

May 1, 2013

**VIA HAND DELIVERY & ELECTRONIC MAIL**

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

**RE: Docket 3628 - 2012 Annual Service Quality Report, Electric Operations**

Dear Ms. Massaro:

Enclosed are ten (10) copies of National Grid's<sup>1</sup> performance results for 2012 under its Service Quality Plan ("Plan") as established in the above-referenced docket. Based on actual performance results, the Company has calculated a net penalty of \$16,000 for customer satisfaction rating for calendar year 2012. Otherwise, there were no penalties related to reliability or to the other customer service categories.

The Company's Plan is described in Attachment 1 to the Company's Agreement to Modify Performance Benchmarks ("Agreement") filed with the Rhode Island Public Utilities Commission ("Commission") on March 14, 2007, and approved by the Commission in Docket 3628. The Plan provides for penalties and offsets relating to performance standards in the areas of reliability and customer service. The service quality standards under the Plan became effective as of January 1, 2007.

This report is organized as follows:

- Section 1: This section provides a summary of each performance standard in the areas of reliability and customer service. Section 1 contains descriptions of each of the performance standards, the targeted performance levels for 2012 with their related dollar values, and the actual 2012 results with the applicable annual penalty or offset.
- Section 2: This section provides a summary calculation of the Company's annual penalty or offset for each of the performance standards for 2012. The annual net penalty for 2012 of \$16,000, is shown in Column (i). The Company has calculated a \$16,000 penalty related to customer satisfaction rating.

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<sup>1</sup> Submitted on behalf of The Narragansett Electric Company, d/b/a National Grid (the "Company").

Luly E. Massaro, Commission Clerk  
Docket 3628 - 2012 Service Quality Report  
May 1, 2013  
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- Section 3: The Plan requires the Company to report on additional aspects of service quality, including: (1) worst performing circuits; (2) trouble, non-outage calls received; (3) annual meter reading performance; and (4) information on Major Event Days. Section 3 summarizes the results of these reporting requirements.

Thank you for your attention to this filing. If you have any questions concerning this report, please do not hesitate to call me at (401) 784-7667.

Very truly yours,



Thomas R. Teehan

Enclosures

cc: Docket 3628 Service List  
Leo Wold, Esq.  
Steve Scialabba, Division

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.



Joanne M. Scanlon  
National Grid

May 1, 2013  
Date

**Narragansett Electric Company – Service Quality Plan  
Docket 3628 - Service List  
Updated 5/1/13**

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The Narragansett Electric Company,  
d/b/a National Grid

## **2012 Service Quality Report**

May 1, 2013

Submitted to:  
Rhode Island Public Utilities Commission  
RIPUC Docket 3628

Submitted by:

**nationalgrid**

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## **RELIABILITY PERFORMANCE STANDARDS**

### **Interruption Frequency and Duration**

Under the Service Quality Plan, an interruption is defined as the loss of electric service to more than one customer for more than one minute. The interruption duration is defined as the period of time, measured in minutes, from the initial notification of the interruption event to the time when service has been restored to the customers. Interruptions are tracked using System Average Interruption Frequency Index (SAIFI) and System Average Interruption Duration Index (SAIDI). SAIFI is calculated by dividing the total number of customers interrupted by the total number of customers served. SAIFI measures the number of times per year the average customer experienced an interruption. This is an average, so in any given year some customers will experience no interruptions and some will experience several interruptions. SAIDI measures the length of interruption time that the average customer experienced for the year. It is calculated by dividing the total customer minutes of interruption by the total number of customers served.

Certain events are defined as Major Event Days and are excluded from the calculation of reliability performance standards for the purpose of penalty and offset assessment. There were four days in 2012 that qualified as Major Event Days: July 18 and October 29 – October 31, 2012.

#### 2012 Frequency (SAIFI) Standard

#### 2012 Frequency (SAIFI) Results

<u>Frequency of Interruptions per Customer</u>	<u>(Penalty) Offset</u>	<u>Frequency of Interruptions per Customer</u>	<u>Annual (Penalty) Offset</u>
Greater than 1.18	(\$916,000)		
1.06-1.18	linear interpolation		
0.84-1.05	\$0	0.90	\$0
0.75-0.83	linear interpolation		
Less than 0.75	\$229,000		

2012 Duration (SAIDI) Standard

2012 Duration (SAIDI) Results

<u>Duration of Interruptions (minutes)</u>	<u>(Penalty) Offset</u>	<u>Duration of Interruptions (minutes)</u>	<u>Annual (Penalty) Offset</u>
Greater than 89.9	(\$916,000)		
72.0-89.9	linear interpolation		
45.9-71.9	\$0	66.0	\$0
36.7-45.8	linear interpolation		
Less than 36.7	\$229,000		

**CUSTOMER SERVICE PERFORMANCE STANDARDS**

**Customer Contact Survey**

The customer contact survey results are based on responses from National Grid’s Rhode Island customers, from a survey performed by an independent third-party consultant (Opinion Dynamics Corporation). ODC surveys samples of customers who have contacted the call center quarterly in order to determine their overall level of satisfaction with their contact. Eight types of transactions are included in the survey, and the overall results are weighted based on the number of these transactions actually performed at the call center during the calendar year. The percent satisfied represents respondents who gave a Top-2 rating on a seven-point scale, where 1 means extremely dissatisfied and 7 means extremely satisfied.

2012 Customer Contact Standard

2012 Customer Contact Results

<u>Percent Satisfied</u>	<u>(Penalty) Offset</u>	<u>Percent Satisfied</u>	<u>Annual (Penalty) Offset</u>
Less than 74.5%	(\$184,000)		
74.5%-76.7%	linear interpolation	76.6%	(\$16,000)
76.8%-81.4%	\$0		
81.5%-83.7%	linear interpolation		
Greater than 83.7%	\$46,000		

**Telephone Calls Answered Within 20 Seconds**

The calls answered performance standard reflects the annual average of calls answered within 20 seconds. “Calls answered” include calls answered by a customer service representative (CSR) and calls completed within the Voice Response Unit (VRU). The time to answer is measured once the customer makes a selection to either speak with a CSR or use the VRU.

2012 Calls Answered Standard

2012 Calls Answered Results

<u>% Answered Within 20 Seconds</u>	<u>(Penalty) Offset</u>	<u>% Answered Within 20 Seconds</u>	<u>Annual (Penalty) Offset</u>
Less than 53.5%	(\$184,000)		
53.5%-65.7%	linear interpolation		
65.8%-90.4%	\$0	87.5%	\$0
90.5%-100.0%	linear interpolation, to a maximum of \$46,000		

**National Grid**  
2012 Results of Service Quality Plan  
Calculation of Penalty/Offset

Performance Standard	Potential Penalty (a)	Potential Offset (b)	2012 Results (c)	Maximum Penalty (d)	One Std Dev. Worse Than Mean (e)	Mean (f)	One Std Dev. Better Than Mean (g)	Maximum Offset (h)	Annual (Penalty)/Offset (i)
Reliability - Frequency	\$ 916,000	\$ 229,000	0.90	1.18	1.05	0.94	0.84	0.75	\$0
Reliability - Duration	\$ 916,000	\$ 229,000	66.0	89.9	71.9	57.5	45.9	36.7	\$0
Customer Service - Customer Contact Survey	\$ 184,000	\$ 46,000	76.6%	74.5%	76.8%	79.1%	81.4%	83.7%	(\$16,000)
Customer Service - Telephone Calls Answered	\$ 184,000	\$ 46,000	87.5%	53.5%	65.8%	78.1%	90.4%	100.0%	\$0
Total Penalty/Offset	\$ 2,200,000	\$ 550,000							(\$16,000)

**Notes:**

Columns (a), (b), and (d)-(h) are per the Amended Electric Service Quality Plan, RIPUC Docket No. 3628.

Column (c) represents the actual 2012 annual results for the performance standards listed in the first column.

Column (i) is calculated as follows:

- For Reliability Standards:

If Column (c) is between Column (g) and Column (e): \$0

If Column (c) is between Column (h) and Column (g):  $[\text{Column (g) - Column (c)}] \div [\text{Column (g) - Column (h)}] \times \text{Column (b)}$

If Column (c) is between Column (e) and Column (d):  $[\text{Column (c) - Column (e)}] \div [\text{Column (d) - Column (e)}] \times \text{Column (a)}$

If Column (c) is greater than Column (d): 100% of Column (a)

If Column (c) is less than Column (h): 100% of Column (b)

- For Customer Service Standards:

If Column (c) is between Column (e) and Column (g): \$0

If Column (c) is between Column (g) and Column (h):  $[\text{Column (c) - Column (g)}] \div [\text{Column (e) - Column (d)}] \times \text{Column (b)}$

If Column (c) is between Column (d) and Column (e):  $[\text{Column (e) - Column (c)}] \div [\text{Column (e) - Column (d)}] \times \text{Column (a)}$

If Column (c) is less than Column (d): 100% of Column (a)

If Column (c) is greater than Column (h): 100% of Column (b)

## ADDITIONAL REPORTING CRITERIA

Under the Company's Service Quality Plan, the following additional reporting criteria are required to be filed with the Commission.

1. **Reporting Requirement:** Each quarter, the Company will file a report of 5% of all circuits designated as worst performing on the basis of customer frequency.

Included in the report will be:

1. The circuit id and location.
2. The number of customers served.
3. The towns served.
4. The number of events.
5. The average duration.
6. The total customer minutes.
7. A discussion of the cause or causes of events.
8. A discussion of the action plan for improvements including timing.

**Results:** The Company filed its first quarter 2012 feeder ranking results on April 30, 2012, the second quarter results on September 5, 2012, the third quarter results on November 2, 2012, and the fourth quarter results on February 1, 2013.

2. **Reporting Requirement:** The Company will track and report monthly the number of calls it receives in the category of Trouble, Non-Outage. This includes inquiries about dim lights, low voltage, half-power, flickering lights, reduced TV picture size, high voltage, frequently burned-out bulbs, motor running problems, damaged appliances and equipment, computer operation problems, and other non-interruptions related inquiries.

**Results:** The Company filed the required Trouble, Non-Outage reports on a monthly basis during 2012, with the final report filed on April 23, 2013.

3. **Reporting Requirement:** The Company will report its annual meter reading performance as an average of monthly percentage of meters read.

**Results:** During 2012, the Company’s annual meter reading performance (as an average of monthly percentage of meters read) was 98.1%, compared to 97.5% during 2011 and 98.9% during 2010. The following table details the percentage of meters read per month for 2012, 2011, and 2010.

**Narragansett Electric Company  
Monthly Percentage of Meters Read**

	<u>2012</u>	<u>2011</u>	<u>2010</u>
January	98.9%	97.4%	98.8%
February	99.0%	98.7%	98.9%
March	99.0%	99.0%	98.9%
April	99.1%	99.1%	98.8%
May	99.2%	99.2%	98.9%
June	99.2%	99.2%	99.0%
July	99.1%	99.1%	99.0%
August	99.0%	98.7%	99.0%
September	99.1%	82.0%	99.1%
October	99.1%	99.0%	99.0%
November	87.2%	98.9%	99.0%
December	99.0%	98.9%	98.6%
YTD Average	98.1%	97.5%	98.9%

4. **Reporting Requirement:** For each event defined as a Major Event Day, the Company will prepare a report, which will be filed annually as part of the annual SQ filing, detailing the following information:

1. Start date/Time of event.
2. Number/Location of crews on duty (both internal and external crews).
3. Number of crews assigned to restoration efforts.
4. The first instance of mutual aid coordination.
5. First contact with material suppliers.
6. Inventory levels: pre-event/daily/post-event.
7. Date/Time of request for external crews.
8. Date/Time of external crew assignment.
9. # of customers out of service by hour.
10. Impacted area.
11. Cause.
12. Weather impact on restoration.
13. Analysis of protective device operation.
14. Summary of customers impacted.

## **Results**

### **Major Event Days:**

IEEE Std. 1366-2003 identifies reliability performance during both day-to-day operations and Major Event Days. Major Event Days represent those few days during the year on which the energy delivery system experienced stresses beyond that normally expected, such as severe weather. A day is considered a Major Event Day if the daily SAIDI exceeds a threshold value, calculated using the IEEE methodology. For 2012 the T<sub>MED</sub> value was 4.97 minutes of SAIDI (using IEEE Std. 1366-2003 methodology). There were four days during two separate storms that exceeded this threshold in 2012. These two storms, which occurred on July 18, 2012 and October 29 – October 31, 2012 are described below.

### **July 18, 2012 lightning storm**

References made to Exhibit 1: Docket 2509 – Storm Contingency Fund, July 18, 2012 Event Report, filed October 16, 2012.

#### 1. Start Date and Time of event:

This high wind and lightning storm event in Rhode Island started early Wednesday afternoon, July 18, 2012 at approximately 1:00 p.m.

#### 2. Number/Location of crews on duty (both internal and external crews).

During the day on July 18, the Company had approximately 20 internal line crews, 56 external line crews and 30 external tree crews on duty and staged throughout the state. These crews were based in the Company's operating offices of Providence, Lincoln, Middletown and North Kingstown or staged at Twin Rivers in Lincoln.

#### 3. Number of crews assigned to restoration efforts:

At peak the Company had the following crews performing restoration activities throughout the impacted areas in the State. This information is taken from Exhibit 1: Docket 2509 – Storm Contingency Fund, July 18, 2012 Event Report, filed October 16, 2012, Attachment A. Please note that Attachment A is shown as FTEs and the table below is shown in crews. Typical crew sizes are 2 or 3 persons.

<b><u>Location</u></b>	<b><u>Crew Type</u></b>	<b><u># Crews</u></b>
Rhode Island	Company Line	61 crews total
	Company Wire Down	15 crews total
	Company Substation/Transmission	23 crews total
	Contractor Line	56 crews total
	Contractor Tree	37 crews total
	Contractor Substation/Transmission	21 crews total

4. The first instance of mutual-aid coordination:

The Company did not call for mutual aid coordination in this storm.

5. The first contact with material suppliers:

Contact with material suppliers was not required during this storm.

6. Inventory levels Pre-event/daily/post event:

Inventory levels and issues are summarized in the table below. Balances represent actual day-end totals. The balances do not include "no cost", precapitalized items such as transformers; these items are not reported as inventory on the balance sheet.

The inventory positions indicate those inventories held in Rhode Island and those allocated to Rhode Island stored in National Grid's Central Warehouse located in Whitinsville, MA.

<b>Date</b>	<b>RI Inventory Locations</b>	<b>Allocated NEDC Inventory</b>	<b>Total Narragansett Electric Inventory</b>
07/18/2012	\$ 1,068,094.94	\$ 5,292,313.03	\$ 6,360,407.97

7. Date/Time of request for external Crews:

On July 18<sup>th</sup> prior to the onset of the storm, the Company started securing crews 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 a total of 154 distribution line contractor personnel pre-positioned in Rhode Island.

8. Date/Time of external Crews assignment:

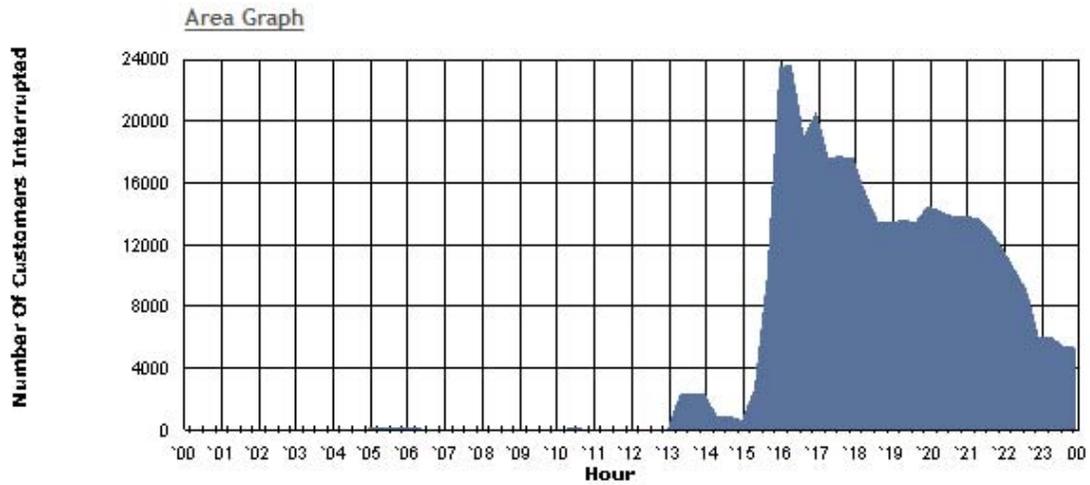
During the event, the Company determined that it only needed to use its own Rhode Island distribution line and substation crews, a small number of the distribution line contractor crews, and some on-property contractor tree crews to restore service to customers in Rhode Island. Approximately 36 external crews were assigned to outages on July 18, between 5:00 and 8:00 p.m.

9. # of customers out by hour (graphs following):

July 18, 2012 (Wednesday)

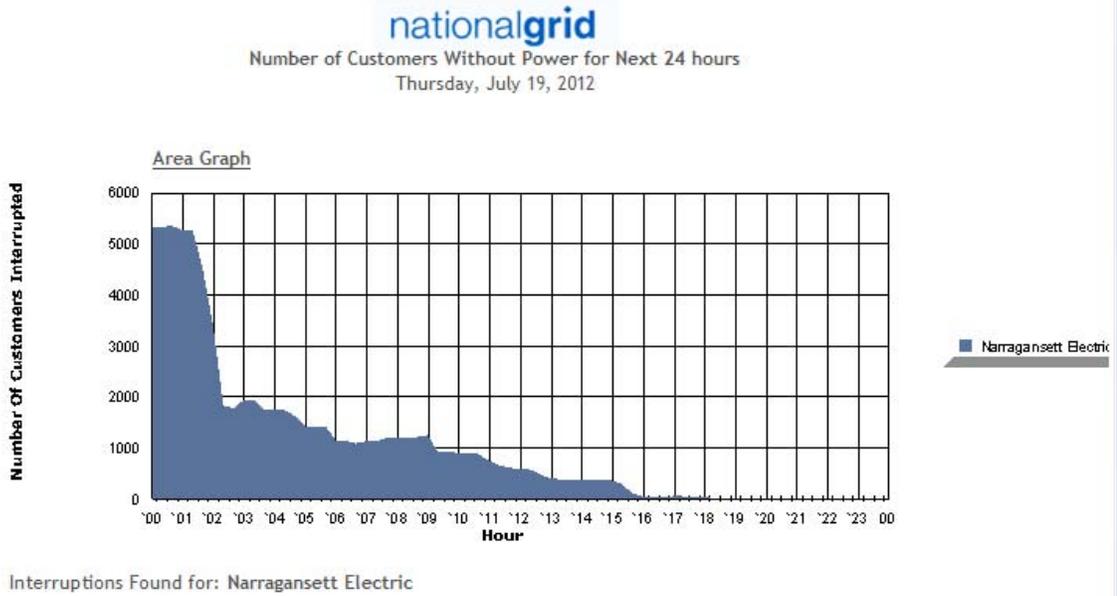


Number of Customers Without Power for Next 24 hours  
Wednesday, July 18, 2012



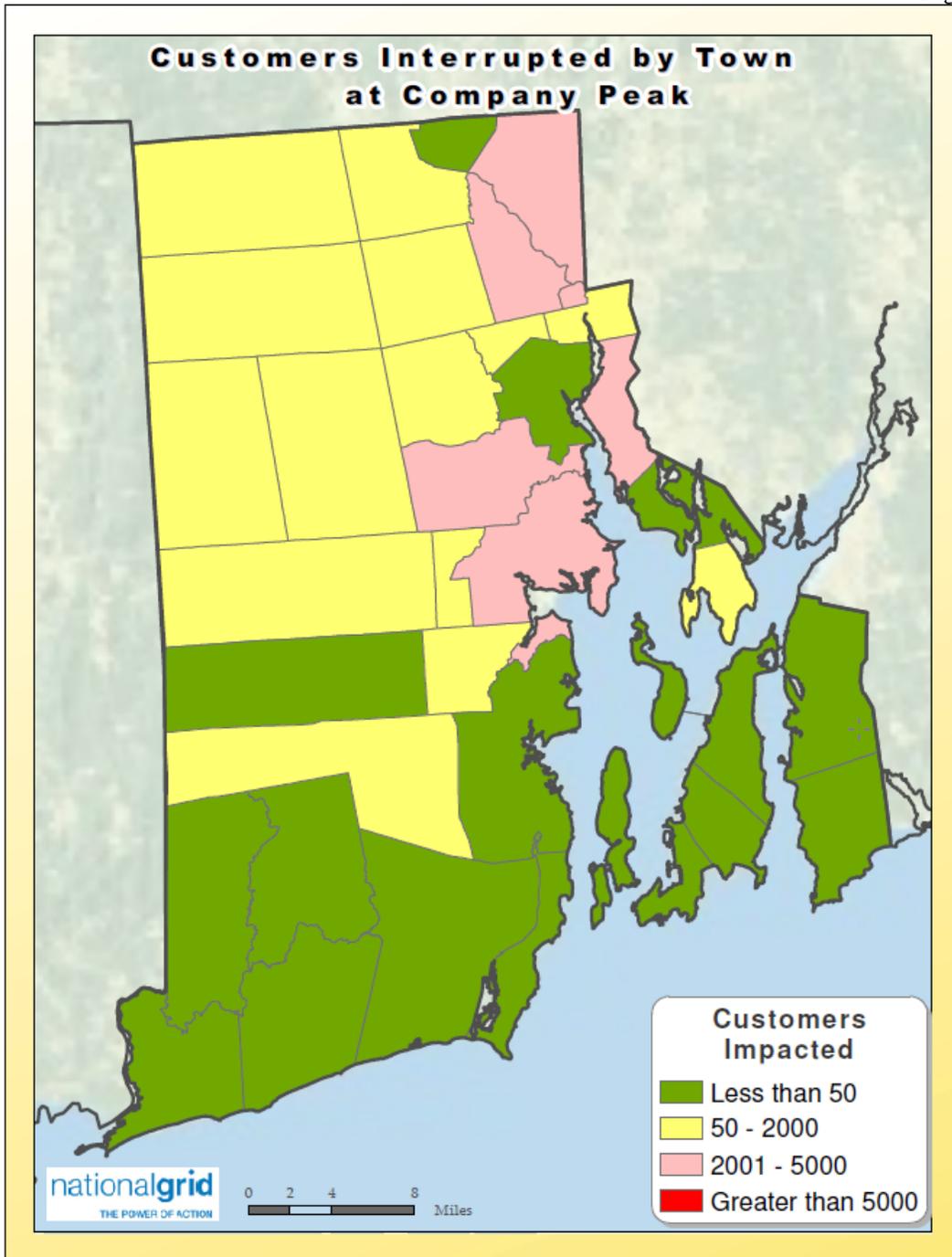
Interruptions Found for: Narragansett Electric

**July 19, 2012 (Thursday)**



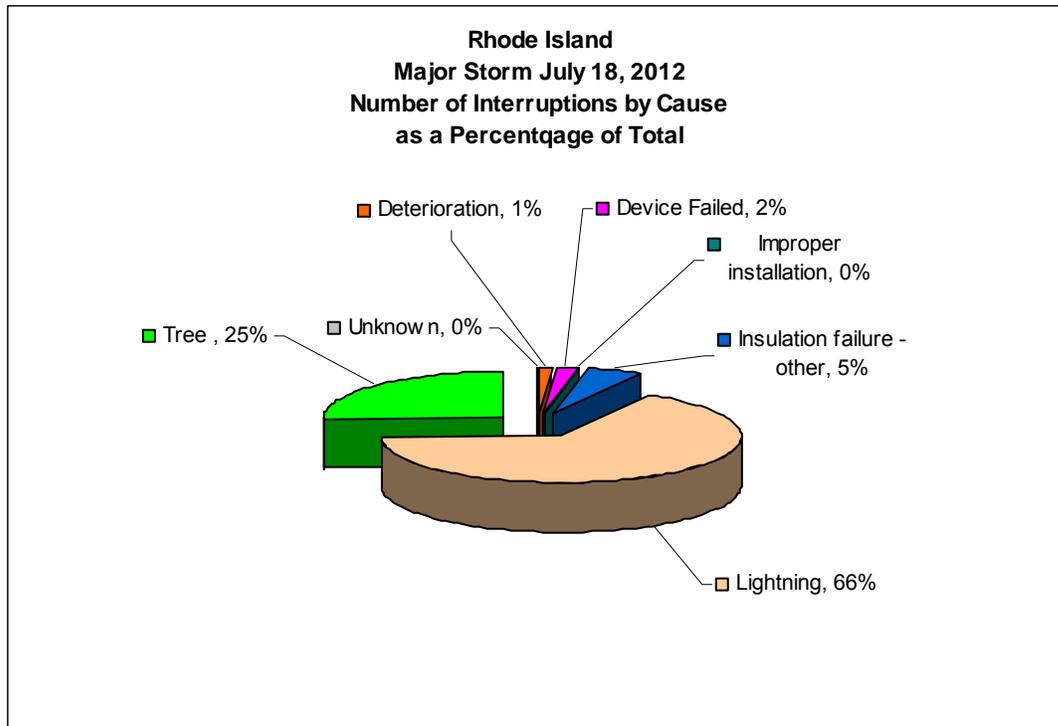
10. Impacted area:

The following map shows the towns that were impacted by the storm and the number of customers interrupted by impacted area.



11. Cause:

The following chart shows the breakdown of the number of interruptions by cause as a percentage of total interruptions during the storm.



