to set up from northeast Rhode Island down to southwest Rhode Island, dividing the state in half. East of the front was forecasted to have higher temperatures and heavy rain. West of the front was forecasted to have lower temperatures and more likely snow. For northern Rhode Island, there was a weather forecast for light snow accumulation (less than four inches). Minor ice accretion (less than one-tenth of an inch) was also possible in northern Rhode Island. In southern Rhode Island, there was a weather forecast for heavy rain associated with the event with a high probability of minor to moderate coastal flooding. The strongest winds were expected overnight on Wednesday into the early morning on Thursday, with the greatest risk being in southern Rhode Island.

#### **B. Impact**

The November 2012 Storm had the potential to be a significant weather event for Rhode Island and all of southern New England. The strong low was initially forecasted to bring some light snow and flooding rains to Rhode Island. There was also the potential for strong winds and moderate flooding, especially along the south coast.

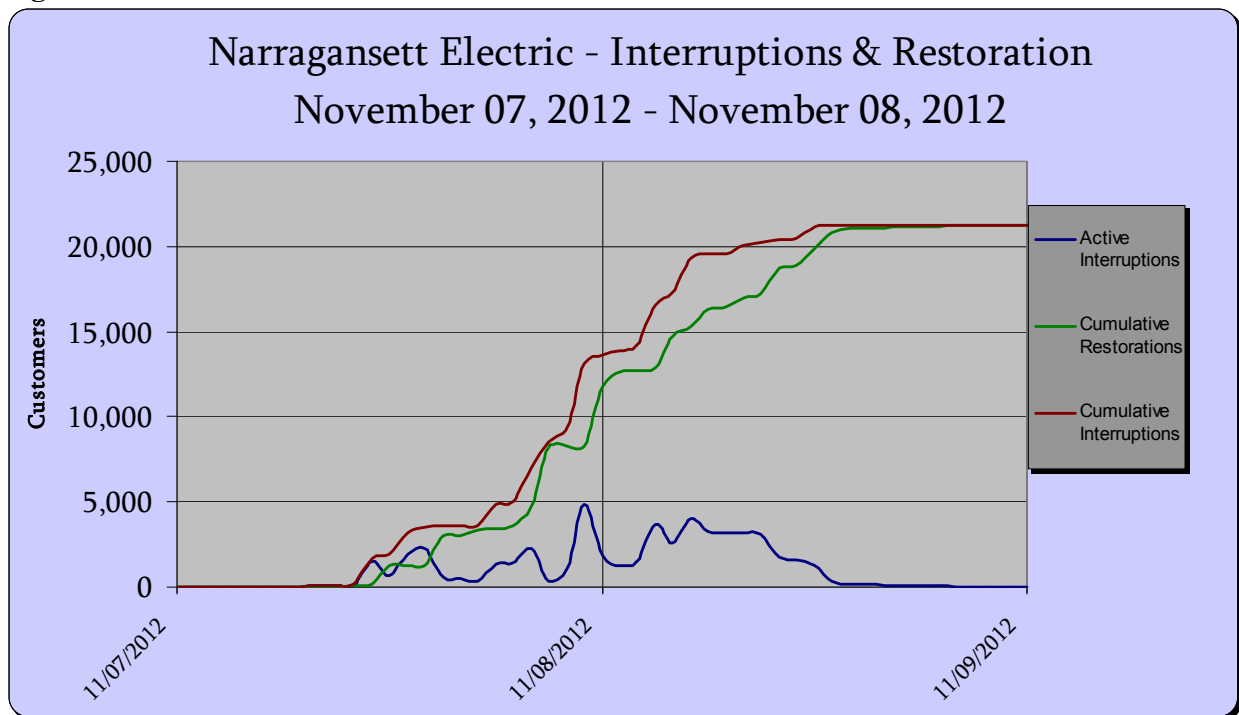
As the low approached Rhode Island, the track of the low shifted further southward with time. As a result, the greatest snowfall totals occurred across Connecticut with anywhere from 2 to 10 inches. Rhode Island had minimal snowfall (less than 3 inches across the region) with some rain mixed in. The strongest wind gusts in the region occurred across Rhode Island, with 50 to 55 mph maximum gusts.