12. Weather impact on restoration:

In mid-afternoon on Wednesday, July 18, a cold front moved into the region and continued across the area through early evening. This cold front caused a cluster of thunderstorms to develop and move through the area, and the most damaging weather occurred between 3:00 p.m. and 7:30 p.m. The highest total reported precipitation was approximately 0.75 inches of rain, which was recorded in Providence. There were also reports of two-inch hail in Providence early in the evening. Maximum sustained winds of 27 mph were recorded in Providence at approximately 4:00 p.m., and maximum wind gusts of 47 mph were recorded in Narragansett at approximately 4:30 p.m. The severe lightning and wind gusts impacted full restoration efforts initially. At 4:15 p.m. on Wednesday, July 18, there was a peak of 23,400 customers interrupted. As the storm passed by approximately 7:00 p.m., full restoration efforts became possible. By 10:30 p.m. seventy percent of the outages which had occurred by the peak were restored, and 90 percent of all customers were restored by July 19, at 2:00 a.m.

### 13. Analysis of Protective Device Operation:

National Grid maintains a wide array of protection devices designed to separate faulted components from the electrical system while containing outages to the smallest area practicable. On the distribution system, protection devices include fuse cutouts, reclosers, and circuit breakers of various designs. On the transmission system, protection devices include circuit breakers, air-break switches, and circuit switchers.

For the distribution system, design standards exist that indicate how protection devices are to be deployed and coordinated with other devices. Distribution engineers evaluate such devices under normal and fault conditions. Where recent performance may indicate a need for improvement, National Grid performs engineering studies and makes improvements. In addition, National Grid undertakes an analysis of protection devices and coordination thereof following incidents of equipment mis-operation and circuit changes. During a major event, outages in the distribution system are too extensive to assess the function and coordination of individual protection devices in detail, as the focus of the Company's response is on service restoration. A meaningful analysis would be difficult to perform unless there were specific indications of protection equipment mis-operation.

However, the Company does undertake an analysis of transmission and substation protection devices and coordination where there is evidence of a mis-operation. The Company had no mis-operations at the transmission or substation level during the July 18 event.

### 14. Summary of Customers Impacted:

During this storm, Rhode Island experienced a total of 172 interruptions that affected 33,151 customers for 7,993,202 customer minutes of interruption. On average these interruptions resulted in 0.07 SAIFI, and 16.60 minutes of SAIDI, and 241 minutes of interruption of customers affected. Since a SAIDI value of 16.60 minutes exceeded the threshold value of 4.97 minutes, July 18, 2012 qualified as a Major Event Day under the IEEE methodology.

#### **October 29 – October 31, 2012 Hurricane Sandy**

References made to Exhibit 2: Docket 2509 – Storm Contingency Fund, Hurricane Sandy Report, filed January 31, 2013.

#### 1. Start Date and Time of event:

The storm began in the early morning on Monday, October 29 with scattered interruptions starting at approximately 3:00 a.m. The most intense period with new

customers interrupted each hour was from approximately noon on October 29 until 7:00 p.m. that night, when the peak reached 107,864 customers interrupted.

2. Number/Location of crews on duty (both internal and external crews):

On October 29, the Company had approximately 63 internal line crews, 83 external line crews and 156 external tree crews on duty or staged throughout the State. These crews were based in the Company’s operating offices of Providence, Lincoln, Middletown and North Kingstown or staged at CCRI in Warwick or Twin Rivers in Lincoln.

3. Number of crews assigned to restoration efforts:

At peak the Company had the following crews performing restoration activities throughout the impacted areas in the State. This information is taken from Exhibit 2: Docket 2509 – Storm Contingency Fund, Hurricane Sandy Report, filed January 31, 2013, Attachment 3, which provides information on typical crew size for each type of crew.

<u>Location</u>	<u>Crew Type</u>	<u># Crews</u>
Rhode Island	Company Line	74 crews total
	Company Wire Down	141 crews total
	Company Damage Appraiser	93 crews total
	Company Substation/Transmission	31 crews total
	Contractor Line Personnel	245 crews total
	Contractor Tree	222 crews total
	Contractor Substation/Transmission	6 crews total
	Out of State Mutual Aid Line	28 crews total

4. The first instance of mutual aid coordination:

In preparation for Hurricane Sandy, National Grid participated in the first conference call convened by Northeast Mutual Assistance Group on October 25 at 2:00 p.m.

5. The first contact with material suppliers:

Full outreach and pro-active purchase orders with material suppliers began on October 26, 2012 for this storm event.

6. Inventory levels: pre-event/daily/post-event

Inventory levels and issues are summarized in the table below. Balances represent actual day-end totals. The balances do not include "no cost", precapitalized items, such as transformers; these items are not reported as inventory on the balance sheet.

The inventory positions indicate those inventories held in Rhode Island and those allocated to RI stored in National Grid' Central Warehouse located in Whitinsville, MA.

Date	RI Inventory Locations	Allocated NEDC Inventory	Total Narragansett Electric Inventory
10/29/2012	\$1,046,452.08	\$5,143,003.07	\$6,189,455.15
10/30/2012	\$1,046,452.08	\$5,213,406.48	\$6,259,858.56
10/31/2012	\$1,046,123.33	\$5,271,127.88	\$6,317,251.21

7. Date/Time of request for external Crews:

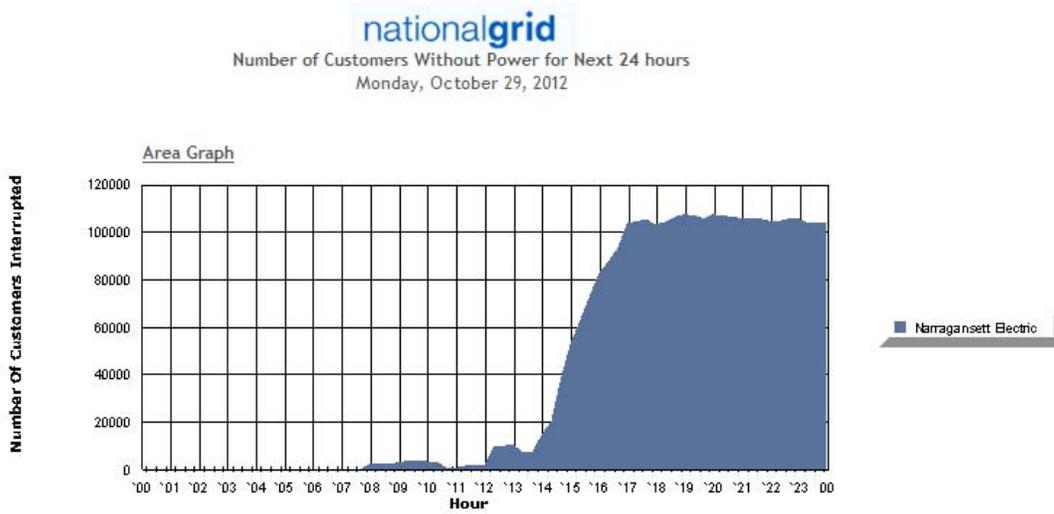
The Company started requesting external contractor crews on October 23, 2012 at 1:00 p.m.

8. Date/Time of external Crews assignment:

External crews were assigned to outages on October 30, at 4:00 a.m.

9. # of customers out by hour (graphs following):

**October 29, 2012 (Monday)**

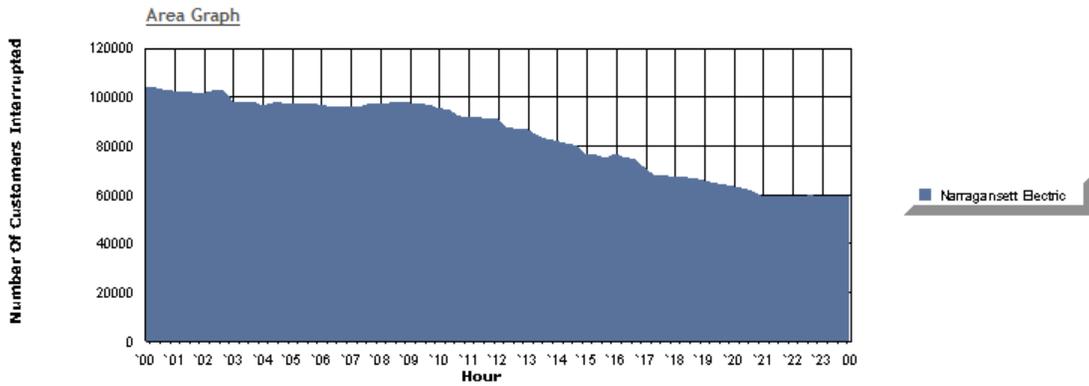


Interruptions Found for: Narragansett Electric

**October 30, 2012  
(Tuesday)**



Number of Customers Without Power for Next 24 hours  
Tuesday, October 30, 2012

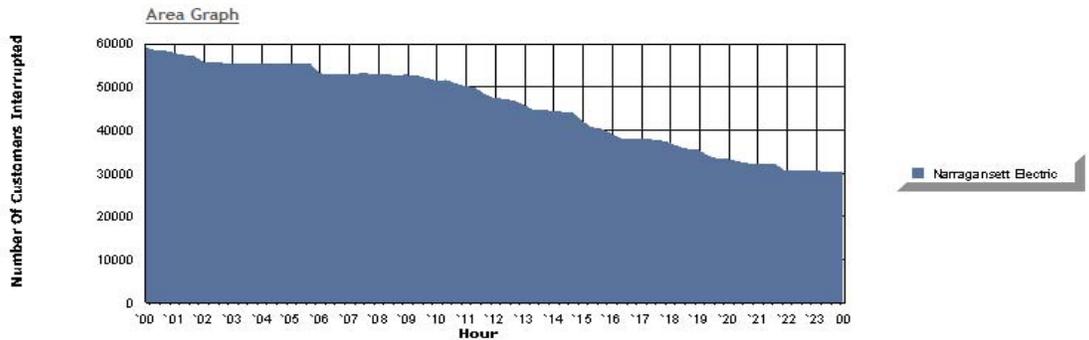


Interruptions Found for: Narragansett Electric

**October 31, 2012 (Wednesday)**



Number of Customers Without Power for Next 24 hours  
Wednesday, October 31, 2012



Interruptions Found for: Narragansett Electric

**November 1, 2012 (Thursday)**



Number of Customers Without Power for Next 24 hours  
Thursday, November 01, 2012

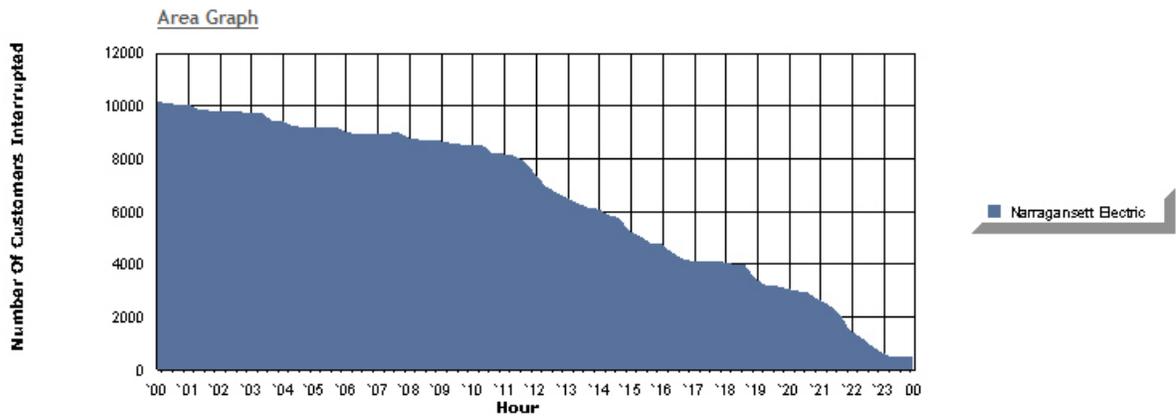


Interruptions Found for: Narragansett Electric

**November 2, 2012 (Friday)**



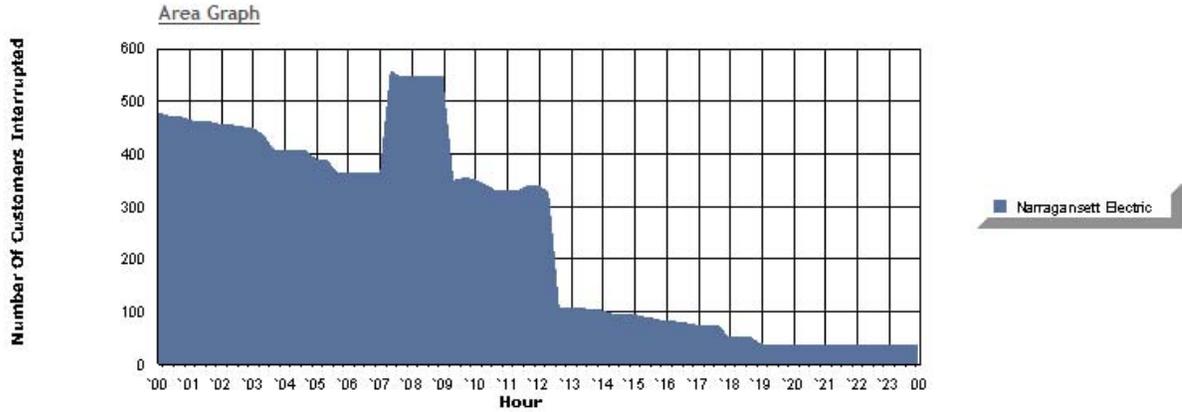
Number of Customers Without Power for Next 24 hours  
Friday, November 02, 2012



Interruptions Found for: Narragansett Electric

**November 3, 2012  
 (Saturday)**

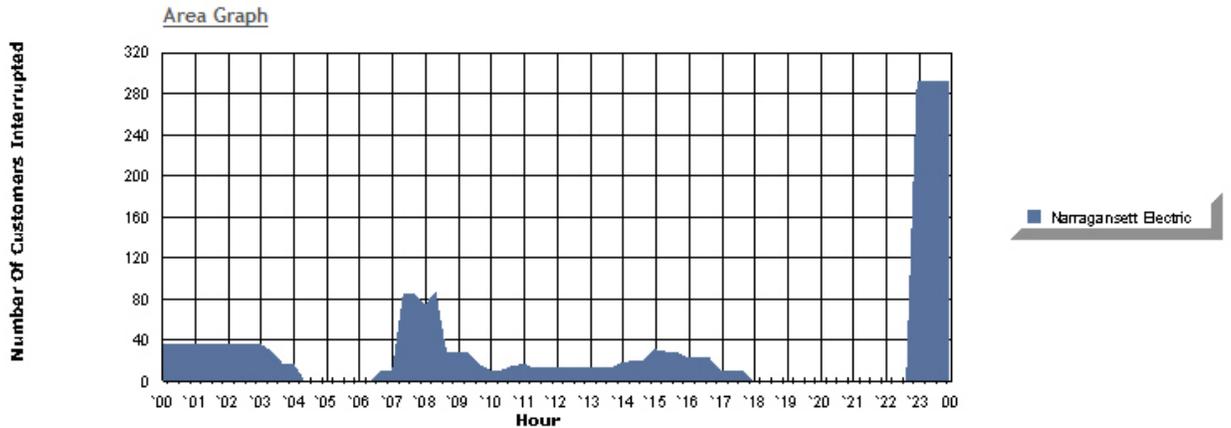
**nationalgrid**  
 Number of Customers Without Power for Next 24 hours  
 Saturday, November 03, 2012



Interruptions Found for: Narragansett Electric

**November 4, 2012 (Sunday)**

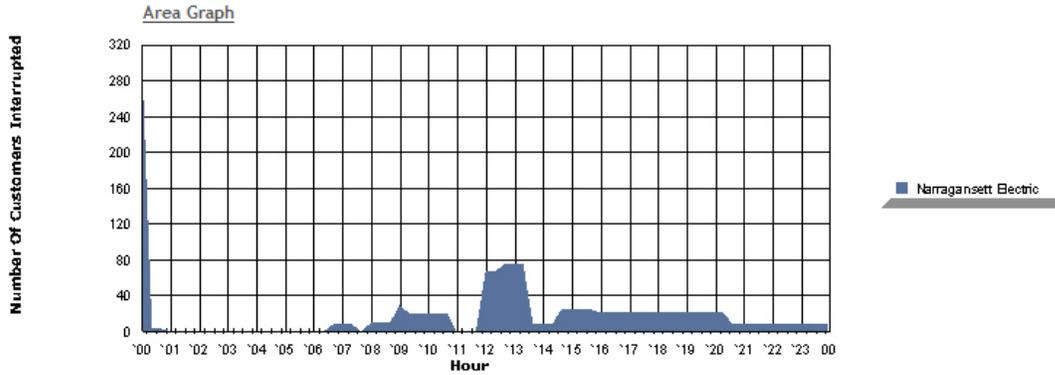
**nationalgrid**  
 Number of Customers Without Power for Next 24 hours  
 Sunday, November 04, 2012



Interruptions Found for: Narragansett Electric



Number of Customers Without Power for Next 24 hours  
Monday, November 05, 2012



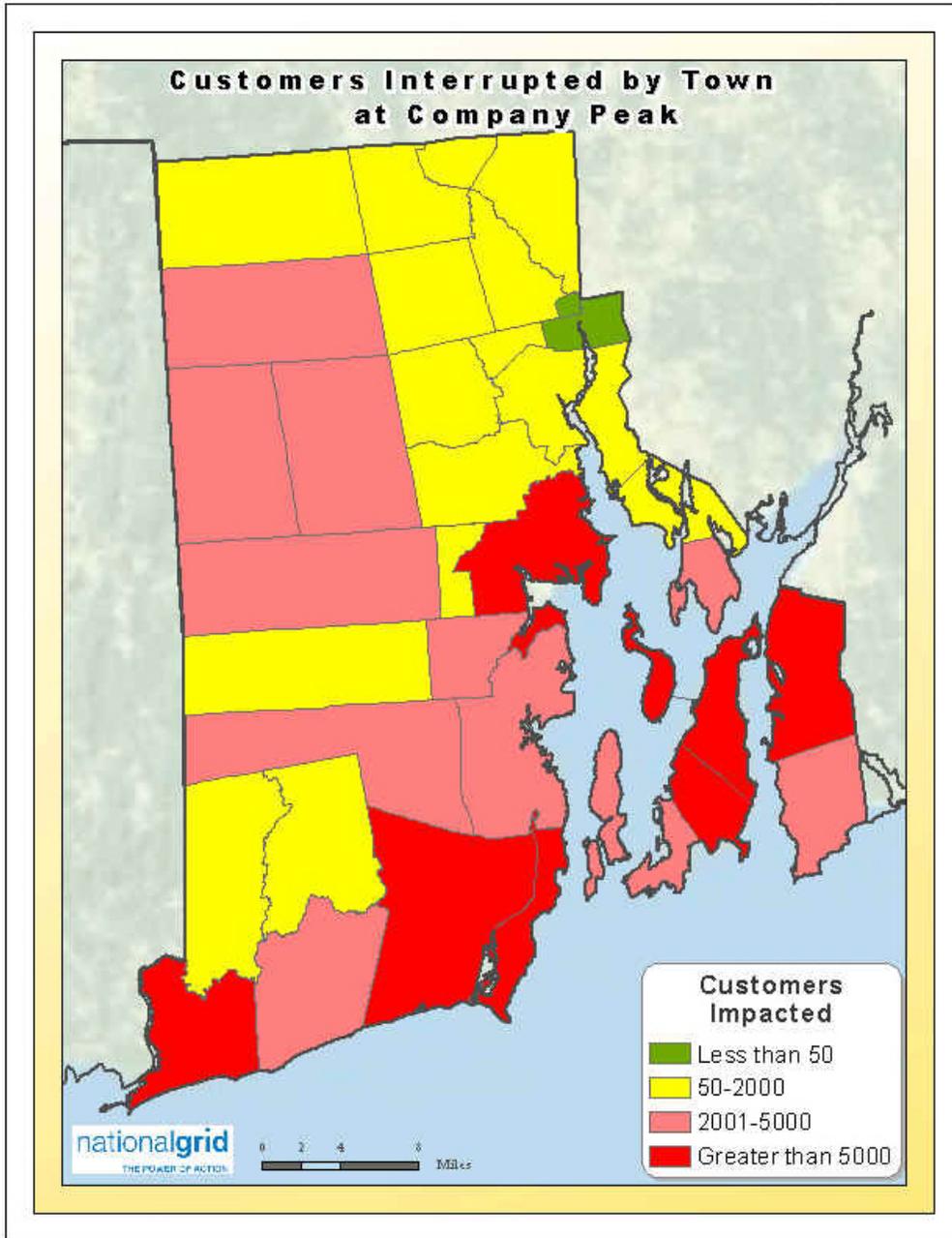
Interruptions Found for: Narragansett Electric

Please note: Restoration time for Hurricane Sandy exceeds the number of declared Major Event days. Based on the IEEE methodology, Major Event Day exclusions (Tmed) were declared from October 29 to October 31. However, interruptions caused by the storm were not fully restored until November 5.

10. Impacted area:

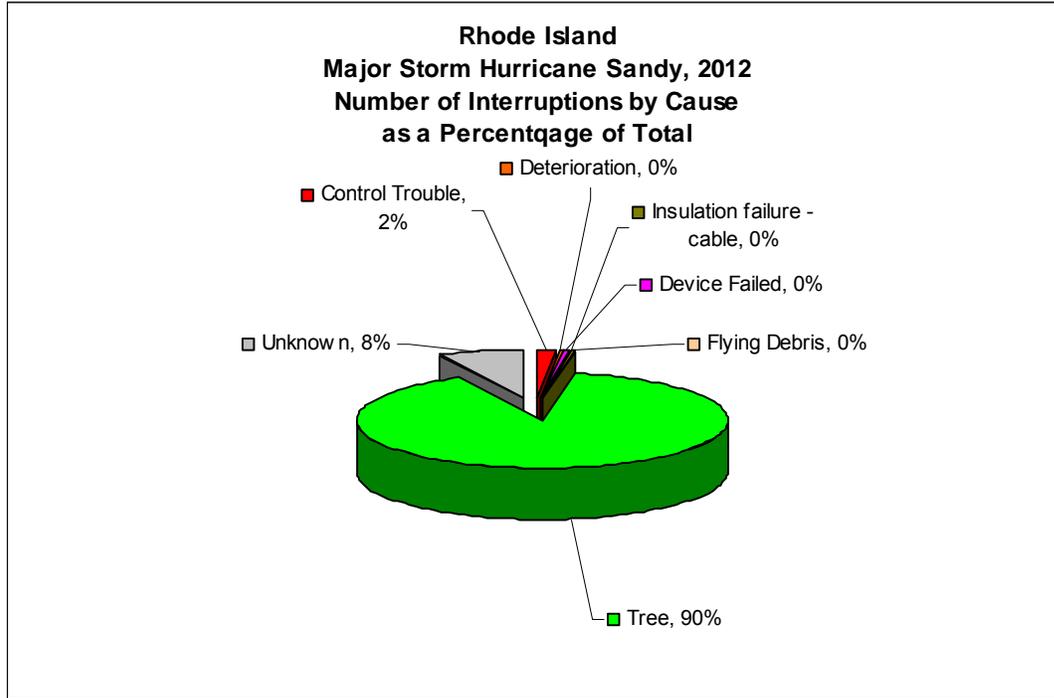
The following map shows the towns that were impacted by the storm and the customers interrupted during the storm.

### Towns with Customers Interrupted October 2012- Hurricane Sandy



11. Cause:

Hurricane Sandy caused widespread destruction to Rhode Island's electric infrastructure resulting in interruptions to customers. The causes of interruptions are shown in the table below.



12. Weather impact on restoration:

Exhibit 2, pages 3 through 6, provides information on the weather from Hurricane Sandy. The weather did have a significant impact on when full restoration could start. During the worst of the weather on Monday, October 29, restoration activities were limited to those that could be performed safely, particularly given the strong winds throughout the afternoon. By Tuesday morning, October 30, the Company was able to proceed fully with restoration.

13. Analysis of Protective Device Operation:

National Grid maintains a wide array of protection devices designed to separate faulted components from the electrical system while containing outages to the smallest area practicable. On the distribution system, protection devices include fuse cutouts, reclosers, and circuit breakers of various designs. On the transmission system, protection devices include circuit breakers, air-break switches, and circuit switchers.

For the distribution system, design standards exist that indicate how protection devices are to be deployed and coordinated with other devices. Distribution engineers evaluate such devices under normal and fault conditions. Where recent performance may indicate

a need for improvement, National Grid performs engineering studies and makes improvements. In addition, National Grid undertakes an analysis of protection devices and coordination thereof following incidents of equipment mis-operation and circuit changes. During a major event, outages in the distribution system are too extensive to assess the function and coordination of individual protection devices in detail, as the focus of the Company's response is on service restoration. A meaningful analysis would be difficult to perform unless there were specific indications of protection equipment mis-operation.

However, the Company does undertake an analysis of transmission and substation protection devices and coordination where there is evidence of a mis-operation. The Company had no mis-operations at the transmission or substation level during Hurricane Sandy.

#### 14. Summary of Customers Impacted:

##### **October 29, 2012**

During this storm, on October 29, 2012 Rhode Island experienced a total of 303 interruptions that affected 144,797 customers and 264,080,373 customer minutes of interruption. On average these interruptions resulted in 0.30 SAIFI, and 545.92 minutes of SAIDI, and 1,824 minutes of interruption of customers affected. Since a SAIDI value of 545.92 minutes exceeded the threshold value of 4.97 minutes, October 29, 2012 qualified as a Major Event Day under the IEEE methodology.

##### **October 30, 2012**

On October 30, 2012 restoration activity in Rhode Island associated with the storm continued. Customers experienced a total of 54 interruptions that affected 4,570 customers and 9,259,095 customer minutes of interruption. On average these interruptions resulted in 0.009 SAIFI, and 19.14 minutes of SAIDI, and 2,026 minutes of interruption of customers affected. Since a SAIDI value of 19.14 minutes exceeded the threshold value of 4.97 minutes, October 30, 2012 qualified as a Major Event Day under the IEEE methodology.

##### **October 31, 2012**

On October 31, 2012 restoration activity in Rhode Island associated with the tropical Storm continued. Customers experienced a total of 48 interruptions that affected 2,838 customers and 4,212,083 customer minutes of interruption. On average these interruptions resulted in 0.006 SAIFI, and 8.7 minutes of SAIDI, and 1,484 minutes of interruption of customers affected. Since a SAIDI value of 8.7 minutes exceeded the threshold value of 4.97 minutes, October 31, 2012 qualified as a Major Event Day under the IEEE methodology.

**November 1, 2, 3, 4, and 5, 2012**

On November 1, 2012 restoration activity in Rhode Island associated with the storm continued. Customers experienced a total of 16 interruptions that affected 288 customers and 144,999 customer minutes of interruption. On average these interruptions resulted in 0.001 SAIFI, and 0.30 minutes of SAIDI, and 503 minutes of interruption of customers affected. As reported in Docket No. 2509 Sandy Report filed on January 31, 2013, restoration activity continued through November 5. However, Major Event Day exemptions were not requested after October 31.



Jennifer Brooks Hutchinson  
Senior Counsel

October 16, 2012

**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  
July 18, 2012 Event 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 July 18, 2012 lightning storm (the "July Storm" or "storm") that occurred on July 18, 2012, 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 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.

A supplemental report detailing the incremental restoration costs caused by the July Storm will be submitted to the Commission once the total costs have been accumulated by the Company.

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,

A handwritten signature in blue ink, appearing to read "Jennifer Brooks Hutchinson", with a long horizontal line extending to the right.

Jennifer Brooks Hutchinson

Enclosures

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

---

<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.



October 16, 2012

**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  
July 18, 2012 Event,  
Damage Assessment, and  
Service Restoration Efforts**

October 16, 2012

Docket No. 2509

**Submitted to:**  
Rhode Island Public Utilities Commission

Submitted by:

**nationalgrid**

## **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 July 18, 2012 lightning storm (the “July Storm” or “storm”), which affected Rhode Island and the rest of New England. The July Storm brought heavy rain, lightning, and wind, and caused power interruptions to approximately 34,000 of the Company’s customers. Overall, 74 percent (i.e. twenty-eight) of the Company’s 38 communities in Rhode Island experienced outages. In East Providence, over 50 percent of customers lost power, and in Central Falls, almost 50 percent of customers lost power (See Figure 2 for Town Listing).

The Company began preparing for the July Storm on Wednesday, July 18, when it held its first divisional storm anticipation call. The Company had a total of six storm calls during the two-day event and restoration phase. The Company followed its Emergency Response Plan (“ERP”) and mobilized employees and contractors for the restoration 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 additional resources to help with restoration. However, as the weather for the Rhode Island area became more definitive, the Company determined that only internal crews (distribution line and substation), a very small number of distribution line contractors, and some on-property contractor tree crews were necessary to do restoration work. The Company restored power to 70 percent of its affected Rhode Island customers by approximately 10:30 p.m. on Wednesday, July 18, and it restored power to 90 percent of its affected Rhode Island customers by approximately 2:00 a.m. on Thursday, July 19. The Company restored power to its final affected customer by approximately 8:00 p.m. on Thursday, July 19.

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

### **I. INCIDENT ANTICIPATION**

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

National Grid activated its Regional Emergency Operations Center (“EOC”), located in Worcester, MA, for the storm. The EOC provided support for the Company’s New England region, including Rhode Island. The System Incident Commander was appointed, 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.

The Regional Incident Commander communicated the incident classification level to the Company's leadership and to those organizations that were anticipated to be engaged in restoration, or support activities through the system and operations storm conference calls. The Regional Incident Commander appointed a Branch Director located in Providence to oversee restoration efforts in Rhode Island.

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

On Wednesday July 18, at 11:00 a.m., prior to activation of the ICS, operations management personnel held an operational call to discuss the weather forecast and planning efforts for the possibility of a storm event. As a result of that call, the Company determined that storm rooms would be opened in Providence, Rhode Island, as well as Worcester, Brockton, and North Andover, Massachusetts on July 18 at approximately 2:00 p.m.

In accordance with the ERP and System ICS, National Grid activated the New England Regional Incident Commander and Branch Directors, including the Rhode Island Branch Director, on Wednesday, July 18 at approximately 5:00 p.m. Thereafter, a number of positions were activated by the System and Regional Incident Commanders, at their discretion, and in consideration of the level of response likely required for the event. Throughout the day on Wednesday, July 18, and throughout the restoration effort, additional ICS positions were activated as operating conditions changed.

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

Given the potential magnitude of the July 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. At peak, the Company had 122 internal distribution line and 35 substation personnel working in Rhode Island. Transmission line crews were also available for the entire New England region, and ultimately, 10 internal transmission line workers and 42 contractor transmission line personnel were deployed in Rhode Island during the storm. The Company also had a total of 154 distribution line contractor personnel pre-positioned in Rhode Island. The Company also deployed 74 on-property contractor tree personnel in Rhode Island. However, during the event, the Company determined that it only needed to use its own Rhode Island distribution line and substation crews, a small number of the distribution line contractor crews, and some on-property contractor tree crews to restore service to customers in Rhode Island.

## II. THE STORM AND ITS IMPACT

On Tuesday, July 17, weather forecasts for Rhode Island included the possibility of thunderstorms moving through the area, including the possibility of some strong storms with high winds. In mid-afternoon on Wednesday, July 18, a cold front moved into the region and continued across the area through early evening. This cold front caused a cluster of thunderstorms to develop and move through the area, and the most damaging weather occurred between 3:00 p.m. and 7:30 p.m.

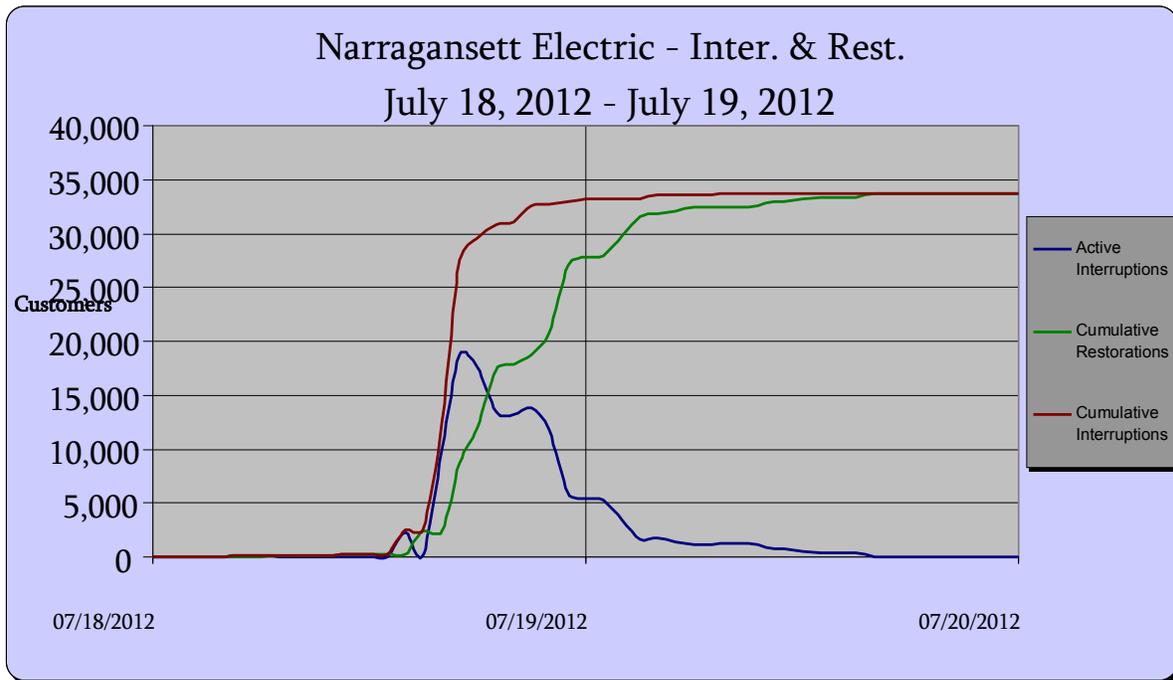
For Rhode Island, the highest total reported precipitation was approximately 0.75 inches of rain, which was recorded in Providence. There were also reports of two-inch hail in Providence early in the evening. Maximum sustained winds of 27 mph were recorded in Providence at approximately 4:00 p.m., and maximum wind gusts of 47 mph were recorded in Narragansett at approximately 4:30 p.m.

The storm impacted a total of approximately 34,000 customers in the Company's service territory and approximately 23,400 customers at its peak, which occurred on Wednesday, July 18 at approximately 4:15 p.m. Seventy percent of all outages were restored by Wednesday, July 18 at approximately 10:30 p.m., and 90 percent of all customers were restored by Thursday, July 19 at approximately 2:00 a.m. The Company restored power to its final customer by approximately 8:00 p.m. on Thursday, July 19.

By approximately 5:15 p.m. on Thursday, July 19, all of Rhode Island was transitioned back to normal operations and all local storm rooms were closed.

Figure 1 below shows the customers interrupted and restored by hour from Wednesday, July 18 through Thursday, July 19.

Figure 1



The Company experienced interruptions in 28 of the 38 communities it serves in Rhode Island. There were two transmission line lockouts, three additional transmission line operations (trip/reclose), and one sub-transmission lockout. The July Storm also affected 168 distribution feeders and there were a total of sixteen distribution feeder lockouts. There was minimal damage to poles and other assets.

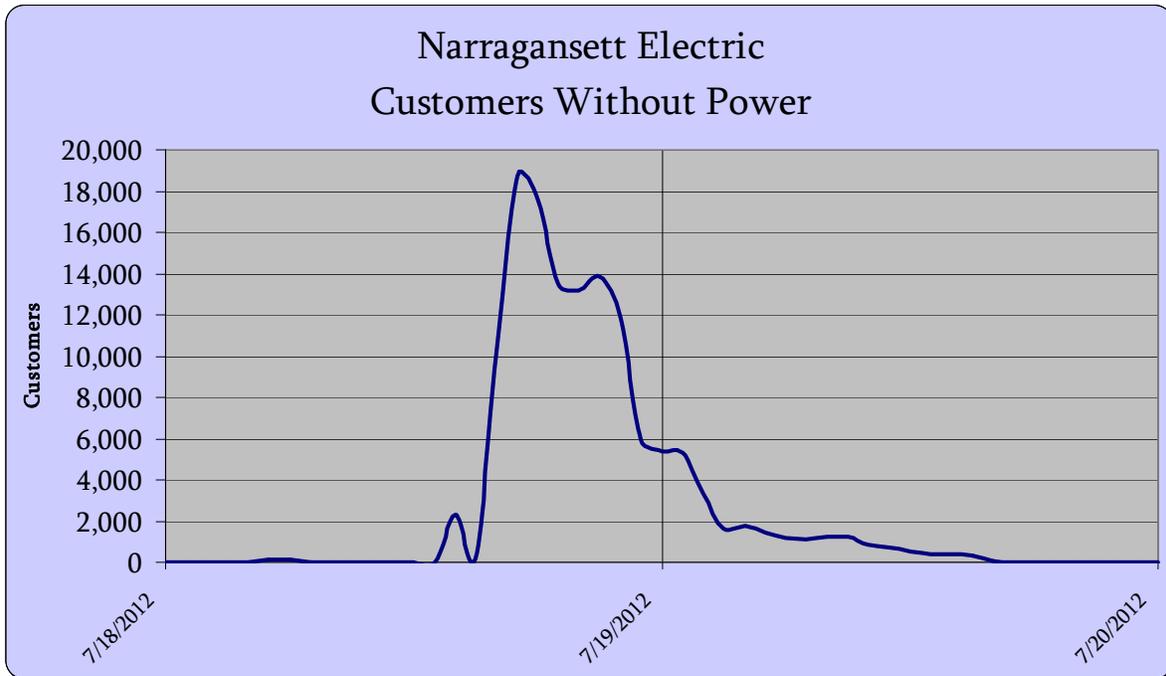
All towns that had interruptions are shown in Figure 2 below.

**Figure 2**

<b>Town</b>	<b>Customer Interrupted</b>	<b>Customer Served</b>	<b>Percent of Customers Interrupted</b>
EAST PROVIDENCE	11,786	21,968	54%
WARWICK	4,391	40,649	11%
CUMBERLAND	3,489	14,930	23%
CENTRAL FALLS	3,345	7,129	47%
CRANSTON	3,223	35,347	9%
LINCOLN	2,687	9,867	27%
COVENTRY	2,061	15,261	14%
SMITHFIELD	1,867	8,664	22%
GLOCESTER	1,132	4,511	25%
EAST GREENWICH	977	6,002	16%
SCITUATE	894	4,623	19%
NORTH PROVIDENCE	545	15,903	3%
JOHNSTON	479	13,238	4%
PAWTUCKET	364	32,596	1%
BURRILLVILLE	336	2,584	13%
NORTH SMITHFIELD	323	5,698	6%
WEST GREENWICH	322	2,681	12%
FOSTER	277	2,023	14%
BRISTOL	264	10,277	3%
WEST WARWICK	178	14,858	1%
PROVIDENCE	174	69,401	0%
EXETER	140	2,934	5%
TIVERTON	113	8,137	1%
NORTH KINGSTOWN	48	13,056	0%
WOONSOCKET	13	18,473	0%
BARRINGTON	9	6,816	0%
PORTSMOUTH	1	9,043	0%
LITTLE COMPTON	1	2,560	0%

Figure 3 below shows a timeline of the number of customers without power from Wednesday, July 18 through Thursday, July 19.

**Figure 3**



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

### **III. 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 on 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 on Wednesday, July 18 starting at approximately 2:00 p.m. through the end of the storm. A Police & Fire Coordinator was activated in the Storm Room to handle the call back activities and the communication of crew-estimated time of arrival for the Priority calls.

In preparation for the storm, the Company mobilized the Providence wires-down room on Wednesday, July 18 at approximately 5:00 p.m., staffing that room with approximately twenty-nine personnel (including wires-down appraisers and cut/clear personnel). The employees assigned to staff the wires-down room were scheduled to work shifts that provided 24-hour coverage for the duration of the event. A wires-down coordinator, who was responsible for the overall operation of the wires-down function for the area, was assigned to the wires-down room. Due to lack of any significant wires-down activity, the number of personnel was slightly reduced at 9:00 p.m. Finally, the wires-down storm room was de-mobilized and transitioned back to the Providence Storm Room at approximately 12:30 a.m. on Thursday, July 19, after all open wires-down calls were closed.

### **C. Personnel Resources**

The Company's resources during and after the July Storm are provided in Attachment A. At the peak of restoration, 466 field resources were available to restore service to customers, including 270 external personnel and 196 internal personnel. This peak number of resources includes Company Transmission Line, Distribution Line and Substation personnel, Contractor Distribution Line, and Tree personnel. While the Company secured and pre-positioned many types of resources, it should be noted that only internal personnel (distribution line and substation), along with a fraction of contracted distribution line personnel who were prepared and standing by to respond to outages, and some on-property contractor tree crews were ultimately used in the restoration efforts in Rhode Island.

### **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 arrival of the July Storm, 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 the notices 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 July Event, 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.

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

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

The Company posted ETRs on its website during the July Storm, using the Outage Central webpage which provided real-time ETR updates periodically.

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

## **B. Intra-Company**

Divisional storm calls were held three times a day beginning on Wednesday, July 18 at 11:00 a.m. through the end of restoration; a total of 6 divisional storm calls were held. The final system-level call was held on Thursday, July 19 at 2:00 p.m. Communications were issued each day to field crews with both restoration and safety information.

## **C. Public Officials**

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

In preparation for the July Storm, on Wednesday, July 18, the Company's Vice President of Government Affairs initiated communications with the Governor's Chief of Staff, Rhode Island Legislators, and local offices for the Congressional Delegation. The Company informed the Governor's office of the Company's planning and preparation.

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

On Wednesday, July 18, the Company's Director of Regulatory Affairs initiated communications with the Division regarding storm preparation.

A National Grid representative was in contact with RIEMA from Wednesday, July 18 through Thursday morning, July 19. System outage updates reported to RIEMA were made available to personnel at the Division, representatives of the Governor, the WebEOC users at the municipal EOCs, and the adjutant General at the Rhode Island National Guard. RIEMA never officially opened an operations center for the July Storm, but remained in a monitoring mode throughout the storm.

### **3. Municipalities**

The Company communicated with municipal officials about potential outages on Wednesday, July 18. Customer and Community Management sent email blasts to city and town mayors, managers and administrators, public works directors, and police and fire departments. Customer and Community Managers also followed up directly with cities and towns that were experiencing a significant number of outages to inform them of the number of customers without power and continued to provide email updates.

#### **D. Customers**

On Wednesday, July 18 at 1:30 p.m., the Company sent a broadcast message to all life support customers. Additionally, in an effort to provide support to all customers, including life support customers, call center representatives provided safety tips and encouraged customers to take necessary precautions. During this event, 18 life support customers in Rhode Island lost service. The Company reached out to these customers daily and followed up once the emergency concluded.

#### **E. Media**

The Company's Media Relations department responded to ten news media inquiries on July 18 and July 19 that were directly related to outages caused by the storm.

#### **V. CONCLUSION**

Although the July Storm was not as severe as anticipated, the Company was well prepared to handle a storm of the original magnitude that the weather forecast had indicated. The actual storm, although less severe than predicted, nonetheless caused interruptions to many Rhode Island customers. However, the Company successfully used its own distribution line and substation resources, along with a fraction of the contracted distribution line crews who were prepared and standing by to respond to outages, and some on-property contractor tree crews to restore service to its customers in the wake of the July Storm in a safe and expeditious manner.

The Company attempts to improve its restoration efforts after each emergency event that affects the Company's service territory and the July Storm was certainly no exception. The Company continues to develop lessons learned from all storm events, including the July Storm, in order to develop improvements that it can implement during future emergency events.

**Attachment A**

**July 18, 2012 Weather Event - Rhode Island Resources\***

Data	Peak Resources
Number of Company Line Personnel	122
Number of Company Tree Personnel	-
Number of Company Wire Down Personnel	29
Number of Company Damage Appraiser Personnel	-
Number of Company Substation Personnel	35
Number of Company Transmission Personnel	10
<b>Total Company</b>	<b>196</b>
Number of Contractor Line Personnel**	154
Number of Contractor Tree Personnel	74
Number of Contractor Wire Down Personnel	
Number of Contractor Damage Appraiser Personnel	-
Number of Contractor Substation Personnel	-
Number of Contractor Transmission Personnel	42
<b>Total Contractor</b>	<b>270</b>
Number of In-State Mutual Aid Line Personnel	-
Number of In-State Mutual Aid Tree Personnel	-
Number of In-State Mutual Aid Wire Down Personnel	-
Number of In-State Mutual Aid Damage Appraiser Personnel	-
Number of In-State Mutual Aid Substation Personnel	-
Number of In-State Mutual Aid Transmission Personnel	-
<b>Total In-State Mutual Aid</b>	<b>-</b>
Number of Out-of-State Mutual Aid Line Personnel	-
Number of Out-of-State Mutual Aid Tree Personnel	-
Number of Out-of-State Mutual Aid Wire Down Personnel	-
Number of Out-of-State Mutual Aid Damage Appraiser Personnel	-
Number of Out-of- State Mutual Aid Substation Personnel	-
Number of Out-of- State Mutual Aid Transmission Personnel	-
<b>Total Out-of-State Mutual Aid</b>	<b>-</b>
<b>Total # of Personnel Available</b>	<b>466</b>

\* All Numbers are reported as Full Time Equivalents (FTE)

\*\* Contractor line personnel are FTE who were positioned/staged in Lincoln and Providence, Rhode Island



Jennifer Brooks Hutchinson  
Senior Counsel

January 31, 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  
Hurricane Sandy 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 Hurricane Sandy (the "Report") that occurred on October 29, 2012, 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 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.

Please be advised that the Company is seeking protective treatment of certain confidential contact information contained in Attachment 2 of the Report as permitted by Commission Rule 1.2(g) and by R.I.G.L. § 38-2-2-(4)(i)(B). The Company has submitted a Motion for Protective Treatment along with a copy of the confidential attachment referenced above to the Commission pending a determination on the Company's Motion. The Company has submitted a redacted version of Attachment 2 for the public record.

A supplemental report detailing the incremental restoration costs caused by Hurricane Sandy will be submitted to the Commission once the total costs have been accumulated by the Company.

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,

A handwritten signature in blue ink that reads "Jennifer Brooks Hutchinson".

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").

**STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS**

**RHODE ISLAND PUBLIC UTILITIES COMMISSION**

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**Docket 2509 – Storm Contingency Fund  
Hurricane Sandy Report**

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**NATIONAL GRID’S REQUEST  
FOR PROTECTIVE TREATMENT OF CONFIDENTIAL INFORMATION**

National Grid<sup>1</sup> hereby requests that the Rhode Island Public Utilities Commission (“Commission”) provide confidential treatment and grant protection from public disclosure of certain confidential, sensitive, and proprietary information submitted in this docket, as permitted by Commission Rule 1.2(g) and R.I.G.L. § 38-2-2(4)(i)(B). National Grid also hereby requests that, pending entry of that finding, the Commission preliminarily grant National Grid’s request for confidential treatment pursuant to Rule 1.2 (g)(2).

**I. BACKGROUND**

On January 31, 2013, National Grid filed with the Commission its summary report of Hurricane Sandy in accordance with Order No. 15360 (August 19, 1997) in Docket 2509 (the “Report”). Attachment 2 of the Report contains confidential names and telephone and/or cell phone numbers of individuals integral to the implementation of the Company’s Electric Emergency Plan (“EEP”). National Grid is requesting protective

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

treatment for the confidential and proprietary information contained in this document, which the Company has redacted.

## **II. LEGAL STANDARD**

The Commission's Rule 1.2(g) provides that access to public records shall be granted in accordance with the Access to Public Records Act ("APRA"), R.I.G.L. §38-2-1, *et seq.* Under APRA, all documents and materials submitted in connection with the transaction of official business by an agency is deemed to be a "public record," unless the information contained in such documents and materials falls within one of the exceptions specifically identified in R.I.G.L. §38-2-2(4). Therefore, to the extent that information provided to the Commission falls within one of the designated exceptions to the public records law, the Commission has the authority under the terms of APRA to deem such information to be confidential and to protect that information from public disclosure.

In that regard, R.I.G.L. §38-2-2(4)(i)(B) provides that the following types of records shall not be deemed public:

Trade secrets and commercial or financial information obtained from a person, firm, or corporation which is of a privileged or confidential nature.

The Rhode Island Supreme Court has held that this confidential information exemption applies where disclosure of information would be likely either (1) to impair the Government's ability to obtain necessary information in the future; or (2) to cause substantial harm to the competitive position of the person from whom the information was obtained. Providence Journal Company v. Convention Center Authority, 774 A.2d 40 (R.I.2001).

The first prong of the test is satisfied when information is voluntarily provided to the governmental agency and that information is of a kind that would customarily not be released to the public by the person from whom it was obtained. Providence Journal, 774 A.2d at 47.

In addition, the Court has held that the agencies making determinations as to the disclosure of information under APRA may apply the balancing test established in Providence Journal v. Kane, 577 A.2d 661 (R.I.1990). Under that balancing test, the Commission may protect information from public disclosure if the benefit of such protection outweighs the public interest inherent in disclosure of information pending before regulatory agencies.

## **II. BASIS FOR CONFIDENTIALITY**

The Company seeks protective treatment for the telephone and/or cell phone numbers of various personnel integral to the effective functioning of its EEP during the service restoration process. The Company treats this information as confidential and for internal use only as it generally relates to the privacy of the Company's personnel. In addition, there are a range of potential risks to public safety that arise from publicly disclosing the contact information of Company personnel in the context of the EEP. For example, the Company's EEP identifies key Company personnel by name and phone number. Armed with such information, an individual with malicious intent could, for example, pester those individuals with repeated phone calls, or impersonate those individuals in an attempt to mislead or manipulate the emergency response operations. In either case, such disruptions would hinder the Company's ability to carry out its

emergency response operations and jeopardize public safety. Accordingly, the contact information of key personnel warrant protection under R.I.G.L. §38-2-2(4)(i)(B).

### **III. CONCLUSION**

Accordingly, the Company requests that the Commission grant protective treatment to the confidential contact information in Attachment 2, that the information not be placed in the public docket, and that it only be disclosed to the Division of Public Utilities and Carriers pursuant to a Non-Disclosure Agreement.

**WHEREFORE**, the Company respectfully requests that the Commission grant its Motion for Protective Treatment as stated herein.

Respectfully submitted,

**NATIONAL GRID**

By its attorney,



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Dated: January 31, 2013

National Grid

The Narragansett Electric Company

**Report on  
Hurricane Sandy  
Preparedness, Damage  
Assessment, and  
Service Restoration Efforts**

January 31, 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 HURRICANE SANDY PREPAREDNESS, DAMAGE ASSESSMENT AND SERVICE  
RESTORATION EFFORTS**

**I. EXECUTIVE SUMMARY**

The Narragansett Electric Company, d/b/a National Grid (“National Grid” or the “Company”) (“National Grid” or “Company”) presents the following report on the planning and restoration activities associated with Hurricane Sandy (“Hurricane Sandy” or the “storm”), which affected Rhode Island and numerous states along the Eastern Seaboard on October 29, 2012. Hurricane Sandy was a Level 5 emergency event that brought high winds, heavy rain, and coastal flooding causing significant damage to the Company’s electric infrastructure and interrupting power to a total of 158,521 of the Company’s customers (107,684 at peak) in all 38 of the communities the Company serves in Rhode Island.