The storm impacted a total of approximately 21,000 customers in the Company’s service territory and approximately 5,100 customers at its peak, which occurred on Wednesday, November 7 at approximately 11:10 p.m. Seventy percent of all outages were restored by Thursday, November 8 at approximately 4:30 a.m. and 90 percent of all customers were restored later that day at approximately 10:00 a.m. The final customer was restored that evening at approximately 11:15 p.m.

By 3:00 a.m. on Friday, November 9, the Providence storm room was transitioned back to normal operations and control was back in Northborough.

Figure 1 below shows the customers interrupted and restored, by hour, from Wednesday, November 7 to Thursday, November 8.

**Figure 1**



The Company experienced interruptions in 35 of the 38 communities it serves in Rhode Island. The storm had very little effect on any transmission lines, with one line locked out for less than 90 minutes. In addition, one sub-transmission line locked out for a short time in Rhode Island. The storm affected eighty-four distribution feeders. Wind, rain, some moderate snow, and subsequent tree damage did have an impact on the electrical system with the damage



primarily to the Company's distribution system in the form of wires down, including primary, secondary, and services.

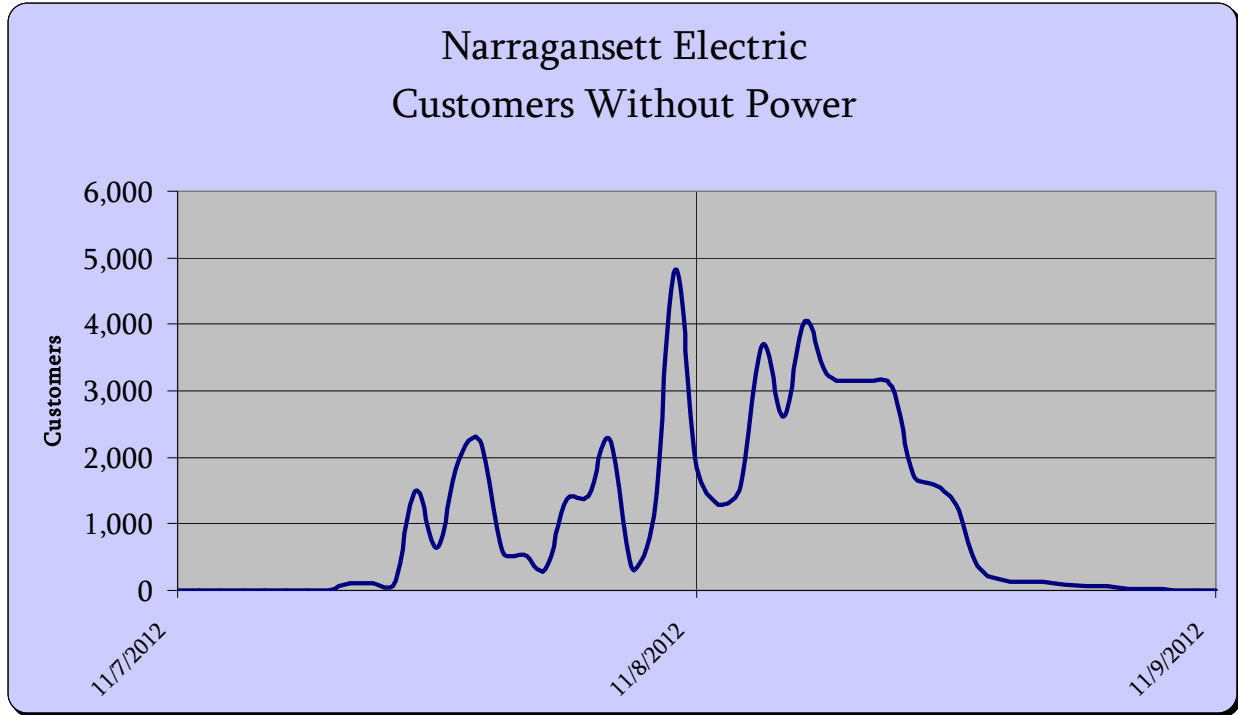
All towns that had interruptions are shown in Figure 2 below.