About 8.5 million customers along the East Coast lost power as a result of Hurricane Sandy. In 11 of the Company’s 38 communities in Rhode Island, more than ninety percent of customers lost power. In addition, in 20 of the Company’s 38 communities, more than fifty percent of customers lost power. The majority of the damage to the Company’s system was in Southern Rhode Island. The Company sustained no damage to the Transmission system, although three 115 kV circuits tripped and reclosed automatically. The sub-transmission system was impacted by fallen trees and limbs resulting in broken cross arms, downed wires and thirteen circuit outages. The majority of the damage was on the distribution system with 66 distribution feeders locked out, and a total of 218 distribution feeders affected. Although the storm primarily affected the electricity distribution system in Rhode Island, it should be noted that approximately 700 gas services were also affected due to extensive flooding in the coastal communities of Westerly and Newport.

The Company began preparing for Hurricane Sandy on Thursday, October 25, 2012. 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. The Company also contacted contractors from outside the Company’s service territory in Rhode Island to secure resources to help with restoration and also contacted other utilities to request additional resources. However, as a result of the worsening weather forecast, utilities across the Eastern Seaboard began holding back their contractor crews pending assessment of the storm’s impact in their own regions. The Company ultimately used approximately 840 field crews to assist with restoration at peak, including approximately 500 external crews. Many of these external crews travelled long distances before they arrived in Rhode Island. Notwithstanding these challenges, the Company restored power to 90 percent of its customers by Thursday, November 1 and all customers were restored by Sunday, November 4.

While most customers lost power on Monday, October 29 and the early morning hours of Tuesday, October 30, selective restoration efforts began early Monday and continued throughout the week. Early efforts were primarily focused on public safety. As restoration efforts began, the Company followed its prioritization process, using all available resources. The Company

made progress in restoring power during the course of the week. As noted above, 90 percent of interrupted customers had power restored by approximately 8:00 p.m. on Thursday, November 1, and the Company succeeded in restoring service throughout its system to all interrupted customers by approximately 6:00 p.m. on Sunday, November 4.

The storm response and restoration efforts reflected the improvement actions developed in the months following Tropical Storm Irene. The extensive after action review process conducted with the public and private sector following the storm, as well as ongoing collaboration throughout the year, resulted in significant improvements, especially in the areas of communication, deployment of resources, and coordination with state and local emergency response agencies. The regional strike force units that included Company operations staff and members of the State Police, National Guard, and Rhode Island Department of Transportation (“RIDOT”) proved to be extremely effective in responding to issues early in the storm and addressing local priorities more efficiently. The community liaison program was further enhanced through the deployment of liaisons throughout the state, which resulted in improved outage and restoration information to municipal officials, and improved response to specific issues facing each community throughout the storm.

System-wide actions were also implemented based on lessons learned throughout the Company following the October 2011 snow storm as well as Tropical Storm Irene. The Company implemented new technologies during Hurricane Sandy, including a notification tool, the Web EOC Incident Manager software, and piloting an iPad application to assist with damage assessment. Emergency response assignments and training for management employees were updated, enabling quick activation and mobilization of internal support resources. The Company also improved coordination and communications with telecommunications companies by holding regular conference calls with telecommunications companies throughout the storm and stationing Company communications personnel in storm rooms and command centers to assist with the coordination of resources. Each of these improvements worked effectively during Hurricane Sandy and will be continued in future restoration efforts.

In accordance with the Company’s ERP, detailed after-action reviews are underway to identify what went well during Hurricane Sandy, as well as opportunities for improvement. Preliminarily, the Company has identified areas for improvement around pre-event reporting, increased use of health, safety, and environmental personnel in staging site set-up, and its outage management system. After-action reviews will continue, including a review of lessons learned from response and restorations efforts in our most significantly affected service territories in downstate New York.

The Company is proud and thankful of its employees and contractors who worked safely and tirelessly to restore service following Hurricane Sandy. The Company is also grateful for the support of our customers, communities, public safety officials and state and local emergency response agencies throughout the state that were an integral part of our response and restoration efforts.

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

### **A. Summary**

During the week leading up to Hurricane Sandy's landfall, the storm drew comparisons to the Perfect Storm of Halloween in 1991. However, Hurricane Sandy ultimately caused much more destruction. In fact, it will go into the record books as one of the most destructive and costly storms in United States history. Hurricane Sandy's record size, of around 1,000 miles, produced extreme weather for at least 17 states from Michigan to Florida and from Illinois to Maine. The barometric pressure at landfall was 945.5 mb, making it the most powerful storm north of Cape Hatteras, NC since the Great Long Island Express Hurricane of 1938. Nationally, it also was responsible for one of the nation's largest storm related power outages on record. In Rhode Island, widespread power outages occurred with winds gusting to 60 mph over the interior and to 80+ mph along the south coast.

### **B. Forecast**

Since Hurricane Sandy took an unusual track, and there were several variables to deal with, models initially did not have solid agreement. On Monday, October 22, early in the storm's life cycle, 90 percent of model guidance favored a climatologically normal track into the Central Atlantic. However, beginning on October 22, Telvent long-range forecasters began to include mention that Hurricane Sandy may affect the northeastern United States. By Wednesday, October 24, Telvent began to forecast a possible landfall in the Mid-Atlantic or Southern New England coastline. While models were inconsistent on the storm's track once it moved north of North Carolina, Telvent forecasters began predicting the potential for significant impacts along the East Coast by October 24. By the 7:30 p.m. forecast on Thursday, October 25, confidence began to improve on a track over New Jersey. From that point forward the forecasted impacts to the New England region became clearer.

### **C. Impact**

Hurricane Sandy grew into a hurricane over the southwest Caribbean and then headed north across Jamaica, Cuba, and the Bahamas. As the storm headed north of the Bahamas, the storm interacted with a vigorous weather system moving west to east across the United States and began to take on a hybrid structure. Strong high pressure over southeast Canada helped with the expansion of the strong winds well north of the center of the storm. In essence, Hurricane Sandy retained the structure of a hurricane near its center (until shortly before landfall) while taking on more of an extra tropical cyclone configuration well away from the center. Hurricane Sandy's track was unusual. The storm headed northeast and then north across the western Atlantic and then sharply turned to the west to make landfall near Atlantic City, NJ during Monday evening. Hurricane Sandy subsequently weakened and moved west across southern Pennsylvania on Tuesday before turning north and heading across western New York state into Quebec during Tuesday night and Wednesday.

Hurricane Sandy brought high winds and coastal flooding to southern New England. Easterly winds gusted to 50 to 60 mph for interior southern New England; 55 to 65 mph in

Rhode Island; and 70 to 80 mph with few gusts registering even higher along the Rhode Island coast. In general, major coastal flooding impacted the Rhode Island coastline. The storm surge peaked late Monday afternoon in between high-tide cycles. Along the south coast, the storm surge was 4 to 6 feet and seas from 30 to a little over 35 feet were observed in the outer coastal waters. The very large waves on top of the storm surge caused destructive coastal flooding along stretches of the Rhode Island exposed south coast.

Rhode Island was significantly impacted by Hurricane Sandy. A peak wind gust of 86 mph occurred in Westerly, and nearly the entire Rhode Island shoreline experienced moderate to major coastal flooding. Numerous power outages occurred with winds gusting to 60 mph over the interior and to 80+ mph along the south coast. Major coastal flooding struck the Rhode Island ocean exposed south coast during the Monday evening high tide. This storm tide, especially destructive across shorelines in Westerly, South Charlestown, South Kingston, Narragansett, and Block Island, rivaled the impact from Hurricane Bob in 1991. Along the Rhode Island south coast, the damaging coastal flooding was fueled by a storm surge around 5 feet and waves of 30+ feet that propagated on a long fetch into Block Island and Rhode Island Sounds. A survey of impact along Misquamicut Beach was consistent with the upper boundary of a Category 1 hurricane and very severe erosion. In addition, previous high tide during Monday morning produced minor to moderate impacts along the Rhode Island coast and likely weakened dunes and other coastal structures in advance of the more destructive Monday evening high tide.<sup>1</sup>

Figure 1 below details the highest wind gusts recorded on October 29 in various locations throughout Rhode Island. Figure 2 below details the highest sustained winds recorded on October 29. Figure 3 below shows a map of the reported maximum wind gusts in MPH on October 29.

---

<sup>1</sup> See “New England Effects from the Hurricane Sandy Hybrid Storm, Weather Synopsis,” at the following link: [http://www.erh.noaa.gov/box/sigevents/Sandy\\_summary.pdf](http://www.erh.noaa.gov/box/sigevents/Sandy_summary.pdf).

**Figure 1**

**Highest Wind Gusts – October 29, 2012**

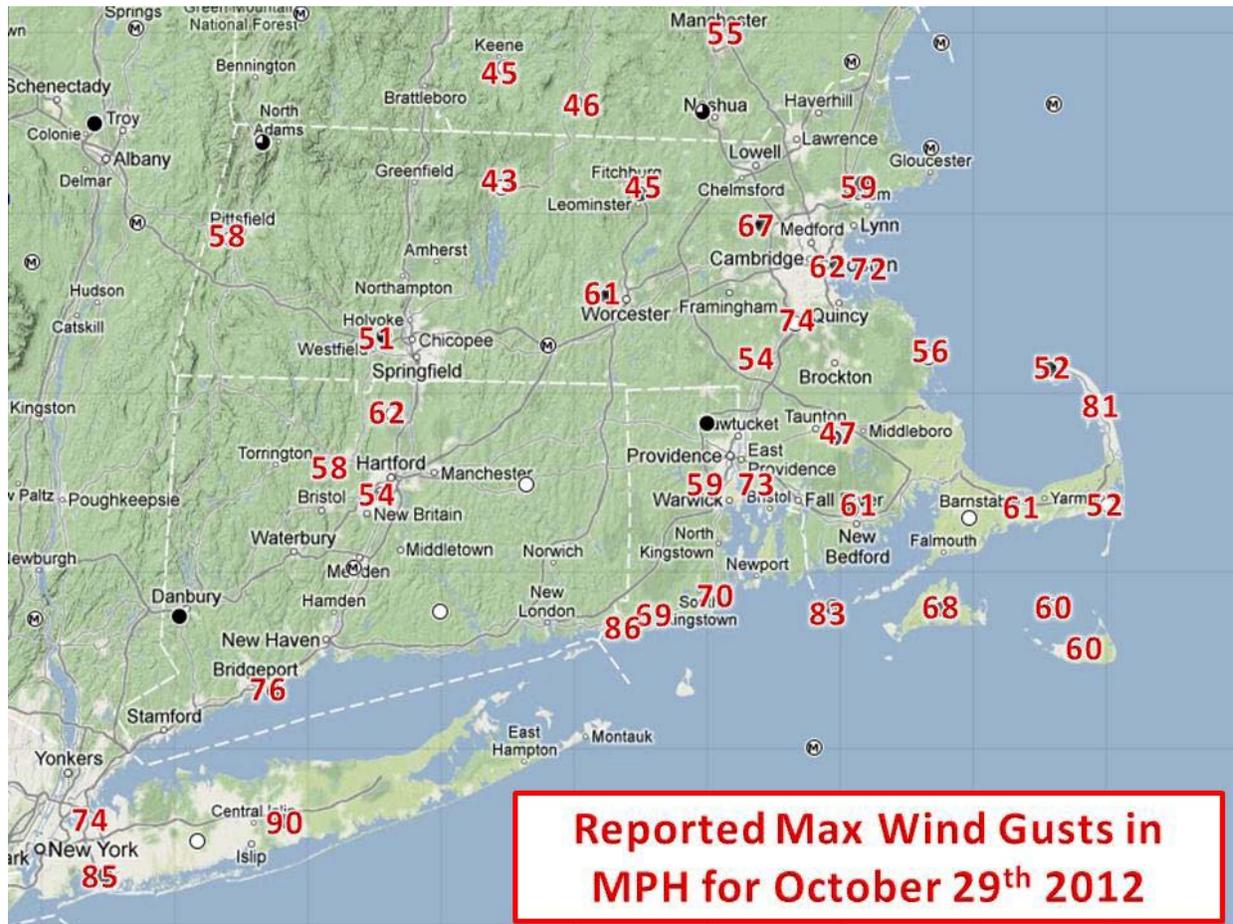
Location	Recorder	Speed	Time
Westerly	CitizensWxObs	86 mph	2:44 PM
Point Judith (elevation 18 Meters)	Mesonet	81 mph	2:40 PM
Warren	Spotter	73 mph	4:10 PM
Conimicut	NOS PORTS	71 mph	3:24 PM
Westerly	KWST	69 mph	3:21 PM
Rose Island	Mesonet	67 mph	3:20 PM
Quonset Point	NOS PORTS	63 mph	4:00 PM
Jamestown	NOS PORTS	62 mph	2:54 PM
Barrington	Amateur Radio	61 mph	12:39 PM
Newport	KUUU	59 mph	1:13 PM
Warwick	KPVD	59 mph	4:51 PM
Smithfield	KSFZ	45 mph	4:15 PM

**Figure 2**

**Highest Sustained Winds – Land Sites – October 29, 2012**

Location	Recorder	Speed	Time
Point Judith (elevation 18 Meters)	Mesonet	65 mph	2:35 PM
Westerly	CitizensWxObs	64 mph	2:44 PM
Burrillville	Public	48 mph	2:16 PM
Rose Island	Mesonet	44 mph	3:15 PM
Block Island (at Jetty)	Mesonet	42 mph	10:19 AM
Warwick	KPVD	41 mph	4:50 PM
Jamestown (Beavertail Park)	Mesonet	39 mph	2:30 PM

Figure 3



The storm impacted a total of 158,521 customers in the Company’s service territory; 107,684 customers at its peak.<sup>2</sup> Figure 4 below shows a map of customers interrupted by town at the peak, which occurred on Monday, October 29 at approximately 7:00 p.m. for The Narragansett Electric Company.

<sup>2</sup> While the Company initially reported a peak of approximately 110,343 of its Rhode Island customers without power as a result of Hurricane Sandy, it is important to note that this figure was based upon the real time data available during the storm and prior to completion of the Company’s validation process. During the storm there was a time lag in posting restorations, and as a result, the numbers contained in this report are different from the raw data reported throughout the storm. The Company has validated its customer interruption data from the Company’s Outage Management System (“PowerOn”), which is a tool used by the Company to restore customers, but is not the Company’s final customer interruption reporting tool. The Company’s Interruption Disturbance System (“IDS”) is used for final reporting of interruptions. IDS receives data from PowerOn to create the record for each interruption, and the data is then reviewed for accuracy. This process removes duplicate events and adjusts interruption and restoration times to known switching events.

Figure 4

### Towns with Customers Interrupted October 2012- Hurricane Sandy

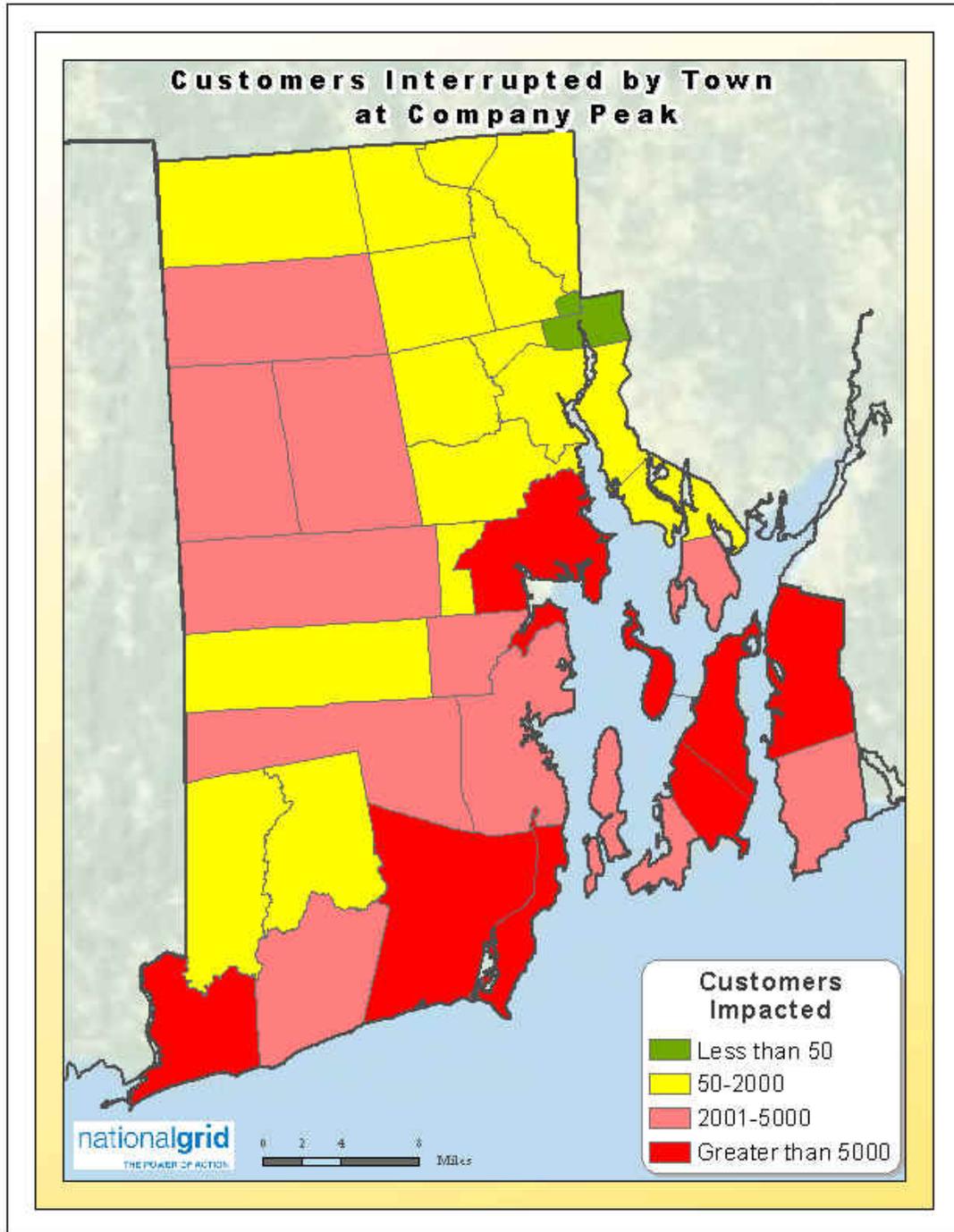
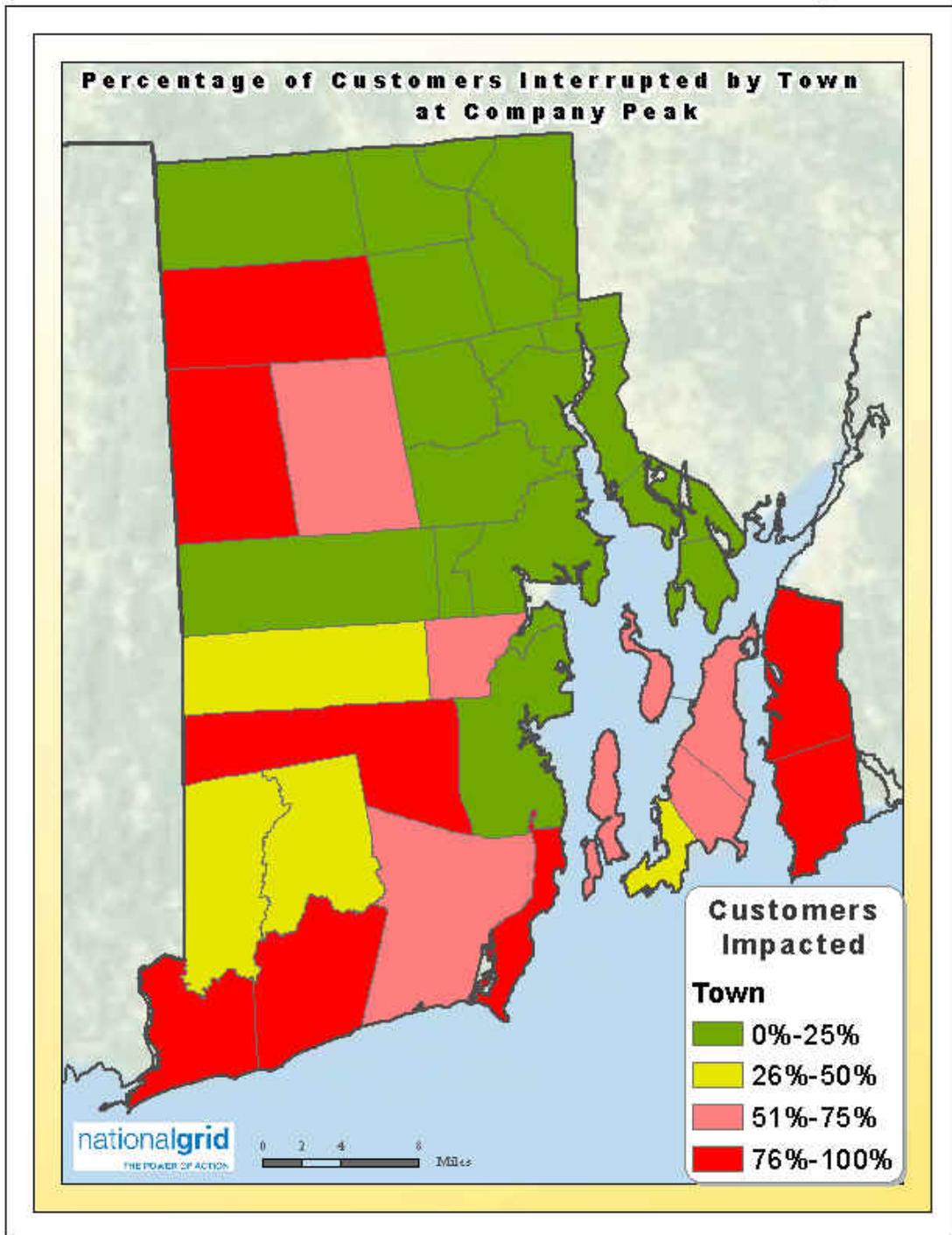


Figure 5 below shows the percent of customers interrupted by town at the peak.

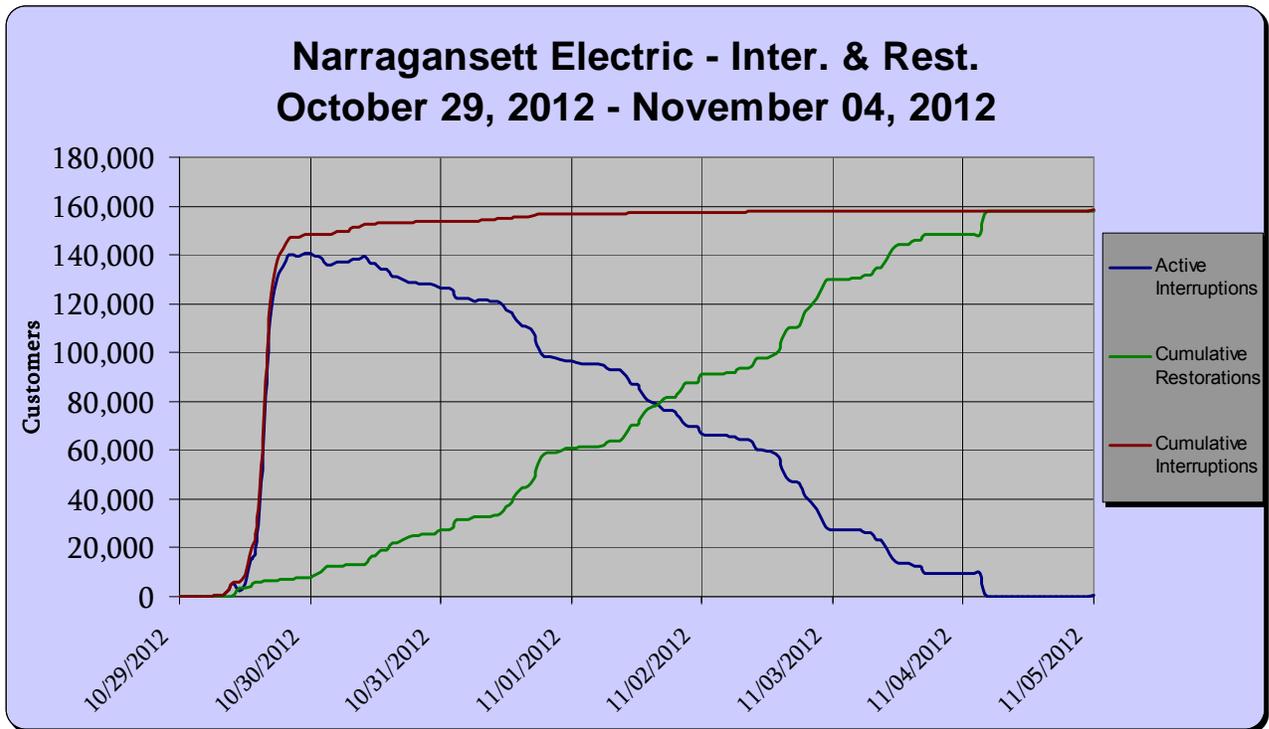
Figure 5

### Towns with Customers Interrupted October 2012- Hurricane Sandy



The storm began in the early morning on Monday, October 29, with over 100,000 customers interrupted in Rhode Island by 5:00 p.m. This number of reported interruptions peaked at 107,684 customers at approximately 7:00 p.m. on Monday, October 29. Figure 6 below shows the customers interrupted and restored, by hour, from Monday, October 29, to Sunday, November 4.

**Figure 6**



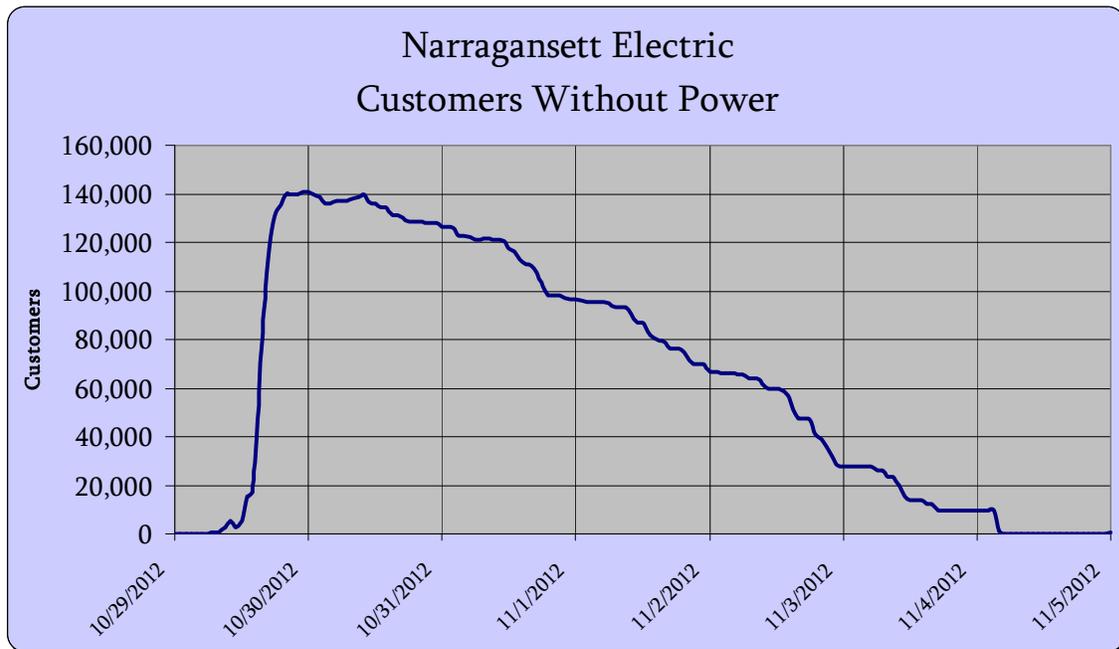
As a result of the storm, no transmission circuits were locked out, 3 transmission lines operated (trip/reclose), 13 sub-transmission circuits were locked out, 66 distribution feeders were locked out, and a total of 218 distribution feeders were affected. The Company experienced interruptions in all 38 of the communities it serves in Rhode Island. Approximately 13 towns experienced greater than 5,000 customers interrupted. See Figure 7 below for reliability data for all Rhode Island communities.

**Figure 7**

Town/City	Customers Served	Peak Customers Interrupted	Total Customers Interrupted
WESTERLY	14,275	13,030	15,070
WARWICK	40,669	10,369	11,061
SOUTH KINGSTOWN	14,427	8,160	9,969
NARRAGANSETT	10,503	9,386	9,917
TIVERTON	8,143	8,143	9,640
MIDDLETOWN	7,965	5,330	9,435
NEWPORT	14,985	4,253	9,338
CUMBERLAND	14,944	334	7,131
NORTH KINGSTOWN	13,052	2,794	6,006
BRISTOL	10,306	2,325	5,933
CHARLESTOWN	5,739	4,894	5,704
EAST GREENWICH	6,012	3,735	5,628
PORTSMOUTH	9,064	5,050	5,492
GLOCESTER	4,512	4,512	4,711
LITTLE COMPTON	2,562	2,562	4,548
COVENTRY	15,263	2,119	4,149
RICHMOND	3,301	1,238	3,646
EXETER	2,945	2,491	3,000
WARREN	5,722	340	2,937
JAMESTOWN	3,296	2,273	2,934
HOPKINTON	3,856	1,767	2,912
WEST WARWICK	14,840	1,827	2,623
SCITUATE	4,621	2,478	2,604
BARRINGTON	6,821	736	2,489
CRANSTON	35,364	1,180	2,107
FOSTER	2,018	2,011	2,044
LINCOLN	9,887	983	1,775
WEST GREENWICH	2,686	731	1,594
JOHNSTON	13,232	407	1,505
WOONSOCKET	18,416	419	1,468
PROVIDENCE	69,714	1,189	1,309
NORTH SMITHFIELD	5,706	569	725
SMITHFIELD	8,667	309	689
PAWTUCKET	32,580	1	603
BURRILLVILLE	2,588	231	234
EAST PROVIDENCE	21,979	86	193
NORTH PROVIDENCE	15,925	91	191
CENTRAL FALLS	7,098	-	2

Figure 8 below shows a timeline of the number of customers without power from Monday, October 29 to Sunday, November 4.

**Figure 8**



The following sections contain additional details and context regarding the Company’s storm restoration efforts.

### **III. INCIDENT ANTICIPATION**

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

On Wednesday, October 24, at 12:45 p.m., prior to activation of the Incident Command System, a weather call was held where the Company’s executive team was briefed by Telvent about potential weather scenarios and planning efforts for the possibility that Hurricane Sandy would impact the Company system in New England.

The System Emergency Operations Center (“EOC”) was located in Northborough, MA and the Regional EOC was located in Worcester, MA. The Regional EOC provided support for the Company’s New England region, including Rhode Island. The Regional Incident Commander was primarily responsible for establishing the projected and actual incident classification level for Hurricane Sandy.

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 pace of restoration work crews.

The weather forecasts, along with operational knowledge of the electrical system and past weather events, were used to estimate the predicted percentage of customers without service. Please see Attachment 1 for copies of weather forecasts for New England prepared for National Grid by Telvent. During System Conference Call #1 at 12:45 p.m. and New England Regional Conference call #1 at 3:00 p.m. on Thursday, October 25, the Company discussed preparations for a Level 4 event in the New England region. However, by 8:00 p.m. on Thursday, October 25, the Company had increased the anticipated event classification level to a Level 5. Ultimately, the storm was classified as a Level 5 event.

The System and New England Regional Incident Commanders communicated the incident classification to Company leadership and organizations anticipated to be engaged in restoration or support activities via the System and Regional storm conference calls.

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

In accordance with the ERP, National Grid activated the System Incident Commander as well as the System Incident Command staff, including the three Regional Incident Commanders prior to System Conference Call #1 at 12:45 p.m. on Thursday, October 25. The New England Regional Incident Command staff was activated prior to the New England Regional Conference Call #1 at 3:00 p.m. on Thursday, October 25. At that time, the Company was already planning to staff two branches in Rhode Island and had begun appointing a branch level ICS structure for each. By Friday, October 26 at 6:00 p.m., the Company had appointed the ICS staff for two branches in Rhode Island. Throughout the restoration effort, additional ICS positions were activated as operating conditions changed. Copies of the Company’s ICS organization charts in effect prior to and during Hurricane Sandy restoration efforts are provided in Attachment 2.

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

### 1. Distribution Line Crews

The Company uses its own transmission and distribution operation employees, Alliance vendors<sup>3</sup>, other outside contractors, and, in some circumstances, mutual aid, to restore service during Emergency Events.

#### a) Company Crews

With regard to its own employees, the Company had approximately 80 rated overhead line crews (including two-person and one-person troubleshooters) at its disposal at the start of Hurricane Sandy. This was the maximum peak number of rated crews available for restoration. The Company established a day shift and an overnight shift, both working 18 hour shifts. Approximately two-thirds (2/3) of the available resources worked the day shift and one-third (1/3) of the available resources worked the overnight shift. Company employees from other jurisdictions (New York and Massachusetts) were not available to assist early in the restoration because of the restoration efforts in their home jurisdictions. However, on Saturday, November 3, nine crews from Somerset, MA were sent to Rhode Island to assist with restoration.

#### b) Contractor Crews

Given the potential magnitude of Hurricane Sandy, On October 23, the Company called its Alliance<sup>2</sup> vendor looking to confirm plans to use all 23 existing crews for the potential event. In addition, an email looking for available resources was sent to 16 vendors on October 23. The email was followed up with phone calls to all vendors. An additional email looking for available resources was sent out to 58 additional vendors on October 24, with a follow up phone call to all vendors.

Approximately 77 crews were staged in Rhode Island as of October 28, 2012. By November 2, 2012, National Grid staged 245 crews in Rhode Island.

#### c) Mutual Assistance Crews

In addition to marshalling its own resources and securing resources from contractors, the Company attempted to secure resources through mutual assistance from fellow electric distribution companies. The mutual assistance process is facilitated through an agreement and guidelines developed by the Edison Electric Institute (“EEI”), which provides a framework for the sharing of crews and resources between member utilities. As a member of EEI, National Grid follows the EEI agreement and guidelines for both providing and requesting mutual assistance.

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<sup>3</sup> Alliance vendors are contractors who, after a competitive bid process, are awarded all or almost all of the contracted work within an area or within groups of areas based on their successful multi-year bid. They typically have a significant number of resources working daily on National Grid property and make those workers readily available for storm or emergency work.

In preparation for Hurricane Sandy, the EEI Mutual Assistance process was initiated on Thursday, October 25 when the Northeast Mutual Assistance Group (“NEMAG”) established a conference call to discuss the forecast at 2:00 p.m. (Eastern Time). This initial call included representatives from thirteen member utilities in the NEMAG group and focused on the potential impact of a tropical storm. At the time of this call, all utilities were holding their crews and monitoring the development of the storm. As part of this call, members of NEMAG also acknowledged that since the storm had not yet commenced in the Northeast, NEMAG could not evaluate the full impact of the storm, and the resulting need and duration for resources.

Due to the potential magnitude of damage from the storm, the EEI Mutual Assistance Executive Committee convened a call on Saturday, October 27 at 3:30 p.m. (Eastern Time) to facilitate a discussion on Hurricane Sandy preparedness across representatives of multiple Regional Mutual Assistance Groups (“RMAGs”) from across the United States. Leadership from mutual assistance groups across the country participated in these calls as they continued to occur to discuss the resources for the duration of the storm including NEMAG, the New York Mutual Assistance Group (“NYMAG”), Southeast Electricity Exchange (“SEE”), the Mid Atlantic Mutual Assistance (“MAMA”) Group, the Midwest Mutual Assistance (“MMA”) Group, and EEI staff.

National Grid continued to participate in the NEMAG, NYMAG and RMAG coordination calls throughout the duration of the event and actively participated in resource transfer discussions. A total of 28 crews were secured and arrived on November 1 through mutual aid to assist National Grid’s Rhode Island restoration effort.

## 2. Transmission Line Crews

Prior to the storm on Sunday, October 28, the Company had pre-staged 70 transmission line workers (8 crews) in hotels throughout New England. On Monday, October 29, 61 transmission line workers (7 crews) were staged in hotels in Rhode Island. Further resources were obtained to deploy a total of 270 transmission line workers (33 crews) in New England.

## 3. Vegetation Management and Tree Crews

National Grid’s forestry group, working at the direction of the Regional Planning Section Chief, used the weather projections to anticipate the number of forestry crews required to respond to this storm.

The Company had also completed a comprehensive assessment of its local forestry resources by October 27, prior to the onset of Hurricane Sandy. The local forestry crew count used to provide baseline restoration support to the New England territory was approximately 136 distribution crews and 29 transmission crews, of which 45 distribution crews and 5 transmission crews were physically located in Rhode Island.

As Hurricane Sandy progressed, the Company contacted forestry contractors to secure incremental forestry resources outside of the National Grid territory. By end of day on October 28, all 45 local Forestry distribution crews and all 5 Forestry transmission crews were

on site and/or committed to National Grid's response. Additional "off-property" forestry resources had also been secured and began arriving on October 27 and continued to increase throughout the event. At peak, a compliment of 207 distribution forestry crews (528 full-time employees ("FTEs")) and 15 transmission forestry crews (40 FTEs) responded to the storm across Rhode Island. In total, approximately 222 transmission and distribution forestry crews (or 568 FTEs) were secured and supported the forestry restoration effort across Rhode Island.

#### **D. Logistics**

The Logistics ICS roles were activated at 11:00 a.m. on Thursday, October 25 with the Vice President of Operations Support activated to the role of System Logistics Officer. The System Logistics Officer contacted key members of the logistics team on Thursday, October 25, to begin preparations for Hurricane Sandy including instituting pre-event checklists and priority actions. Members of the Logistics team are sourced from a variety of National Grid departments, providing logistics support for events throughout New England.

Throughout the storm, all sub-teams within logistics participated in daily system and regional storm calls in addition to logistics team calls enabling the logistics team to refine support plans during the incident and respond accordingly. The team provided support to the System and Regional Incident Commanders for the duration of the storm.

##### **1. Staging Sites**

In anticipation of the pending storm, on Friday, October 26, the core team reviewed the list of pre-negotiated locations across the targeted area previously identified as staging sites and instructed National Grid's customer and community group, with contacts at these locations, to confirm their availability as stated in the pre-negotiated agreements. The Company contacted Base Logistics, a third party logistics vendor, on Friday, October 26 to put it on notice that the Company may be requiring its support.

The Company decided to establish staging sites in locations that would support restoration on a regional basis. On Friday, October 26, the Regional Incident Commander provided direction to establish staging sites at the following locations in Rhode Island:

- Community College of Rhode Island to support efforts in the Coastal region of the State;
- Twin Rivers Casino in Lincoln to support efforts in the Capital region of the state.

Crews were also prepositioned at the Middletown, RI facility to limit exposure should the bridges to Middletown be closed.

The sites were operational on Sunday, October 28 and continued to be operational until the end of the storm.

## 2. Meals and Lodging

After the Storm call at 11:00 a.m. on Thursday, October 25, the System Logistics Officer notified the Regional Meals and Lodging Lead to activate the team and to secure hotel rooms and open restaurants. An initial staffing schedule was developed based upon a multi-day event; this was modified as the storm progressed.

On the morning of Friday, October 26, the meals and lodging team was operational. Updates regarding hotel inventory were provided to logistics leads as requested, and, by the end of Friday, October 26, meals and lodging sent out a report of hotel inventory for six nights starting Sunday, October 28 to logistics leads along with contact information for emergency calls. The team also compiled a list of available restaurants, which was continually updated throughout the event. Hotel ambassadors were deployed to hotels to serve as liaisons between the lodging team and the hotel. These ambassadors were on site at the hotels to assist crews and support resources with check-in, room assignments, check-out, and to resolve lodging issues as crews and support resources arrived. Along with coordinating the opening of restaurants, boxed lunch procurement and distribution was also completed within this group. All of these efforts continued throughout the restoration.

## 3. Inventory Management

The Company's materials management group ensures adequate materials and resources are engaged to provide effective material supply during the storm. The materials management team contacted material suppliers beginning October 25 to begin preparations for material needs, including notification of potential off-hour delivery of materials throughout the upcoming week. The materials management team also notified the Company's procurement team to place a team of strategic buyers on-call. These buyers worked under the direction of its material planning group to begin addressing anticipated material needs beginning on October 26 and continuing throughout Hurricane Sandy. Storm kits were sent to the staging sites in advance of the storm.

The on-hand materials were adequate to address the needs during the restoration. There were no instances of material shortages during the entire storm. During the storm, materials were fed directly from the New England Distribution Center ("NEDC") in Sutton, MA to the crew locations, staging sites, and affected operations warehouses. Twelve-hour shifts were used, and the warehouses were covered for 24 hours each day. Many replenishment deliveries were accomplished during nighttime hours so that staging sites were stocked and ready for deployment of crews at 6:00 a.m. daily.

## 4. Fleet Management

Beginning on Thursday October 25, fleet management conducted a staffing review and resource level evaluation based upon the predicted storm size and impact conveyed on storm calls. The Company decided to commence round-the-clock staffing for fleet operations beginning Sunday, October 28 and consecutive 12-hour shifts were then established at Rhode Island fleet garage locations.

Fleet management conducted a comprehensive availability review of vehicles and equipment which were under repair. Those that could be used for restoration purposes were reprioritized, focusing to have these available for service by Sunday evening, October 28.

Fleet management also evaluated vehicle travel and the potential need to procure more than a single tank of fuel per day in light of the complexity of the weather forecast. Fueling transaction limits were temporarily raised. Additionally, fleet management contracted with third party suppliers for on-site fueling at various staging sites and hotel sites, to replenish diesel directly into trucks during off hours.

Fleet management contacted rental vehicle and equipment suppliers to establish availability of restoration-type equipment. Rental vehicle deliveries commenced Saturday, October 27 at multiple sites and were available for dispatch beginning Monday, October 29.

#### **IV. DAMAGE APPRAISAL**

The storm damage appraisal process is performed to collect and assess information through visual observation of physical damage such as wires down and poles broken on overhead distribution and transmission lines following a storm event. Information obtained through damage appraisal is then combined with data obtained through the Company's outage management system (PowerOn), through customer-reported troubles and information from other sources. The storm damage appraisal process is used to formulate an assessment of the estimated time of restoration with other information sources. Information is also collected from the storm damage appraisal process and used to create the construction work packages, supplementing the customer outage calls from other reported damage locations. This ensures the Company allocates the available line crews and tree crews in the restoration effort effectively.

##### **A. Transmission**

###### **1. Transmission Damage Assessment Process**

The Company's transmission damage assessment process is aligned with the transmission control center and transmission storm room in Northborough, MA. The control center and transmission storm room work to ensure that transmission circuits that experience permanent or temporary faults are prioritized for patrol, damage assessment, repair and return into service. Trouble on the transmission system is usually first detected by the relay protection schemes at the substation and communicated through system alarms to the transmission control center. The control center performs an analysis of the system security and reliability implications of the trouble condition. Based on that analysis and a determination of criticality of the affected circuit, the circuit is prioritized for patrol and damage assessment.

On Monday, October 29, the first day of the storm, no aerial patrols of the transmission system were possible due to weather conditions.

The first patrols occurred on Tuesday, October 30, and were performed by foot, vehicle, and air. When it was safe, transmission resources were assigned foot patrols through the Branch EOC based on the priority set by the control center. Helicopters were deployed to the New England region. Each helicopter vendor was assigned a spotter from National Grid to ride with the pilot. Their patrols were divided into regional areas for safety reasons, and their flight paths along transmission corridors in Rhode Island, Massachusetts, and adjoining states affected by the storm were coordinated with the transmission control center.

Restoration of the sub-transmission system followed a similar process. Approximately 33 circuits from 15kV to 35kV on rights-of-way were patrolled by aerial survey. Not all of these circuits sustained damage, but where damage was located, they were reported, repaired and returned to service. The remaining circuits were inspected by air for the possibility of potential after effects. The aerial patrol of sub-transmission circuits was conducted in parallel with the other transmission flight patrols and the majority of the sub transmission aerial patrols were completed on October 30. Because of poor flying conditions on October 31, the remaining circuits were not completed by air until November 1.

## 2. Transmission Damage

On October 29, at 12:45 p.m., the storm began impacting National Grid's, Rhode Island, Massachusetts, and Vermont transmission systems. The storm impacted the following Rhode Island transmission assets:

- 3 - 115kV lines tripped and reclosed automatically

There were 13 sub-transmission line outages, with a majority of the line lockouts occurring in southern Rhode Island. Fallen trees and limbs resulted in broken cross arms, downed wires, and circuit outages. The sub-transmission circuits were returned to service as repairs were completed between October 29 and November 1.

## **B. Distribution**

### 1. Damage Assessment Process

The Company established distribution damage appraisal operations in two locations in Rhode Island; North Kingstown and Providence. The two branch damage assessment groups each were staffed for 24-hour operations. The Company began to prepare for damage appraisal on Friday, October 26 and worked Saturday, October 27, and Sunday, October 28 on tasks that included initial staff assignments, requests for vehicles, setting up telecommunications, securing materials including appraisal forms and feeder prints, and reviewing critical feeder priorities. Prior to the storm, on Monday October 30 at 7:00 a.m., the Company opened the damage appraisal offices. The day support staff and the damage assessors all reported and conducted training sessions on the data collections systems, outage management systems, work processes, and field damage assessment skill-sets. The night support staff reported at 3:00 p.m., and

conducted similar training on the collection and outage management systems, as well as a refresher on the preparation of work packages for line crews, tree crews and damage assessors. The night support staff worked during the overnight hours of the storm. They supported Operations as directed by the Branch Team, prioritized feeders, and prepared damage assessor packages.

The damage assessors reported back to all locations beginning at 6:00 a.m. on Tuesday, October 30 to begin patrols on the prioritized distribution feeders. The Company had secured 76 damage assessment crews to perform field appraisals (North Kingstown Branch - 50 crews, and Providence Branch - 26 crews). The Company shifted resources as needed throughout the restoration effort. The Providence damage assessment office stayed open until Friday evening, November and the North Kingstown office stayed open until the afternoon of Saturday, November.

Damage assessment patrols were performed in multiple phases. During Phase 1, the patrollers collected restoration requirements for 3-phase circuit mainlines. With the exception of 2 feeders from the North Kingstown office, Phase 1 feeder patrols were completed within 24 hours. The 2 feeders not completed in the first 24 hours were long feeders, and the timing for extended damage assessment did not hinder restoration efforts. The Branch Teams determined through the prioritization process which distribution feeders would require a Phase 2 patrol. If Phase 2 patrols were not required the Branch Team moved damage assessments teams to support Operations with more granular pre-feeder sweep activities. These tasks included assessment of wires down and 911 calls to alleviate the need to have line crews investigate these calls, the assessment of specific outage calls (trouble orders) to ensure that line crews were efficiently focused on the right restoration priorities, and in-service calls of potential damage and other hazards. The severity identified during the damage assessment patrols was higher in the North Kingstown. The Phase 2 feeder patrols that were recommended were completed within 48 hours.

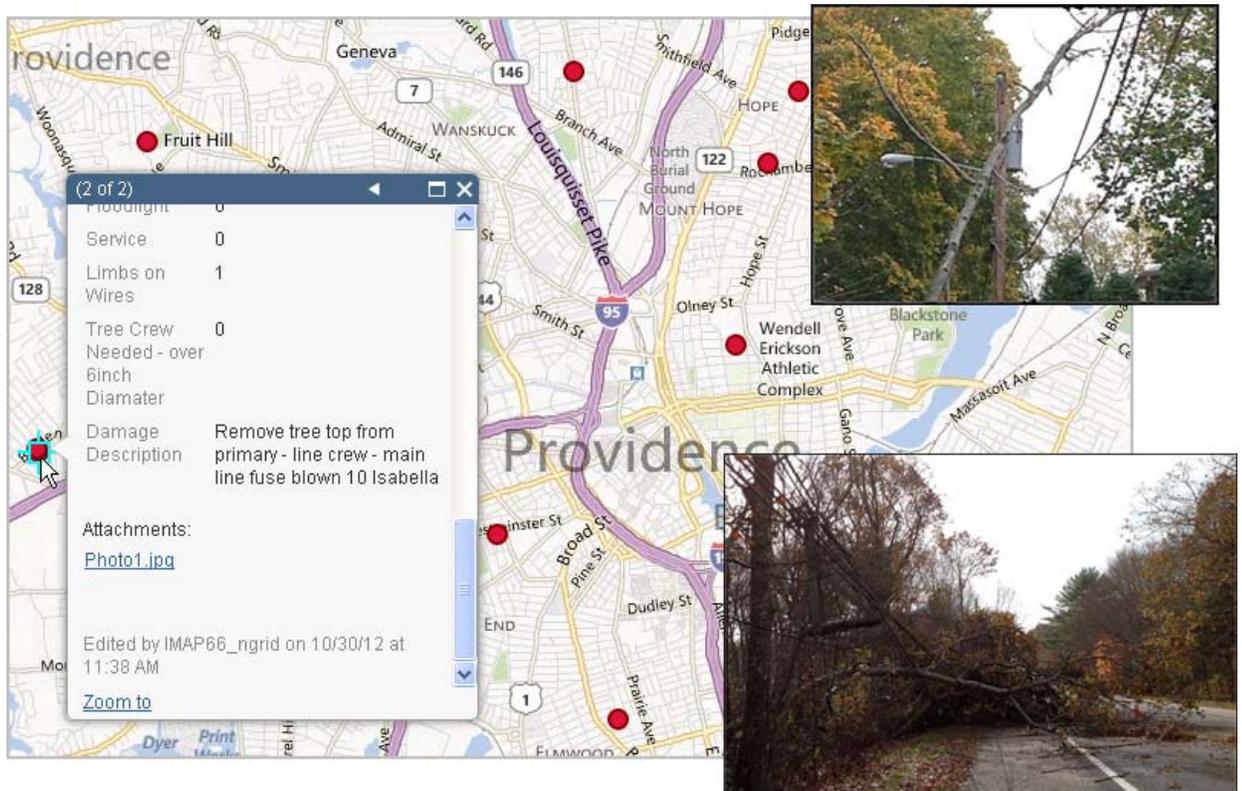
For the Phase 1 patrols, Phase 2 patrols and the pre-feeder sweep tasks (specific trouble orders), the patrollers returned their field notes and marked up feeder prints for the work packet<sup>4</sup> support teams. These night staff teams would review the field notes and update the storm damage assessment database. Then, for each feeder patrolled, two work packets were created, one for tree crews and one for line construction crews. In addition to the field notes of the field damage appraiser, additional packets of individual trouble orders that were called in by customers were packaged by feeder for assignment. These work packages were ready each morning by 5:00 a.m. and provided for assignment to the appropriate crews.