**Figure 2**

<b>Town</b>	<b>Customers Served</b>	<b>Total Customers Interrupted</b>	<b>Percent of Customers Interrupted</b>
CRANSTON	35,368	3,594	10%
PAWTUCKET	32,631	3,209	10%
PROVIDENCE	69,779	2,807	4%
EAST PROVIDENCE	21,980	2,092	10%
JAMESTOWN	3,297	1,945	59%
NARRAGANSETT	10,504	1,665	16%
NORTH KINGSTOWN	13,053	1,393	11%
EAST GREENWICH	6,017	1,375	23%
SOUTH KINGSTOWN	14,427	942	7%
EXETER	2,947	855	29%
NEWPORT	14,988	620	4%
WESTERLY	14,271	565	4%
WARWICK	40,680	359	1%
WEST GREENWICH	2,688	213	8%
COVENTRY	15,263	183	1%
RICHMOND	3,302	173	5%
PORTSMOUTH	9,064	144	2%
WEST WARWICK	14,839	131	1%
JOHNSTON	13,234	101	1%
LINCOLN	9,901	90	1%
CHARLESTOWN	5,739	87	2%
MIDDLETOWN	7,964	82	1%
SCITUATE	4,623	80	2%
CUMBERLAND	14,961	56	0%
NORTH SMITHFIELD	5,718	39	1%
HOPKINTON	3,856	27	1%
FOSTER	2,017	23	1%
TIVERTON	8,144	23	0%
LITTLE COMPTON	2,562	18	1%
GLOCESTER	4,513	17	0%
SMITHFIELD	8,661	6	0%
BURRILLVILLE	2,589	3	0%
BARRINGTON	6,819	1	0%
NORTH PROVIDENCE	15,926	1	0%
WOONSOCKET	18,454	1	0%

Figure 3 below shows a timeline of the number of customers without power from Wednesday, November 7 through Thursday, November 8.

**Figure 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 made 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 Wednesday, November 7 at approximately 8:00 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 ETA's on all police and fire calls, with a standby condition noted.

In preparation for the storm, the Providence wires-down room was mobilized on Wednesday, November 7 at 8:00 a.m. with approximately 72 crews (including wires down appraisers and cut and clear crews). Due to the lack of any significant wires-down activity, the number of personnel was reduced to approximately 39 crews at midnight on the same day. Finally, the wires-down room was de-mobilized at approximately 8:30 p.m. on Thursday, November 8. At that point, all wires-down issues were handled out of the local Providence storm room.

### **C. Personnel Resources**

Early in the week, when it was apparent 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, even if the November 2012 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. The Company's peak resources working in Rhode Island during the storm event are provided in Attachment 1.

At peak, approximately 300 field crews<sup>1</sup> were used to restore power to customers, including approximately 125 external crews and 175 internal crews. This peak number of external and internal crews includes Transmission and Distribution Line, Vegetation Management, Wires Down, Damage Appraisal, and Substation personnel.

Work hours were adjusted to have the maximum number of crews available early in the morning on Thursday, November 8. In addition, a small percentage of Company crews were scheduled to work through the night on Wednesday, November 7 to respond to police, fire and wires-down issues. All other resources were instructed to report at approximately 6:00 a.m. on Thursday, November 8.

### **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 November 2012 Storm's 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 November 2012

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<sup>1</sup> Crews typically include two or three people, although there are some one-person crews in damage assessment, wires down (appraisers), and distribution line (troubleshooters). The transmission crews typically include 6-10 people.

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 November 2012 Storm, using Outage Central which provided real time ETR updates approximately every 15 minutes.

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

### **B. Intra-Company**

System-level storm calls were held at least once daily beginning on Monday, November 5 at 8:00 a.m. through the end of restoration. The final system-level call was held on Thursday, November 8 at 10:00 a.m. The divisional storm calls were also held daily, starting on Monday, November 5 at 3:00 p.m., with the final call on Thursday, November 8 at 9:00 a.m.

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

### **C. Public Officials**

#### **1. Governor’s Office**

For the November 2012 Storm, Government Affairs was in contact with the Governor's Office, and the legislative leadership and members both pre- and post-event. All necessary and appropriate information was provided to these officials, and all inquiries were answered timely and accurately.

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

The Company’s Jurisdiction President spoke directly with the Commission and the Company’s Regulatory contact reached out to the Division regarding the Company’s storm preparation.