The Company also did a limited test of its recently completed technology to collect and store damage assessment data using electronic devices, such as an iPad, and mobile devices such as cell phones with Android and iPhone operating systems. About 25 units were in use in Rhode Island during Phase 1. The assessment data is geographically pin-pointed on the Company's

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<sup>4</sup>A work packet is also referred to as a damage patrol envelope. It documents the nature of the damage sustained by the system, containing relevant information pertaining to the type and extent of damage in terms of the type of damage, crews required to address the damage, estimated time to repair, equipment to be repaired, whether tree work is required, a LSC is involved, environmental clean up necessary, and the need for dig safe.

mapping system, and the user has the ability to associate pertinent assessment data with the geographic location. The user also has the ability to take a picture or movie of the damage and associate it as well. That data is stored centrally in real time and can be accessed by many. The Company is now assessing the output of that trial, and contemplating the benefits of further development and implementation. The screen shot below illustrates the type of information collected using the iPads. The dots on the map represent damage areas surveyed, with photos taken and mapped to specific damage areas.



## 2. Distribution Damage

The Branch Teams prioritized the damage assessment activities for specific feeders to receive Phase 1 assessments. In areas showing less damage during Phase 1 patrols, such as the Providence Region, the Branch Teams moved the damage assessment staff onto specific trouble orders, and in some cases, assessment of 911 and wires down calls. The North Kingstown Region showed much more damage during Phase 1 assessments. In response to this, the North Kingstown Branch Team de-centralized restoration crews to the worst hit substations, attached damage assessment teams to these crews for support, and immediately started feeder by feeder restoration. Since restoration activities started immediately on these substations, Damage assessor's roles were moved to, but not limited to, riding ahead of the restoration crews, prioritizing their work, and updating outage management system operators when work was complete. The initial request for damage assessment support for this de-centralization process included the following substations:

- Jepson Substation, Portsmouth, RI
- Tiverton Substation, Tiverton, RI
- Westerly Substation, Westerly, RI
- Kenyon Substation, Charlestown, RI
- Wakefield Substation, South Kingstown, RI

The remaining damage assessment teams focused on Phase 1 in other parts of the system. When completed, the North Kingstown Branch Team prioritized the remaining set of feeders that would receive Phase 2 assessment before moving onto assessment of specific trouble orders, and 911 and Wires Down calls.

By design, not every feeder receives a Phase 1 and Phase 2 patrol; therefore, the number of damaged facilities collected as part of the damage assessment process is a representative sample to allow the Branch Team to formulate the appropriate level of storm response by National Grid management, and to use as one of several criteria to determine ETRs. As examples of the extent of the storm damage in the North Kingstown Region, the Company's damage assessment process identified:

- Wakefield 17 Substation: 12 damaged poles, 7 sections of three phase primary down, 9 sections of single phase primary down.
- Hope Valley 41 Substation: 5 sections of three phase primary down, 4 sections of single phase primary down.
- Peacedale 59 Substation: 5 damaged poles, 32 sections of three phase primary down, 3 sections of single phase primary down.
- Hopkins Hill 63 Substation: 4 damaged poles, 3 sections of three phase primary down, 3 sections of single phase primary down.
- Wood River 85 Substation: 6 damaged poles, 7 sections of three phase primary down, 32 sections of single phase primary down.
- Tower Hill 88 Substation: 9 damaged poles, 2 sections of three phase primary down, 11 sections of single phase primary down.

## **V. 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 prioritized its workforce to focus on repairing transmission lines, substations, sub-transmission and initial mainline distribution work, balancing resources between areas with the most damage to provide electricity sources to the largest areas

without power. Alternate or backup supplies received a lower priority if the area already had a supply line in service. Therefore, affected areas that lacked a source of supply due to transmission or substation interruptions were not initially assigned distribution restoration crews, until transmission/substation work could be completed. Instead, as a means of prioritized restoration, crews were sent into distribution areas initially only where transmission had not been interrupted and where the ensuing repairs to the distribution system restored aggregate customers to service. The Company next prioritized restoration of service to distribution lines, and by the end, was repairing service lines that fed as few as a single customer. 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**

### **1. Decentralized Service Restoration**

On Monday, October 29, the Company decentralized its storm restoration efforts associated with Hurricane Sandy. On that day, the Company opened the following Branch EOCs at 5:00 a.m., with storm and wire-down rooms opened in each Branch EOC:

1. Providence – supporting the Capital area
2. North Kingstown – supporting the Coastal area

When service restoration neared completion in each of the affected areas, the decentralized storm and wire down rooms responsibilities transitioned back to the Northborough control center and the resources moved to the areas as directed by the Incident Commander. The Providence decentralized storm and wire-down room transitioned back to normal operations on Saturday, November 3 at 8:00 a.m. The North Kingstown decentralized storm and wire-down room returned to normal operations on Sunday, November 4 at 4:00 p.m.

In addition to decentralizing to Branch EOCs, the Company also assembled “substation teams” made up of forestry crews, line crews, damage assessors and appropriate supervision. These substation teams were assembled on Monday, October 29, so that as damage became known during the overnight shift, the Branch Directors were able to deploy them to the hardest hit substations on Tuesday morning. The substation group leaders were granted local control of the substation feeders and allowed to dispatch the resources under their command within the boundaries of the feeders. The Company finds that this local situational awareness allows for efficient use of resources in areas of concentrated damage as it allows for minimized travel time and effective triage in order to efficiently restore power in these heavily damaged areas. Five such substation teams were deployed in Rhode Island. Each substation team reported to the local Branch EOC through the local Branch Operations Coordinator.

### **2. Wires Down Coordination**

Outages were dispatched out of the Providence Storm Room on Monday, October 29 starting at approximately 5:00 a.m. through the end of the storm. A Police and Fire Coordinator

was activated in the Storm Room to handle the call back activities and the communication of crew-estimated time of arrival for the priority calls.

In preparation for the storm, the Company mobilized the Providence wires-down room on Monday, October 29 starting at approximately 7:00 a.m., staffing that room with approximately 106 crews (including wires-down appraisers and cut/clear personnel). The employees assigned to staff the wires-down room were scheduled to work shifts that provided 24-hour coverage for the duration of the event. The peak number of wires-down appraisers and cut/clear crews was 141 crews for the day shift and 103 for the night shift (Wednesday, October 31 at noon and Tuesday, October 30 at midnight, respectively). There was a wires-down coordinator assigned to each shift that was responsible for the overall operation of the wires down function for the area.

Due to lack of any significant wires down activity, the number of personnel was slightly reduced at 9:00 p.m. on Friday, November 2. Finally, the wires-down room was de-mobilized and transitioned back to the Providence Storm Room at 7:00 a.m. on Saturday, November 3.

## **B. Personnel Resources**

The Company's resources during and after the storm event are provided in Attachment 3. As noted previously, the Company planned for resources for Hurricane Sandy well in advance of the onset of the storm in Rhode Island. This advance planning allowed the Company to secure resources from as far away as the West Coast and Canada. Although the Company's ability to secure additional crews was hampered by the demand for utility crews throughout New England and the East Coast of the United States, ultimately, the Company was able to restore service to over 90 percent of its customers by Thursday, November 1 at approximately 8:00 p.m.

At peak, approximately 840 field crews<sup>5</sup> were used to restore power to customers, including approximately 500 external crews and 340 internal crews. This peak number of crews includes Transmission and Distribution Line, Vegetation Management, Wires Down, Damage Appraisal and Substation personnel.

The Company's crew contingent included qualified former National Grid employees that are under contract to the Company through a service provider to supplement the Company's workforce during storm events. The Company elected to activate this resource pool during Hurricane Sandy. This is common practice and was used in recent years by National Grid during storms in December 2009, September 2010, and both Tropical Storm Irene and the October Snowstorm in 2011.

## **C. Safe Work Practices**

National Grid prioritizes employee, public, and contractor safety. During storm restoration efforts the Company's collective focus on injury and incident prevention is at its highest level. The Company's ICS designates a lead position for a System Safety, Health and

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<sup>5</sup> Crews are typically two or three-person, although there are some one-person crews in damage assessment, wires down (appraisers) and distribution line (troubleshooters). The transmission crews are typically 6-10 people.

Environmental (“SHE”) Officer as well as a Regional Safety and Health Officer and Environmental Officer. The Company’s SHE organization provides leadership roles at both the System and Regional areas of responsibility. Safety plans are integrated into operational planning and response efforts before the storm actually impacts the Company’s service territory.

National Grid assembled a robust safety team with well-established areas of responsibility and a solid reporting hierarchy made up of experienced and certified safety professionals. The SHE organization prides itself on establishing a communication structure to ensure areas for improvement and trends (positive or negative) are shared in real-time with each of its contract partners.

The Safety team communicates daily safety messages to work groups using a variety of communication vehicles. Safety reminders, noteworthy injuries or non-compliance issues are communicated as part of work packages that are delivered to field workforces daily.

Additionally, National Grid Safety coordinated daily conference calls with in-house and contract safety representatives brought in to assist in the Company’s restoration efforts. The daily call also focused on safety performance, trends and/or questions originating from workers on the ground. At the height of the storm, approximately 49 safety representatives participated. The Company’s contract partners considered this daily call to be a best practice, and one they have not experienced working in other parts of the country, under similar conditions.

As contract partners arrived, and prior to beginning work, each organization was provided a safety orientation. Throughout each day, in-house safety professionals conducted crew visits with the purpose of observing safety compliance. As a proactive step, the Company’s System SHE officer established a partnership with the local Occupational Safety and Health Administration (“OSHA”) office. The partnership was in a non-enforcement capacity. OSHA Compliance Officers were teamed with National Grid Safety professionals, delivering yet another perspective to its prevention activities and commitment.

The injury and incident prevention efforts in Rhode Island were successful during this restoration effort. In total, there was 1 reported injury that did not result in lost time the following day. There were 3 road traffic collisions reported, each of which was minor. One of the Company’s biggest safety risks was security/personal assault threats to the Company’s workers. Law enforcement was supportive as the Company attempted to restore power in challenging conditions.

In summary, the safety effort and subsequent results were determined to be successful, with minimal injuries to employees, contractors, and the Company’s mutual aid partners.

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

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

During Hurricane Sandy, the Company posted ETRs, once developed, on its website using its Outage Central page which provided real time ETR updates approximately every 15 minutes.

National Grid first communicated ETRs on Wednesday, October 31 at 12:00 a.m. The ETRs were shown on the Company's Outage Central web page in both map and list format.

In addition, the Company communicated ETRs through media outlets. Throughout the restoration, National Grid's media relations team provided local news media with ETRs for their communities and continually reinforced to reporters the 24/7 availability of Outage Central for the most current ETRs. The Company attempted to reinforce when communicating ETRs that restoration times were estimated, and may be different in certain areas where damage was particularly extensive or where customers needed to make repairs to customer equipment so power could be safely restored. The media team also explained that the ETR indicates when the final customer will be restored and customers will be restored on a continual basis in the intervening time.

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

Regional storm calls were held twice daily beginning on Monday, October 29 through Friday, November 2. The last storm call was held the morning of Saturday, November 3.

Internal communications were issued to employees via email, 800# telephone line and the internal intranet twice daily throughout the duration of the event. Communications were issued each day to field crews with both restoration and safety information.

### **C. Public Officials: Governor's Office, Rhode Island Emergency Management Agency (“RIEMA”), State Agencies, Elected Officials, Municipalities**

#### **1. Governor's Office and other State Elected Officials**

The Company contacted the Governor's office daily to communicate outage information and restoration efforts. The Company held meetings several times during the week after the storm. The Company invited Rhode Island's United States Senators and Congressmen to visit and they were all able to witness our storm recovery operations.

During the restoration period, the Company received many calls from state legislators either asking for estimated restoration times, or relaying calls about outages from their constituencies. The Company researched these calls through our municipal rooms, and our Vice

President of Government Affairs responded to the legislators with information including geographical area impacted, estimated times of restoration, and confirmation of restoration.

2. Rhode Island Public Utilities Commission (the “Commission”), Division of Public Utilities and Carriers (“Division”), and RIEMA

A Company representative was present in the RIEMA operations center from Monday, October 29 at 7:00 a.m. until the closing of RIEMA on Friday, November 2. In addition, the Company participated in multi-agency meetings and phone calls both prior to and during the storm. The Company held a call each day with the local EMAs and with the school superintendents.

The Company also provided daily information to the Commission and the Division throughout the storm. The Company reported outage information multiple times each day through phone calls and email reports.

3. Municipalities

The Company began hosting municipal calls prior to the storm, on Friday, October 26, and continued daily 11:00 a.m. calls until the Company completed restoration activities in each region on Friday, November 2.

In addition to these daily calls, the Company assigned community liaisons to work directly in affected cities/towns. The community liaison name and contact information was provided to each municipality prior to the event on the first municipal call. Community liaisons act as a conduit of information between the Company and municipal officials to provide information about ETRs, crew counts, crew locations, etc.

The Company also called health care facilities and nursing homes daily and participated on all school superintendent conference calls with the Lieutenant Governor to update ETR status for schools for each municipality.

The Company opened its municipal room for 24-hour operation on Monday, October 29 at 7:00 a.m. and remained open until Friday, November 2 at 7:00 p.m. The municipal room staff worked with the local safety, emergency, and elected officials to manage the cities/towns priorities. The Company worked collaboratively with municipalities and our operations personnel to confirm and clear all wires down and address all public safety issues.

The mutual priority for both the Company and municipalities was to clear live wires and relieve municipal safety personnel from stand-by roles with trained and qualified National Grid resources. The Company implemented, for the first time, strike-force units with the State Police, National Guard and the local municipalities to clear roads and address wires down issues more rapidly. The Company then worked with municipalities to prioritize restoration of critical facilities (i.e. hospitals, shelters), critical infrastructure (i.e. communications, water and sewer stations) and critical /sensitive customers (i.e. major elderly complexes, nursing homes). The

local municipal room staff leads and the branch public information coordinator were active participants in the prioritization activities within each division.

## **D. Customers**

### 1. Communications During and After the Storm Event

The Company held a pre-event conference call on Thursday, October 25 with internal management to get weather updates, discuss storm preparedness and set expectations. The Company continued hosting daily conference calls throughout the storm.

During the storm, The Company provided customers with safety tips that were relevant during each phase of the storm, such as staying away from downed wires, ways to report an outage or downed wires, damage assessment and restoration times. These messages were communicated in multiple ways including: web, email, radio, text, via call center representative and interactive voice response technology (IVR), along with postings on Twitter and Facebook.

Following the first pre-event meeting on October 25, the Northborough Contact Center confirmed a staffing plan and storm assignments. On Friday, October 26, the Company increased staffing levels for the dates Sunday, October 28 through Thursday, November 1.

#### a. Pre-Event Contact with Non-Life Support Customers

The Company communicated the following to non-life support customers:

#### Outbound Call Script: Scheduled Appointments

Hello, this is Diana calling from National Grid with an important message about your service order scheduled for Monday, October 29 or Tuesday, October 30. We apologize that your service order will need to be rescheduled because of the upcoming storm. We anticipate most of our service techs will be working around the clock to restore power in the NE region as a result of the storm. To reschedule your order, please contact us on or after Thursday, November 1st at 800-732-3400 and one of our customer service representatives will be happy to assist you. That number again is 800-732-3400. We apologize for this inconvenience and thank you for your patience and understanding.

#### Website Messaging

With Hurricane Sandy looming on the southern horizon, National Grid is already preparing for the possibility of high winds and power interruptions. We remind you to be prepared by having working flashlights, a battery operated radio and an extra set of batteries in your home. If you use a generator to supply power during an outage, be sure to only operate it outdoors. Before operating generators, be sure to disconnect from National Grid's system by shutting off the main breaker located in the electric service panel. Failure to do this could jeopardize crew and your safety. For more tips on how you can prepare for a storm visit our Storm safety page.

## IVR – Upfront Messaging - Friday, October 26

With Hurricane Sandy looming on the southern horizon, National Grid is already preparing for the possibility of high winds and power interruptions. We remind you to be prepared by having working flashlights, a battery operated radio and an extra set of batteries in your home. For additional storm safety tips visit our website at [www.nationalgrid.com](http://www.nationalgrid.com).

### b. Pre-Event Contact with Life Support Customers

The Company held a pre-event conference call on Thursday, October 25 with internal management to get weather updates, discuss storm preparedness and set expectations. The Company continued hosting daily conference calls throughout the event. (The Company held two pre-event calls). Following the first pre-event call on October 25, the Company secured additional staff to monitor life support throughout the event. The Company made the following pre-event life support calls:

#### Saturday, October 27 at 2 PM and Sunday, October 28 at 2:00 p.m.

Hello this is Diana calling from National Grid on Saturday, October 27 with an important message. Hurricane Sandy is expected to affect our area with damaging wind and rain on Monday, October 29 which may cause widespread power outages. I am reaching out to you because our records show that an individual who requires medical care or life support equipment is at this phone number. I am contacting you to make sure you and your households are able to take necessary precautions and preparations to insure your well being in the event of a power outage. For the health and safety of you and your family, The Company urges you to consult your local media for more detailed weather information. In the event of an emergency, please contact 911. If you have any questions about this message, please call us at 800-322-3223.

## Feeder Restoration Verification Outbound Calls

### Live Version

This is Diana calling from National Grid with an important message regarding restoration of your power. Our crews have restored power to most customers in your area. This call is to confirm that your power has been restored, and to remind you to stay away from downed wires, which may be live and dangerous. If you are still without power, please call us at 1-800-465-1212; or press 9 now to connect to our outage reporting system. If you are able to access the internet, you may also report your outage online at [nationalgrid.com](http://nationalgrid.com) and click on Outage Central. Any information you provide will help us to find local problems more quickly. Again that number is 1-800-465-1212. Our crews will continue to work until all customers have power restored. We appreciate your patience – thank you.

### Machine Version

This is Diana calling from National Grid with an important message regarding restoration of your power. Our crews have restored power to most customers in your area. This call is to confirm that your power has been restored, and to remind you to stay away from downed wires which may be live and dangerous. If you are still without power, please call us at 1-800-465-1212; to connect to our outage reporting system. If you are able to access the internet, you may also report your outage online at nationalgrid.com and click on Outage Central. Any information you provide will help us to find local problems more quickly. Again that number is 1-800-465-1212. Our crews will continue to work until all customers have power restored. We appreciate your patience – thank you.

### **E. Contact with Life Support Customers during the event**

In accordance with the Company's ERP, the Customer Contact Center attempted to contact all life support customers who lost service on a daily basis during the event and then following restoration

### **F. Media**

Media relations activities in support of our restoration efforts began on Sunday, October 28, as the storm began bearing down on Rhode Island, and continued until the final customers were restored. There was no downtime between pre- and post-event media relations activities, as media interest understandably continued unabated as the storm came through the area.

Media Relations began fielding storm inquiries from Rhode Island news media on Wednesday, October 24. On Friday, October 26, the Company conducted a news conference at our New England Distribution Center in Sutton, MA to detail storm preparation work that was on-going. All Rhode Island news media were invited to attend. The three Providence network affiliate TV stations and the Providence Journal participated in the news conference and the subsequent tour of the facility.

On Sunday, October 28, the Company issued a preparedness news release, urging customers to stay safe during and after the storm, and provided an embedded link to National Grid's video explaining its outage restoration procedures, and reinforcing the safety messaging of the news release. Beginning at 7:00 a.m. Monday, October 29, the Company conducted the first of nine, live broadcast media interviews of the day updating the public on outage numbers and providing a briefing on restoration procedures that would begin as soon as it was safe for employees to begin their work.

Also on Monday, National Grid held a news conference with the Rhode Island Jurisdiction President and Governor Chaffee at the Company's Melrose Street, Providence office. The news conference included a tour and explanation of the operation of the Storm Room and Municipal Communications Room at Melrose Street. In addition, the Company's

Jurisdiction President participated in a news conference at RIEMA with the Governor, the Commanding General of the Rhode Island National Guard, the Commander of the Rhode Island State Police, and the heads of multiple state agencies. During the news conference and in all subsequent interactions the media relations team had with reporters throughout the restoration process, the Company made very clear that given what National Grid knew about the level of damage to its system, the service restoration process would likely continue into the coming weekend.

The Company continued to work with RIEMA and the office of Governor Lincoln Chaffee in the coordination of additional news conferences, which included the Company's Rhode Island Jurisdiction President. These news conferences were well attended by reporters from several daily newspapers, all Rhode Island television stations, and several radio stations, as well as a number of the hyper-local "patch.com" web sites that provide news about a single community.

Leading up to the storm's arrival and during the subsequent days, the Company fielded 83 incoming calls from Rhode Island media outlets, conducted a myriad of interviews with print and broadcast media, arranged numerous media interviews with Company executives and Operations staff, and coordinated crew visits for media. The media relations team also continued to issue news releases about the status of the restoration that also included safety information for customers – particularly, that they should avoid downed lines and use generators safely. The Company also continuously directed reporters to the Company's online "Outage Central" information site to provide estimated restoration times once they had become available.

In all, four news releases were issued in Rhode Island by media relations from pre-event through completion of the restoration. Media relations fielded or initiated numerous interactions with reporters including live radio and television updates, and conducted countless interviews with both print and broadcast media.

Consistent with the Company's ERP, the media relations team coordinated all media messaging and communications with the Company's Regional and System Public Information Officers and with other company departments with customer-facing responsibilities, as well as government, community and regulatory relations personnel.

## **VII. CONSIDERATIONS FOR IMPROVEMENT**

After a major event, the Company conducts after action reviews to determine what worked well during the response as well as areas for improvement. Improvement opportunities from the event are described in this section.

The Company received positive feedback from the municipalities regarding the deployment of the community liaisons. The liaison is the conduit between the municipals and the Company, and helps restoration efforts by setting and communicating priorities within the community. The Company plans to review staffing levels of the community liaison position and identify additional technology improvements that will enhance situational awareness. In addition,

the Company received positive feedback on the deployment of regional strike force units that included Company operations staff and members of the State Police, National Guard, and RIDOT. These units proved to be extremely effective in responding to issues early in the storm and addressing local priorities more efficiently. Collaboration with these groups will be ongoing.

The Company's newly implemented notification tool, *Send Word Now*, improved coordination and communications during the storm. It was utilized to alert employees of their storm assignments and reporting locations, and improved the coordination and notification process for key storm conference calls. In the future, the Company will provide additional training and communications on the use of the tool through periodic drills and exercises, including the Company's annual New England Restoration Exercise for 2013.

The Company also used a web-based tool, Incident Manager, powered by Web EOC, at the System Incident Command Level for Hurricane Sandy. Incident Manager/Web EOC provided greater visibility for the Command and General Staff to the significant events, activities, and communications during the storm. It improved the ability to manage information efficiently and effectively. Going forward, the Company plans to add additional information and enhance the tool to capture key activities during each incident, add System, Regional, and Branch Emergency Position checklists to the tool; provide Incident Manager training to Regional and Branch Emergency positions; collaborate with RIEMA on the use of Incident Manager/Web EOC and investigate use of the status boards feature; and use the Incident Manager Simulator Manager feature in upcoming emergency drills and exercises.

During Hurricane Sandy, the Company's Damage Assessment data collection process conducted a pilot using the iPads to collect storm damage data and generate crew work packages. Given the positive results of this trial, the Company will consider expanding the use of iPads or similar technology to include statistical damage assessment to improve the accuracy and timeliness of the storm damage data collected during events.

The Company's use of updated emergency response assignments improved the activation and mobilization process for internal support personnel prior to the storm. The Company will continue to review appropriate staffing levels for storm assignments and will consider the expanded use of vendors or contractors to augment internal resources.

During Hurricane Sandy, coordination, communication, and cooperation improved between the Company and the communications companies (e.g. Verizon, Comcast, and Charter). Specifically, the use of communication company personnel embedded in the various Storm Rooms or EOCs helped coordinate resources between National Grid and the various companies. Expanding on this success, the Company plans to facilitate a working team among the communications companies to improve the documentation and tracking process of resources and replaced assets.

The Company also received feedback from the on-site environmental and safety personnel that the staging site design, set-up, and operation requires more robust safety health and environmental support to ensure that risks are appropriately identified and addressed during set-up. For example, staging site equipment set-up needs to consider environmental concerns

(drains, other sensitive receptors during set-up). The Company will review the existing staging site plans for environmental and safety concerns and work closely with the logistics team during the pre-event staging site planning process.

The Company identified some performance issues with its PowerOn system, the Company's outage management system. Since Tropical Storm Irene, the Company expanded availability of its PowerOn system to the additional personnel located in decentralized storm rooms, allowing them to provide more timely information regarding outages to the communities which they served. However, the Company found that sporadic processing slowdowns were experienced by users of PowerOn. The Company investigated the issues and determined that they resulted from new issues related to the system's database, rather than similar issues which arose during Tropical Storm Irene and had been previously corrected. The Company addressed these issues at the time of their occurrence as quickly as possible by adding database resources and selectively limiting less-critical users from accessing the application. To address the database issues that were seen during Hurricane Sandy, the Company installed additional memory resources and modified the system to more efficiently use the resources assigned to the database. Due to limitations in the further scalability of the PowerOn system it is scheduled for replacement in September 2013.

In addition to internal reviews, Company employees participated in the after action review led by RIEMA in December 2012. Representatives from the public and private sectors attended the meeting. Positive comments were provided regarding improvement actions developed after Tropical Storm Irene, especially concerning the deployment of the regional strike force units and the community liaison program. Areas for improvement were also identified including:

- Increase communication with the school Superintendants;
- Align the National Grid Life Support Customer List with the RI Department of Health Special Needs Registry; and
- Review and affirm the hospital restoration priority order with Company Operations and Storm Room staff.

After action reviews will continue, including a review of lessons learned from response and restorations efforts in our most significantly affected service territories in downstate New York.

## **VIII. CONCLUSION**

Hurricane Sandy was a Level 5 event that brought high winds and coastal flooding that caused significant damage to the Company's distribution infrastructure in Rhode Island, and affected millions of customers along the East Coast across a 1,000 mile radius. The Company is pleased with its successful restoration efforts, which resulted in 90 percent of its customers being restored by Thursday, November 1 and all customers being restored by Sunday, November 4. Nonetheless, the Company continues to look for opportunities to learn and improve its restoration efforts following each emergency event and will incorporate additional areas identified for improvement into future restoration plans.

**Thomas, Rachel**

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**From:** WeatherDelivery@telventdn.com  
**Sent:** Wednesday, October 24, 2012 6:02 AM  
**To:** DivOpsNE\_Forecast  
**Subject:** National Grid New England Forecast  
**Attachments:** NATGRIDNEEII.HTM  
**Forecast For New England from TELVENT**

**For National Grid**

Date: October 24, 2012

Time: 6:00 AM EDT

Forecaster: G Benedict

**CURRENT CONDITIONS:** Skies are mostly cloudy with . . . Temperatures range middle 40s. Winds are out of the north at 4-8 mph.

**SYNOPSIS:** Any showers will this morning. Dry weather will then take hold through Friday. Most of Saturday will be dry as well. The next chance for rain moves in Saturday night and continues through Sunday. Looking ahead, the weather pattern is active early next week. Forecast models continue to diverge on the track of Tropical Storm Sandy coming out of the southwest Caribbean, with some suggesting a northerly potential impacts along the East Coast, while others allow it to move out to sea. The guidance has now been locked on to this system for the last couple days and in any way, the confidence will be increasing on the potential for a major storm system over the area. The storm system moving into the Great Lakes and Ohio Valley early next week is likely to play a part in the track of this system. At this time, there are different scenarios which may play out across the service area. Unfortunately, it is too early to know which confidence which one may be correct at this time.

**WIND IMPACT:** None.

**THUNDERSTORM IMPACT:** None.

**PRECIPITATION IMPACT:** None.

**TEMPERATURE IMPACT:** None.

**SNOW IMPACT:** None.

**ICE IMPACT:** None.

**FLOOD IMPACT:** None.

**TODAY:** Mostly cloudy skies. High temperatures will be in the middle 50s to the low 60s. Winds will be out of the east to northeast at 4-8 mph.

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**TONIGHT:** Partly cloudy skies. Low temperatures will range from the middle 30s to the middle 40s. Winds will be out of the southeast at 3-7 mph.

**THURSDAY:** Skies will be mostly clear. High temperatures will be in the middle 50s to the low 60s. Winds will be out of the south at 5-10 mph.

**THURSDAY NIGHT:** Skies will be partly cloudy. Low temperatures will range from the upper 30s to the upper 40s. Winds will be out of the south at 4-8 mph.

**DAYS 3-5:** Fair and dry weather is expected across the entire service area through Friday and most of Saturday. The next chance for rain will develop Saturday evening or overnight, with increasing chances on Sunday. Temperatures will be above normal for the duration of the extended forecast period.

NE EII	REGION	DAY 1	DAY 2	DAY 3
<b>WIND SPEED</b>	<b>Central Massachussets</b>	1	1	1
	<b>Eastern Massachussets</b>	1	1	1
	<b>Nantucket</b>	1	1	1
	<b>Rhode Island</b>	1	1	1
	<b>Western Massachussets</b>	1	1	1
<b>WIND GUST</b>	<b>Central Massachussets</b>	1	1	1
	<b>Eastern Massachussets</b>	1	1	1
	<b>Nantucket</b>	1	1	1
	<b>Rhode Island</b>	1	1	1
	<b>Western Massachussets</b>	1	1	1
<b>CONFIDENCE</b>	<b>Central Massachussets</b>	High	High	High
	<b>Eastern Massachussets</b>	High	High	High
	<b>Nantucket</b>	High	High	High
	<b>Rhode Island</b>	High	High	High
	<b>Western Massachussets</b>	High	High	High

**Thomas, Rachel**

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**From:** WeatherDelivery@telventdn.com  
**Sent:** Wednesday, October 24, 2012 1:03 PM  
**To:** DivOpsNE\_Forecast  
**Subject:** National Grid New England Forecast  
**Attachments:** NATGRIDNEEII.HTM  
**Forecast For New England from TELVENT**

**For National Grid**

Date: October 24, 2012

Time: 1:00 PM EDT

Forecaster: J Buck

**CURRENT CONDITIONS:** Skies are mostly cloudy for most areas. Clear skies in Hampshire and far northeast Massachusetts. Temperatures range from the low 40s to the mid 50s. Winds are out of the northeast at 4-8 mph.

**SYNOPSIS:** Mostly cloudy skies will affect most areas heading into the weekend. Skies will also remain dry through late Saturday night at which point a few showers will develop and rain chances will increase Sunday as onshore flow increases in ahead of Sandy. Wind speeds, both sustained and gusts will likely increase early next week as Sandy moves further north. The exact track of the system remains unclear beyond that point therefore the severity of the impacts to the service area are uncertain.

Forecast models are in agreement with the track taking Sandy into the Western North Carolina coast of North Carolina by Sunday. From there the models begin to diverge with some suggesting a northerly track with potential impacts along the East Coast, others suggesting it allow it to move out to sea. Most solutions make Sandy a larger system and if it does reach the coast, stronger winds could extend to coastal areas. Confidence may not increase significantly until Friday or Saturday, at which point Sandy will be north of the service area and the evolution of the storm system across the Northern US will be more clear.

**WIND IMPACT:** None.

**THUNDERSTORM IMPACT:** None.

**PRECIPITATION IMPACT:** None.

**TEMPERATURE IMPACT:** None.

**SNOW IMPACT:** None.

**ICE IMPACT:** None.

**FLOOD IMPACT:** None.

**TODAY:** Mostly cloudy skies, clear across portions of New Hampshire. High temperatures will be in the middle 50s to the low 60s. Winds will be out of the east to northeast at 4-10 mph.

**TONIGHT:** Partly to mostly cloudy skies. Low temperatures will range from the middle 30s to the middle 40s. Winds will be out of the southeast at 3-7 mph.

**THURSDAY:** Skies will be partly to mostly cloudy. High temperatures will be in the middle 50s to the low 60s. Winds will be out of the south at 5-10 mph.

**THURSDAY NIGHT:** Skies will be partly cloudy. Low temperatures will range from the upper 30s to the upper 40s. Winds will be out of the south at 4-8 mph.

**DAYS 3-5:** Fair and dry weather is expected across the entire service area through Friday and most of Saturday. The next chance for rain will develop late Saturday night, with increasing chances on Sunday. Windy conditions are expected Sunday. Temperatures will be above normal for the duration of the extended forecast period.

NE EII	REGION	DAY 1	DAY 2	DAY 3
<b>WIND SPEED</b>	Central Massachussets	1	1	1
	Eastern Massachussets	1	1	1
	Nantucket	1	1	1
	Rhode Island	1	1	1
	Western Massachussets	1	1	1
<b>WIND GUST</b>	Central Massachussets	1	1	1
	Eastern Massachussets	1	1	1
	Nantucket	1	1	1
	Rhode Island	1	1	1
	Western Massachussets	1	1	1
<b>CONFIDENCE</b>	Central Massachussets	High	High	High
	Eastern Massachussets	High	High	High
	Nantucket	High	High	High
	Rhode Island	High	High	High
	Western Massachussets	High	High	High

**Thomas, Rachel**

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**From:** WeatherDelivery@telventdn.com  
**Sent:** Wednesday, October 24, 2012 7:33 PM  
**To:** DivOpsNE\_Forecast  
**Subject:** National Grid New England Forecast  
**Attachments:** NATGRIDNEEII.HTM  
**Forecast For New England from TELVENT**

**For National Grid**

Date: October 24, 2012

Time: 7:30 PM EDT

Forecaster: J Buck

**CURRENT CONDITIONS:** Skies are mostly cloudy for most areas. Temperatures are in the middle 50s. Winds are variable at 4-8 mph.

**SYNOPSIS:** Mostly cloudy skies will affect most areas heading into the weekend. Precipitation will also remain dry through late Saturday night at which point a few showers will develop and rain chances will increase Sunday as onshore flow increases in ahead of the storm. Wind speeds, both sustained and gusts will likely increase early next week as Sandy moves north. The exact track of the system remains unclear beyond this weekend, and the severity of the impacts to the service area are uncertain.

Forecast models are in agreement with the track taking Sandy into the Western North Carolina coast of North Carolina by Sunday. From there the models begin to diverge, but most solutions indicate a track with a northwesterly turn Monday and Tuesday. This increases the potential for significant impacts along the East Coast. Most solutions show Sandy moving into a larger storm system and the exact point of land fall, if it occurs, will not necessarily be the only areas to see the worst weather. The impacts of the storm will last several days. Confidence may not increase significantly until Friday or Saturday at which point Sandy will be north of the Bahamas and the evolution of the storm over the Northern US becomes more clear.

**WIND IMPACT:** None.

**THUNDERSTORM IMPACT:** None.

**PRECIPITATION IMPACT:** None.

**TEMPERATURE IMPACT:** None.

**SNOW IMPACT:** None.

**ICE IMPACT:** None.

**FLOOD IMPACT:** None.

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TONIGHT: Partly to mostly cloudy skies. Low temperatures will range from the middle 30s to the middle 40s. Winds will generally be out of the southeast at 3-7 mph.

THURSDAY: Skies will be partly to mostly cloudy. High temperatures will be in the middle 50s to the low 60s. Winds will be out of the south at 5-10 mph.

THURSDAY NIGHT: Skies will be partly cloudy. Low temperatures will range from the upper 30s to the upper 40s. Winds will be out of the south at 4-8 mph.

DAYS 3-5: Fair and dry weather is expected across the entire service area through Friday and most of Saturday. The next chance for rain will develop late Saturday night, with increasing chances on Sunday. Windy conditions are expected Sunday. Temperatures will be above normal Friday and Saturday and near normal Sunday.

NE EII	REGION	DAY 1	DAY 2	DAY 3
<b>WIND SPEED</b>	Central Massachussets	1	1	1
	Eastern Massachussets	1	1	1
	Nantucket	1	1	1
	Rhode Island	1	1	1
	Western Massachusetts	1	1	1
<b>WIND GUST</b>	Central Massachusetts	1	1	1
	Eastern Massachusetts	1	1	1
	Nantucket	1	1	1
	Rhode Island	1	1	1
	Western Massachusetts	1	1	1
<b>CONFIDENCE</b>	Central Massachusetts	High	High	High
	Eastern Massachusetts	High	High	High
	Nantucket	High	High	High
	Rhode Island	High	High	High
	Western Massachusetts	High	High	High

**Thomas, Rachel**

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**From:** WeatherDelivery@telventdn.com  
**Sent:** Thursday, October 25, 2012 6:01 AM  
**To:** DivOpsNE\_Forecast  
**Subject:** National Grid New England Forecast  
**Attachments:** NATGRIDNEEII.HTM

**Forecast For New England from TELVENT**

**For National Grid**

Date: October 25, 2012

Time: 6:00 AM EDT

Forecaster: G Benedict

**CURRENT CONDITIONS:** Skies are partly to mostly cloudy. Temperatures range from the upper 30s to the upper 40s. Winds are light and variable.

**SYNOPSIS:** Partly to mostly cloudy skies will affect most areas heading into the weekend. The area will also remain dry until Saturday night, at which point a few showers will develop. Winds and rain chances will increase Sunday and Sunday night as onshore flow increases ahead of Sandy. Wind speeds, both sustained and gusts will likely increase as Sandy moves further north. The exact track of the system remains unclear because of the uncertainty and therefore the severity of the impacts to the service area remain uncertain. The models are in agreement with the track taking Sandy into the Western Atlantic and North Carolina by Sunday. From there the models begin to diverge, but the latest models indicate a track with a northwesterly turn Monday and Tuesday. This will bring a potential for significant impacts along the East Coast. Most solutions develop a larger storm system and the exact point of land fall, if it occurs, would not necessarily be the only areas to see the worst weather. The impacts of the storm system may not be felt for several days. Confidence may not increase significantly until Friday or Saturday, at which time Sandy will be north of the Bahamas and the evolution of the storm system across the U.S. becomes more clear.

**WIND IMPACT:** None.

**THUNDERSTORM IMPACT:** None.

**PRECIPITATION IMPACT:** None.

**TEMPERATURE IMPACT:** None.

**SNOW IMPACT:** None.

**ICE IMPACT:** None.

**FLOOD IMPACT:** None.

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**TODAY:** Skies will be partly cloudy. High temperatures will be in the upper 50s to the low 60s. Winds will be out of the south at 5-10 mph.

**TONIGHT:** Skies will be partly to mostly cloudy. Low temperatures will range from the low to upper 40s. Winds will be out of the south at 4-8 mph.

**FRIDAY:** Skies will be partly cloudy. High temperatures will range from the low to upper 60s. Winds will be out of the southwest at 5-10 mph.

**FRIDAY NIGHT:** Skies will be partly cloudy. Low temperatures will range from the middle 40s to the low 50s. Winds will be out of the southwest, turning to the northwest at 4-8 mph.

**DAYS 3-5:** Fair and dry weather is expected across the entire service area through most of Saturday. The next chance for rain will develop Saturday night, with increasing chances on Sunday and Sunday night. Windy conditions are expected Sunday. Rain will be widespread on Monday as "Sandy" moves ever closer to New England with winds continuing to increase. Temperatures will be above normal on Saturday and near normal on Sunday and Monday.

NE EII	REGION	DAY 1	DAY 2	DAY 3
<b>WIND SPEED</b>	Central Massachusetts	1	1	1
	Eastern Massachusetts	1	1	1
	Nantucket	1	1	1
	Rhode Island	1	1	1
	Western Massachusetts	1	1	1
<b>WIND GUST</b>	Central Massachusetts	1	1	1
	Eastern Massachusetts	1	1	1
	Nantucket	1	1	1
	Rhode Island	1	1	1
	Western Massachusetts	1	1	1
<b>CONFIDENCE</b>	Central Massachusetts	High	High	High
	Eastern Massachusetts	High	High	High
	Nantucket	High	High	High
	Rhode Island	High	High	High
	Western Massachusetts	High	High	High

**Thomas, Rachel**

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**From:** WeatherDelivery@telventdin.com  
**Sent:** Friday, October 26, 2012 6:02 AM  
**To:** DivOpsNE\_Forecast  
**Subject:** National Grid New England Forecast  
**Attachments:** NATGRIDNEEII.HTM  
**Forecast For New England from TELVENT**

**For National Grid**

Date: October 25, 2012

Time: 6:00 AM EDT

Forecaster: G Benedict

**CURRENT CONDITIONS:** Skies are partly to mostly cloudy. Temperatures range from the lower 50s. Winds are out of the south at 2-5 mph.

**SYNOPSIS:** Dry weather is expected through today and Saturday with a weak high in control. Winds and rain chances will start to increase on Sunday and Sunday onshore flow increases in ahead of Hurricane Sandy. Wind speeds, both surface and aloft will increase even further on Monday, and peak out Monday night into Tuesday as Sandy continues to move northward.

The current forecast track for Hurricane Sandy has the storm making landfall in the early Tuesday. While the track may still change a bit over the coming days, conditions are improving. Sandy will likely make landfall as a tropical storm, with the impacts reaching as the storm expands. The storm impacts will likely begin Sunday and Monday. The strongest winds and heaviest rain will occur Monday night into Tuesday. Wind gusts of up to 70 mph are possible. Conditions will slowly improve Tuesday as the remnants of Sandy will bring strong winds through Wednesday night or Thursday.

**WIND IMPACT:** None.

**THUNDERSTORM IMPACT:** None.

**PRECIPITATION IMPACT:** None.

**TEMPERATURE IMPACT:** None.

**SNOW IMPACT:** None.

**ICE IMPACT:** None.

**FLOOD IMPACT:** None.

**TODAY:** Skies will be partly cloudy to mostly clear. High temperatures will range from the upper 60s. Winds will be out of the south to southwest at 4-8 mph.

**TONIGHT:** Skies will be partly cloudy with patchy fog developing late. Low temperatures will be in the 40s.

11/27/2012

range from the low to upper 40s. Winds will be out of the southwest, turning to the northwest at 2-5 mph.

**SATURDAY:** Skies will be partly cloudy. High temperatures will range from the low to middle 60s. Winds will be out of the east at 5-10 mph.

**SATURDAY NIGHT:** Skies will be mostly cloudy. Low temperatures will range from the middle 40s to the low 50s. Winds will be out of the northeast at 5-10 mph.

**DAYS 3-5:** Rain chances will continue to increase Sunday and Sunday night. Windy conditions are also expected by Sunday. Rain will be widespread on Monday and Tuesday as Hurricane Sandy moves ever closer to New England, with winds also continuing to increase. Damaging winds and heavy rain will develop as soon as Monday night. Peak wind gusts up to 40 mph are expected across southeast Massachusetts and Rhode Island Sunday and Sunday night, with gusts up to 30-35 mph elsewhere. Winds will increase further through the day on Monday. By Monday night and through Tuesday, sustained winds will be up to 30-40 mph with peak wind gusts up to 60-70 mph across southeast Massachusetts and Rhode Island. Elsewhere, sustained winds will be around 25-30 mph with gusts to 45-55 mph. Temperatures will be near normal through the extended period.

NE EII	REGION	DAY 1	DAY 2	DAY 3
<b>WIND SPEED</b>	Central Massachusetts	1	1	1
	Eastern Massachusetts	1	1	1
	Nantucket	1	1	1
	Rhode Island	1	1	1
	Western Massachusetts	1	1	1
<b>WIND GUST</b>	Central Massachusetts	1	1	2
	Eastern Massachusetts	1	1	2
	Nantucket	1	1	2
	Rhode Island	1	1	2
<b>CONFIDENCE</b>	Central Massachusetts	High	High	Medium
	Eastern Massachusetts	High	High	Medium
	Nantucket	High	High	Medium
	Rhode Island	High	High	Medium
	Western Massachusetts	High	High	Medium

**Thomas, Rachel**

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**From:** WeatherDelivery@telventdn.com  
**Sent:** Thursday, October 25, 2012 1:07 PM  
**To:** DivOpsNE\_Forecast  
**Subject:** National Grid New England Forecast  
**Attachments:** NATGRIDNEEII.HTM

**Forecast For New England from TELVENT**

**For National Grid**

**Date:** October 25, 2012

**Time:** 1:00 PM EDT

**Forecaster:** J Buck

**CURRENT CONDITIONS:** Skies are variably cloudy. Temperatures are in the out of the east at 5-10 mph.

**SYNOPSIS:** Dry weather is expected through Saturday with a weak area of high control. Winds and rain chances will increase as onshore flow increases in ahead of Sandy, starting as early as Saturday night or Sunday. Wind speeds, both sustained and gusty, will further increase early next week as Sandy continues to move northward.

The exact track of Hurricane Sandy is still unclear beyond this weekend, but consensus is building that the system will have a direct impact on the region. Forecast model agreement with the track taking Sandy into the Western Atlantic off the coast of North Carolina by Sunday. From there the models begin to diverge, but latest solution track with a northwesterly turn Monday. Sandy would then make landfall Monday depending on how wide of a turn the storm makes. The latest forecast track has the likely area for landfall located along the New Jersey or Long Island coast. It is clear is that the storm will expand as it loses its tropical characteristics and even the center of the low misses the area, the effect still could be severe. The storm is likely last for several days as this storm will be slow to move. The details will become more clear over the next several days.

**WIND IMPACT:** None.

**THUNDERSTORM IMPACT:** None.

**PRECIPITATION IMPACT:** None.

**TEMPERATURE IMPACT:** None.

**SNOW IMPACT:** None.

**ICE IMPACT:** None.

**FLOOD IMPACT:** None.

11/27/2012

**TODAY:** Skies will be cloudy west to sunny east. High temperatures will be in the upper 50s to the low 60s. Winds will be out of the south at 5-10 mph.

**TONIGHT:** Skies will be partly to mostly cloudy. Low temperatures will range from the low to upper 40s. Winds will be out of the south at 4-8 mph.

**FRIDAY:** Skies will be partly cloudy. High temperatures will range from the low to upper 60s. Winds will be out of the southwest at 5-10 mph.

**FRIDAY NIGHT:** Skies will be partly cloudy. Low temperatures will range from the middle 40s to the low 50s. Winds will be out of the southwest, turning to the northwest at 4-8 mph.

**DAYS 3-5:** Fair and dry weather is expected across the entire service area through most of Saturday. The next chance for rain will develop Saturday night, with increasing chances on Sunday and Sunday night. Windy conditions are expected Sunday. Rain will be widespread on Monday as Hurricane Sandy moves ever closer to New England with winds continuing to increase. Damaging winds and heavy rain may develop as soon as Monday night, but conditions will deteriorate the most Monday night. Temperatures will be above normal on Saturday and near normal on Sunday and Monday.

NE EII	REGION	DAY 1	DAY 2	DAY 3
<b>WIND SPEED</b>	Central Massachussets	1	1	1
	Eastern Massachussets	1	1	1
	Nantucket	1	1	1
	Rhode Island	1	1	1
	Western Massachusetts	1	1	1
<b>WIND GUST</b>	Central Massachusetts	1	1	1
	Eastern Massachusetts	1	1	1
	Nantucket	1	1	1
	Rhode Island	1	1	1
	Western Massachusetts	1	1	1
<b>CONFIDENCE</b>	Central Massachusetts	High	High	High
	Eastern Massachusetts	High	High	High
	Nantucket	High	High	High
	Rhode Island	High	High	High
	Western Massachusetts	High	High	High

**Thomas, Rachel**

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**From:** WeatherDelivery@telventdn.com  
**Sent:** Thursday, October 25, 2012 7:33 PM  
**To:** DivOpsNE\_Forecast  
**Subject:** National Grid New England Forecast  
**Attachments:** NATGRIDNEEII.HTM  
**Forecast For New England from TELVENT**

**For National Grid**

Date: October 25, 2012

Time: 7:30 PM EDT

Forecaster: J Buck

**CURRENT CONDITIONS:** Variably cloudy skies are in place. Temperatures are in the middle 50s. Winds are out of the southeast at 5-10 mph.

**SYNOPSIS:** Dry weather is expected through Saturday with a weak area of high pressure control. Winds and rain chances will increase as onshore flow increases in anticipation of Hurricane Sandy, starting as early as Saturday night or Sunday. Wind speeds, both gusts and sustained, will further increase early next week as Sandy continues to move northward.

The current forecast track for Hurricane Sandy has the storm making landfall on Tuesday. While the track may still change over the coming days, confidence is high that Sandy will likely make landfall as a tropical storm with the impacts becoming more severe as the storm expands. The storm impacts will likely begin Sunday and deteriorate through Monday. Strongest winds and heaviest rain will occur Monday night and Tuesday. Peak winds of 70 mph are expected at this time. Conditions will slowly improve Tuesday night. Remnants of Sandy will bring strong winds through Wednesday night or Thursday.

**WIND IMPACT:** None.

**THUNDERSTORM IMPACT:** None.

**PRECIPITATION IMPACT:** None.

**TEMPERATURE IMPACT:** None.

**SNOW IMPACT:** None.

**ICE IMPACT:** None.

**FLOOD IMPACT:** None.

**TONIGHT:** Skies will be partly cloudy to mostly clear. Low temperatures will range from the low to upper 40s. Winds will be out of the south at 4-8 mph.

**FRIDAY:** Skies will be partly cloudy to mostly clear. High temperatures will range from the

low to upper 60s. Winds will be out of the southwest at 5-10 mph.

FRIDAY NIGHT: Skies will be partly cloudy. Low temperatures will range from the middle 40s to the low 50s. Winds will be out of the southwest, turning to the northwest at 4-8 mph.

DAYS 3-5: Fair and dry weather is expected across the entire service area through most of Saturday. The next chance for rain will develop Saturday night, with increasing chances on Sunday and Sunday night. Windy conditions are expected Sunday. Rain will be widespread on Monday as Hurricane Sandy moves ever closer to New England with winds continuing to increase. Damaging winds and heavy rain will develop as soon as Monday night. Peak wind gusts up to 40 mph expected across southeast Massachusetts and Rhode Island Sunday and Sunday night, gusts to 30-35 mph elsewhere. Winds will increase through the day Monday. By Monday night, sustained winds will increase to 30-40 mph with peak wind gusts up to 60-70 mph across southeast Massachusetts and Rhode Island; sustained winds of 25-30 mph with gusts to 45-55 mph elsewhere. Temperatures will be above normal on Saturday and near normal on Sunday and Monday.

NE EII	REGION	DAY 1	DAY 2	DAY 3
<b>WIND SPEED</b>	Central Massachussets	1	1	1
	Eastern Massachussets	1	1	1
	Nantucket	1	1	1
	Rhode Island	1	1	1
	Western Massachusetts	1	1	1
<b>WIND GUST</b>	Central Massachusetts	1	1	1
	Eastern Massachusetts	1	1	1
	Nantucket	1	1	1
	Rhode Island	1	1	1
	Western Massachusetts	1	1	1
<b>CONFIDENCE</b>	Central Massachusetts	High	High	High
	Eastern Massachusetts	High	High	High
	Nantucket	High	High	High
	Rhode Island	High	High	High
	Western Massachusetts	High	High	High

**Thomas, Rachel**

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**From:** WeatherDelivery@telventdtn.com  
**Sent:** Friday, October 26, 2012 1:02 PM  
**To:** DivOpsNE\_Forecast  
**Subject:** National Grid New England Forecast  
**Attachments:** NATGRIDNEEIL.HTM  
**Forecast For New England from TELVENT**

**For National Grid**

Date: October 26, 2012

Time: 1:30 PM EDT

Forecaster: J Buck

**CURRENT CONDITIONS:** Skies are partly to mostly cloudy. Temperatures range from the lower 50s. Winds are out of the south at 2-5 mph.