A National Grid representative was in contact with RIEMA from Monday, November 5, until the end of the storm. RIEMA never officially opened an operations center for the

November 2012 Storm, but remained in a monitoring mode throughout the storm. National Grid communicated with RIEMA directors and posted information through their web-EOC.

### 3. Municipalities

The Company began communicating regarding storm preparations and planning to the municipalities on Tuesday, November 6. The Company communicated its intention to the municipalities to open a municipal room on Wednesday, November 7 at 12:00 p.m. in Providence. The room was opened to effectively manage and communicate with a number of communities in Rhode Island. This municipal room was co-located with the Company's branch operations response personnel. The municipal room was closed on Thursday, November 8 at 12:00 p.m.

#### **D. Customers**

In preparation for the storm in Rhode Island, the Company began communicating with customers regarding safety and storm preparedness through its call center, its website, and social media. The Company also conducted pro-active calls to its life support customers on Tuesday, November 6.

#### **E. Media**

The Company began media relations activities in support of its restoration efforts on Tuesday, November 6, as it appeared that the storm could cause a significant number of service interruptions.

On Wednesday, November 7, the Company's Media Relations department issued a news release advising customers of the pending storm and informing them of actions the Company was taking to prepare for possible service interruptions. The release also included extensive safety tips and advice on how to prepare for outages. Media Relations personnel continued to participate in Company-wide emergency preparedness conference calls as the storm approached, and the Company arranged to have a Media Relations representative report to the Company's Melrose Street office outside of normal business hours, if needed.

On Wednesday, November 7, a second readiness release was distributed to all Rhode Island news media. As it became apparent that the most severe weather would by-pass Rhode Island, the Company determined that no further proactive media outreach would be conducted in the state.

Media Relations received less than a half-dozen calls from the Rhode Island news media concerning the impact of the November 2012 Storm.

## **VII. CONCLUSION**

Although the November 2012 Storm was not a severe event, it nonetheless caused interruptions to thousands of Rhode Island customers, mostly as a result of wires down, including primary, secondary, and services. However, the Company was 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 November 2012 Storm in a safe and expeditious manner.

## Attachment 1

### November 2012 Storm - Rhode Island Resources

Resource Type	Peak Crews Working
Number of Company Line Crews (1)	69
Number of Company Tree Crews (2)	-
Number of Company Wire Down Crews (3)	72
Number of Company Damage Appraiser Crews (4)	31
Number of Company Substation Crews (5)	2
Number of Company Transmission Crews (6)	-
<b>Total Company</b>	<b>174</b>
Number of Contractor Line Crews (2)	34
Number of Contractor Tree Crews (2)	83
Number of Contractor Wire Down Crews (3)	-
Number of Contractor Damage Appraiser Crews (4)	-
Number of Contractor Substation Crews (5)	-
Number of Contractor Transmission Crews (6)	8
<b>Total Contractor</b>	<b>125</b>
Number of In-State Mutual Aid Line Crews (2)	-
Number of In-State Mutual Aid Tree Crews (2)	-
Number of In-State Mutual Aid Wire Down Crews (3)	-
Number of In-State Mutual Aid Damage Appraiser Crews (4)	-
Number of In-State Mutual Aid Substation Crews (5)	-
Number of In-State Mutual Aid Transmission Crews (6)	-
<b>Total In-State Mutual Aid</b>	<b>-</b>
Number of Out-of-State Mutual Aid Line Crews (2)	-
Number of Out-of-State Mutual Aid Tree Crews (2)	-
Number of Out-of-State Mutual Aid Wire Down Crews (3)	-
Number of Out-of-State Mutual Aid Damage Appraiser Crews (4)	-
Number of Out-of- State Mutual Aid Substation Crews (5)	-
Number of Out-of- State Mutual Aid Transmission Crews (6)	-
<b>Total Out-of-State Mutual Aid</b>	<b>-</b>
<b>Peak Number of Crews Working</b>	<b>299</b>

**Note: All resources are reported as crews**

- (1) Typically 2-person crews , but also include single troubleshooters
- (2) Typically 2-person crews , but may also include some 3-person crews
- (3) Wire Appraisers are 1-person crews, Cut and Clear are 2-person crews
- (4) Typically 2-person crews, but may also include some 1-person crews
- (5) Typically 2-person crews
- (6) Typically 6-10 person crews