**SYNOPSIS:** Dry weather is expected through tomorrow with a weak area of high pressure control. Winds and rain chances will start to increase on Sunday and Sunday afternoon flow increases in ahead of Hurricane Sandy. Wind speeds, both sustained and gusts, will increase even further on Monday, and peak out Monday night into Tuesday evening as Sandy makes landfall. The current forecast track for Hurricane Sandy has the storm making landfall in Delaware or southern New Jersey early Tuesday. While the track may shift over the coming days, confidence is improving. Sandy will likely make landfall as a tropical storm or low category 1 hurricane, with the impacts becoming far reaching as the storm expands. Peak wind gusts of up to 60 mph are possible in portions of southern Rhode Island. Conditions will slowly improve Tuesday night, but the remnants will bring strong winds through Wednesday night or Thursday.

**WIND IMPACT:** None.

**THUNDERSTORM IMPACT:** None.

**PRECIPITATION IMPACT:** None.

**TEMPERATURE IMPACT:** None.

**SNOW IMPACT:** None.

**ICE IMPACT:** None.

**FLOOD IMPACT:** None.

**TODAY:** Skies will be partly cloudy. High temperatures will be in the 60s. Winds will be out of the south to southwest at 4-8 mph.

**TONIGHT:** Skies will be partly cloudy to mostly cloudy. Low temperatures will be in the low to upper 40s. Winds will be out of the southwest, turning to the northwest.

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**SATURDAY:** Skies will be partly cloudy. High temperatures will range from the low to middle 60s. Winds will be out of the east at 5-10 mph.

**SATURDAY NIGHT:** Skies will be mostly cloudy. Low temperatures will range from the middle 40s to the low 50s. Winds will be out of the northeast at 5-10 mph.

**DAYS 3-5:** Rain chances will continue to increase Sunday and Sunday night. Windy conditions are also expected by Sunday. Rain will be widespread on Monday and Tuesday as Hurricane Sandy moves ever closer to New England, with winds also continuing to increase. Damaging winds and heavy rain will develop as soon as Monday night. Peak wind gusts up to 40 mph are expected across southeast Massachusetts and Rhode Island Sunday and Sunday night, with gusts up to 30-35 mph elsewhere. Winds will increase further through the day on Monday. By Monday night and through Tuesday, sustained winds will be up to 30-40 mph with peak wind gusts up to 55-60 mph across southeast Massachusetts and Rhode Island. Winds will not be as strong for Boston with gusts peaking at 45-55 mph. Wind gusts will peak around 50 mph for central and western Mass and New Hampshire. Rainfall amounts are expected to range from 5" for southern area to 2" in the New Hampshire, however, isolated higher amounts will be possible for all areas. Temperatures will be near normal through the extended period.

NE EII	REGION	DAY 1	DAY 2	DAY 3
<b>WIND SPEED</b>	Central Massachussets	1	1	1
	Eastern Massachussets	1	1	1
	Nantucket	1	1	1
	Rhode Island	1	1	1
	Western Massachussets	1	1	1
<b>WIND GUST</b>	Central Massachussets	1	1	2
	Eastern Massachussets	1	1	2
	Nantucket	1	1	2
	Rhode Island	1	1	2
	Western Massachussets	1	1	1
<b>CONFIDENCE</b>	Central Massachussets	High	High	Medium
	Eastern Massachussets	High	High	Medium
	Nantucket	High	High	Medium
	Rhode Island	High	High	Medium
	Western Massachussets	High	High	Medium

**Thomas, Rachel**

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**From:** WeatherDelivery@telventdtn.com  
**Sent:** Friday, October 26, 2012 7:33 PM  
**To:** DivOpsNE\_Forecast  
**Subject:** National Grid New England Forecast  
**Attachments:** NATGRIDNEEII.HTM  
**Forecast For New England from TELVENT**

**For National Grid**

Date: October 26, 2012

Time: 7:30 PM EDT

Forecaster: J Buck

**CURRENT CONDITIONS:** Skies are partly cloudy to mostly clear. Temperatures in the 40s. Winds are out of the south-southwest at 3-6 mph.

**SYNOPSIS:** Clouds will build back into the area tonight, but dry conditions will prevail through tomorrow night. Winds and rain chances will increase Sunday morning as a low develops in ahead of Hurricane Sandy. Wind speeds, both sustained and gusts, will increase on Monday and reach their peak Monday night into Tuesday as Hurricane Sandy makes landfall. Strongest winds will affect Rhode Island through the Cape and the current forecast track for Hurricane Sandy has the storm making landfall in Delaware and southern New Jersey early Tuesday. While the track may still change a bit in the next few days, confidence is improving. Sandy will likely make landfall as a tropical storm or 1 hurricane, but will be much larger than most tropical systems. Peak wind gusts of 70-80 mph are possible at the height of the storm. Conditions will slowly improve Tuesday but the remnants of Sandy will bring strong winds through Wednesday night or Thursday.

**WIND IMPACT:** None.

**THUNDERSTORM IMPACT:** None.

**PRECIPITATION IMPACT:** None.

**TEMPERATURE IMPACT:** None.

**SNOW IMPACT:** None.

**ICE IMPACT:** None.

**FLOOD IMPACT:** None.

**TONIGHT:** Skies will be partly cloudy to mostly cloudy. Low temperatures will be in the middle 40s for most areas. Winds will be out of the southwest, turning to the south-southwest at 3-6 mph.

**SATURDAY:** Skies will be partly cloudy. High temperatures will range from the 50s to the 60s.

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60s. Winds will be out of the east at 5-10 mph.

**SATURDAY NIGHT:** Skies will be mostly cloudy. Low temperatures will range from the middle 40s to the low 50s. Winds will be out of the northeast at 5-10 mph.

**DAYS 3-5:** Rain chances will continue to increase Sunday and Sunday night. Windy conditions are also expected by Sunday. Rain will be widespread and will be heavy at times Monday through Tuesday as Hurricane Sandy makes landfall. Winds will also continue to increase, reaching their peak Monday night into Tuesday. Peak wind gusts up to 40 mph are expected across southeast Massachusetts and Rhode Island Sunday and Sunday night, with gusts up to 30-35 mph elsewhere. By Monday night and through Tuesday, sustained winds will be up to 30-40 mph with peak wind gusts up to 55-60 mph across southeast Massachusetts and Rhode Island. Winds will not be as strong for Boston with sustained speeds peaking at 30-35 mph with gusts to 45-55 mph. Sustained winds will peak around 20-30 mph for central and western Mass and New Hampshire with gusts up to 40-50 mph. Rainfall amounts are expected to range from 5" for southern area to 2" in the New Hampshire, however, isolated higher amounts will be possible for all areas. Winds will diminish Tuesday night with sustained speeds and gusts falling below 30 mph and 40 mph, respectively. Temperatures will be near normal through the extended period.

NE EII	REGION	DAY 1	DAY 2	DAY 3
<b>WIND SPEED</b>	Central Massachusetts	1	1	1
	Eastern Massachusetts	1	1	1
	Nantucket	1	1	1
	Rhode Island	1	1	1
	Western Massachusetts	1	1	1
<b>WIND GUST</b>	Central Massachusetts	1	1	2
	Eastern Massachusetts	1	1	2
	Nantucket	1	1	2
	Rhode Island	1	1	2
	Western Massachusetts	1	1	1
<b>CONFIDENCE</b>	Central Massachusetts	High	High	Medium
	Eastern Massachusetts	High	High	Medium
	Nantucket	High	High	Medium
	Rhode Island	High	High	Medium
	Western Massachusetts	High	High	Medium

**Thomas, Rachel**

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**From:** WeatherDelivery@telventdn.com  
**Sent:** Saturday, October 27, 2012 6:02 AM  
**To:** DivOpsNE\_Forecast  
**Subject:** National Grid New England Forecast  
**Attachments:** NATGRIDNEEII.HTM  
**Forecast For New England from TELVENT**

**For National Grid**

Date: October 27, 2012

Time: 6:00 AM EDT

Forecaster: G Benedict

**CURRENT CONDITIONS:** Skies are partly cloudy to mostly cloudy with patchy are in the lower 40s to the lower 50s. Winds are light.

**SYNOPSIS:** Dry conditions will continue to prevail through tonight. Winds and will increase Sunday morning as onshore flow develops in ahead of Hurricane speeds, both sustained and gusts will further increase on Monday and reach th night into Tuesday as Hurricane Sandy as Sandy makes landfall. The stronge affect Rhode Island through the Cape and Islands. The current forecast track Sandy has the storm making landfall in Delaware or southern New Jersey earl; the track may still change a bit in the coming days, confidence is improving. S likely make landfall as a tropical storm or low category 1 hurricane, but will be i than most tropical systems. Peak wind gusts of up to 60 mph are possible at t storm. Conditions will slowly improve Tuesday night, but the remnants of Sanc strong winds through Wednesday night or Thursday.

**WIND IMPACT:** None.

**THUNDERSTORM IMPACT:** None.

**PRECIPITATION IMPACT:** None.

**TEMPERATURE IMPACT:** None.

**SNOW IMPACT:** None.

**ICE IMPACT:** None.

**FLOOD IMPACT:** None.

**TODAY:** Skies will be partly cloudy. High temperatures will be in the low to mi Winds will be out of the east at 4-8 mph.

**TONIGHT:** Skies will be mostly cloudy. Low temperatures will range from the 50. Winds will be out of the northeast at 4-8 mph.

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**SUNDAY:** Skies will be mostly cloudy with scattered showers developing 2-4 PM. Rain amounts will be less than .10". High temperatures will range from the middle 50s to near 60. Winds will be out of the northeast at 10-17 mph.

**SUNDAY NIGHT:** Skies will be mainly cloudy with rain becoming likely. Rain amounts will be in the .10-.30" range. Low temperatures will range from the middle 40s to the middle 50s. Winds will be out of the northeast at 15-25 mph with gusts up to 30-35 mph.

**DAYS 3-5:** Rain will be widespread and heavy at times Monday through Tuesday as Hurricane Sandy makes landfall. Winds will also continue to increase, reaching their peak Monday night into Tuesday. By that time, sustained winds will be up in the 30-40 mph range, with peak gusts up to 55-60 mph across southeast Massachusetts and Rhode Island. Winds will not be as strong for Boston, with sustained speeds peaking at 30-35 mph with gusts to 45-55 mph. Sustained winds will peak around 20-30 mph for central and western Massachusetts and New Hampshire, with gusts up to 40-50 mph. Rainfall amounts are expected to range from 2-4" for southern areas to around 1-2" in New Hampshire. However, isolated higher amounts will be possible for all areas. Winds will diminish Tuesday night, with sustained speeds falling below 30 mph and gusts falling below 40 mph. Winds will diminish even further on Wednesday, with gusts down into the 25-35 mph range, but widespread light to moderate rain will continue. Temperatures will be near normal through the extended period.

NE EII	REGION	DAY 1	DAY 2	DAY 3
<b>WIND SPEED</b>	Central Massachusetts	1	1	1
	Eastern Massachusetts	1	1	2
	Nantucket	2	1	1
	Rhode Island	1	1	1
	Western Massachusetts	1	1	1
<b>WIND GUST</b>	Central Massachusetts	1	2	2
	Eastern Massachusetts	1	2	2
	Nantucket	1	2	1
	Rhode Island	1	2	1
	Western Massachusetts	1	1	2
<b>CONFIDENCE</b>	Central Massachusetts	High	Medium	Medium
	Eastern Massachusetts	High	Medium	Medium
	Nantucket	High	Medium	Medium
	Rhode Island	High	Medium	Medium
	Western Massachusetts	High	Medium	Medium

**Thomas, Rachel**

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**From:** WeatherDelivery@telventdn.com  
**Sent:** Saturday, October 27, 2012 1:02 PM  
**To:** DivOpsNE\_Forecast  
**Subject:** National Grid New England Forecast  
**Attachments:** NATGRIDNEEII.HTM  
**Forecast For New England from TELVENT**

**For National Grid**

Date: October 27, 2012

Time: 12:00 PM EDT

Forecaster: M Nardozzi

**CURRENT CONDITIONS:** Skies are partly to mostly cloudy. Temperatures are 60s with east/northeast winds of 7-13 mph.

**SYNOPSIS:** Dry conditions will continue across New England through tonight, risk for a few showers developing on Sunday, mainly later in the day and even then turns to Hurricane Sandy, which will bring significant impacts to New England Tuesday. Of these impacts will include a strong storm surge of 4-6ft, damaging 50-65 mph, and heavy rainfall at times. The worse of the weather conditions a Hurricane Sandy will be felt Monday afternoon through early Tuesday. Rainfall likely be on the order of 1-3". Weather conditions will be slow to improve, but later afternoon we should see winds beginning to diminish a bit, along with the rainfall remnants of Sandy will continue to affect New England Wednesday, bringing strong and occasionally gusty winds.

**WIND IMPACT:** Hurricane Sandy will make landfall along the southern NJ coast Delmarva Peninsula. However, the large mass field associated with this tropical storm bring tropical storm force winds outwards to 450 miles from the center. Sustained 25-40 mph will be likely with gusts of 50-65 mph. The most hazardous winds will be along the coastlines of MA and RI; however, even the interior locations will see wind gusts of 25-40 mph. The strong winds will occur Monday into Tuesday and the worse of the conditions from Monday afternoon through early on Tuesday.

**THUNDERSTORM IMPACT:** None.

**PRECIPITATION IMPACT:** Hurricane Sandy will bring heavy rain squalls on Monday. Amounts of 1-3" will be possible. The heavy period of rain will begin Monday morning and will last through at least 12am on Tuesday.

**TEMPERATURE IMPACT:** None.

**SNOW IMPACT:** None.

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ICE IMPACT: None.

FLOOD IMPACT: Storm surge of 4-6ft, possible locally higher along the south shores of RI, will be possible on Monday. This will lead to significant coastal flooding. The moderate to heavy rainfall associated with Hurricane Sandy will also contribute to flash flooding.

THIS AFTERNOON: Skies will be partly to mostly cloudy. High temperatures will be in the upper 50s to middle 60s. Winds will be out of the east at 7-15 mph.

TONIGHT: Skies will be mostly cloudy. Low temperatures will be in the low to middle 50s. Winds will be out of the east-northeast at 10-18 mph.

SUNDAY: Skies will be mostly cloudy with widely scattered showers becoming more likely in the late afternoon. Rain amounts will be in the .05-.15" range. High temperatures will be in the low 60s. Winds will be out of the east-northeast, increasing to 18-25 mph with gusts up to 30 mph.

SUNDAY NIGHT: Skies will be mainly cloudy with a chance for scattered showers remaining possible. Rain amounts will be in the .15-.30" range. Low temperatures will be in the 40s to lower 50s. Winds will be out of the northeast at 20-30 mph with gusts up to 45 mph.

DAYS 3-5: The focus turns to Hurricane Sandy, which will bring significant impacts to New England Monday into Tuesday. Hurricane Sandy will produce a strong storm surge of 4-6ft, damaging wind gusts of 50-65 mph, and heavy rainfall at times. The most hazardous weather conditions associated with Hurricane Sandy will be felt Monday afternoon through late Monday night. Rainfall amounts will be in the range of 1-3". Weather conditions will be slow to improve, but by Tuesday afternoon we should see the extreme winds diminishing and the rainfall tapering off. The strongest winds will occur along the RI/MA coastlines, but even across Bay State interior locations there will be hazardous wind gusts of 45-55 mph. The remnants of Sandy will continue to affect New England into Wednesday, bringing scattered showers and occasionally gusty winds. Temperatures will be slightly above normal Monday and Tuesday, falling to near normal by Wednesday.

NE EII	REGION	DAY 1	DAY 2	DAY 3
WIND SPEED	Central Massachussets	1	1	1
	Eastern Massachussets	1	1	2
	Nantucket	2	1	1
	Rhode Island	1	1	2
	Western Massachussets	1	1	1
WIND GUST	Central Massachussets	1	2	2
	Eastern Massachussets	1	2	2
	Nantucket	1	2	1
	Rhode Island	1	2	1
	Western Massachussets	1	1	2
CONFIDENCE	Central Massachussets	High	Medlum	Medium
	Eastern Massachussets	High	Medium	Medium
	Nantucket	High	Medium	Medium
	Rhode Island	High	Medium	Medium
	Western Massachussets	High	Medium	Medium

**Thomas, Rachel**

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**From:** WeatherDelivery@telventdn.com  
**Sent:** Saturday, October 27, 2012 7:34 PM  
**To:** DivOpsNE\_Forecast  
**Subject:** National Grid New England Forecast  
**Attachments:** NATGRIDNEEII.HTM

**Forecast For New England from TELVENT**

**For National Grid**

Date: October 27, 2012

Time: 7:30 PM EDT

Forecaster: M Nardoizzi

**CURRENT CONDITIONS:** Skies are partly to mostly cloudy. Temperatures are with east/northeast winds of 5-10 mph.

**SYNOPSIS:** Dry conditions will continue across New England through tonight, but a risk for a few showers developing late Sunday, but nothing of significance. The threat for Hurricane Sandy, which will bring significant impacts to New England on Tuesday. Of these impacts will include a strong storm surge of 4-6ft above normal, damaging wind gusts of 50-65 mph, and heavy rainfall at times. The worst conditions associated with Hurricane Sandy will be felt Monday afternoon through Tuesday. Rainfall amounts will likely be on the order of 1-3". Weather conditions will be slow to improve, but by Tuesday afternoon we should see winds beginning to clear along with the rainfall. The remnants of Sandy will continue to affect New England bringing scattered showers and occasionally gusty winds.

**WIND IMPACT:** Hurricane Sandy will make landfall along the southern NJ coast and the Delmarva Peninsula Monday night. However, the large velocity field associated with the tropical cyclone will bring tropical storm force winds outwards to 450 miles from land. Sustained winds of 25-40 mph will be likely with gusts of 50-65 mph. The most damage will be felt along the coastlines of MA and RI; however, even the interior locations will experience wind gusts of 45-55 mph. The strong winds will occur Monday into Tuesday and conditions will be from Monday afternoon through early on Tuesday.

**THUNDERSTORM IMPACT:** None.

**PRECIPITATION IMPACT:** Hurricane Sandy will bring heavy rain squalls on Monday. Rainfall amounts of 1-3" will be possible. The heavy period of rain will begin Monday morning and will last through at least 12am on Tuesday.

**TEMPERATURE IMPACT:** None.

**SNOW IMPACT:** None.

**ICE IMPACT:** None.

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**FLOOD IMPACT:** Storm surge of 4-6ft above normal tide, possibly locally higher along the south shores of RI, will be likely on Monday. This will lead to significant coastal flooding. The moderate to heavy rainfall associated with Hurricane Sandy will also contribute to flash flooding.

**TONIGHT:** Skies will be mostly cloudy. Low temperatures will be in the low to middle 50s. Winds will be out of the east-northeast at 10-18 mph.

**SUNDAY:** Skies will be mostly cloudy with widely scattered showers becoming more likely in the late afternoon. Rain amounts will be in the .05-.15" range. High temperatures will be in the low 60s. Winds will be out of the east-northeast, increasing to 18-25 mph with gusts up to 30 mph.

**SUNDAY NIGHT:** Skies will be mainly cloudy with a chance for scattered showers remaining possible. Rain amounts will be in the .15-.30" range. Low temperatures will be in the 40s to lower 50s. Winds will be out of the northeast at 20-30 mph with gusts up to 45 mph.

**DAYS 3-5:** All eyes will be on Hurricane Sandy, which will bring significant impacts to New England Monday into Tuesday. Hurricane Sandy will produce a strong storm surge of 4-6ft above normal tide, damaging wind gusts of 50-65 mph, and heavy rainfall at times. The most hazardous weather conditions associated with Hurricane Sandy will be felt Monday afternoon through late Monday night. Rainfall amounts will be in the range of 1-3". Weather conditions will be slow to improve, but by Tuesday afternoon we should see the extreme winds diminishing and the rainfall tapering off. The strongest winds will occur along the RI/MA coastlines, but even across Bay State interior locations there will be hazardous wind gusts of 45-55 mph. The remnants of Sandy will continue to affect New England into Wednesday, bringing scattered showers and occasionally gusty winds. Temperatures will be slightly above normal Monday and Tuesday, falling to near normal by Wednesday.

NE EII	REGION	DAY 1	DAY 2	DAY 3
<b>WIND SPEED</b>	Central Massachussets	1	1	1
	Eastern Massachussets	1	1	2
	Nantucket	2	1	1
	Rhode Island	1	1	1
	Western Massachussets	1	1	1
<b>WIND GUST</b>	Central Massachussets	1	2	1
	Eastern Massachussets	1	2	1
	Nantucket	1	2	1
	Rhode Island	1	2	1
	Western Massachussets	1	1	1
<b>CONFIDENCE</b>	Central Massachussets	High	Medium	Medium
	Eastern Massachussets	High	Medium	Medium
	Nantucket	High	Medium	Medium
	Rhode Island	High	Medium	Medium
	Western Massachussets	High	Medium	Medium

**Thomas, Rachel**

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**From:** WeatherDelivery@telventdtn.com  
**Sent:** Sunday, October 28, 2012 6:02 AM  
**To:** DivOpsNE\_Forecast  
**Subject:** National Grid New England Forecast  
**Attachments:** NATGRIDNEEII.HTM  
**Forecast For New England from TELVENT**

**For National Grid**

Date: October 28, 2012

Time: 6:00 AM EDT

Forecaster: J Murphy

**CURRENT CONDITIONS:** Skies are cloudy. Temperatures are in the upper 40s to 50s in the east to northeast at 5-12 mph.

**SYNOPSIS:** Cloudy conditions will be over the area with just a slight chance of a shower or patchy areas of drizzle. Rain will move into the area Monday morning and Tuesday with brief periods of heavy rain. Winds will also increase on Monday with the strongest winds late Monday afternoon into Tuesday morning. Rainfall totals will be around 1-3". Impacts of Hurricane Sandy will include a storm surge of 4-6ft above tide, damaging wind gusts of 50-65 mph, and heavy rainfall at times. Weather will be slow to improve, but by Tuesday afternoon we should see winds beginning to improve along with the rainfall. The remnants of Sandy will continue to affect New England and Thursday, bringing scattered showers and occasionally gusty winds.

**WIND IMPACT:** Hurricane Sandy will make landfall along the southern NJ coast near the Delmarva Peninsula Monday night. However, the large wind field associated with the cyclone will bring tropical storm force winds outwards to 450 miles from the center. Sustained winds of 25-40 mph will be likely with gusts of 50-65 mph. The most damage will be felt along the coastlines of MA and RI; however, even the interior locations will experience wind gusts of 45-55 mph. The strong winds will occur Monday afternoon into Tuesday. The worst of the conditions will be from late Monday afternoon through early on Tuesday.

**THUNDERSTORM IMPACT:** None.

**PRECIPITATION IMPACT:** Hurricane Sandy will bring heavy rain squalls on Monday with amounts of 1-3" will be possible. The heavy period of rain will begin Monday evening and will last through at least 12am on Tuesday.

**TEMPERATURE IMPACT:** None.

**SNOW IMPACT:** None.

**ICE IMPACT:** None.

**FLOOD IMPACT:** Storm surge of 4-6ft above normal tide, possibly locally high on the shores of RI, will be likely on Monday. This will lead to significant coastal flooding. Moderate to heavy rainfall associated with Hurricane Sandy will also contribute to flooding.

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flooding.

**TODAY:** Skies will be cloudy with widely scattered showers or areas of drizzle possible in the late afternoon. Rain amounts will be less than .05". High temperatures will be in the middle 50s to lower 60s. Winds will be out of the east-northeast, increasing to 18-25 mph with gusts up to 30 mph.

**TONIGHT:** Skies will cloudy with a chance for scattered showers or areas of drizzle. Rain amounts will be in the .05-.10" range. Low temperatures will be in the 40s to lower 50s. Winds will be out of the northeast at 20-30 mph with gusts up to 35 mph.

**MONDAY:** Cloudy and becoming windy with rain developing in the morning, heavy at times in the afternoon. Rainfall amounts of .50-1.50". Highs will be in the upper 50s to middle 60s. Winds will be easterly at 20-30 mph in the morning increasing to 25-40 mph by late in the afternoon with gusts of 45-65 mph, strongest in coastal areas.

**MONDAY NIGHT:** Cloudy with rain, diminishing some after midnight. Rainfall amounts .50-1.50". Winds will be easterly at 25-35 mph with gusts 45-65 mph with the highest winds over coastal areas. The wind may diminish some late at night. Lows Monday night will be in the upper 40s to middle 50s.

**DAYS 3-5:** As the remnants of Hurricane Sandy move into PA and NY on Tuesday and Wednesday the winds will gradually diminish and then rain will diminish to scattered showers. Additional rainfall amounts will be less than 1". Storm surge flooding will again likely occur on Tuesday with tides running 2-4 feet above normal. Scattered showers will remain possible into Thursday. Temperatures will be slightly above normal Tuesday, falling to near normal by Wednesday and Thursday.

NE EII	REGION	DAY 1	DAY 2	DAY 3
<b>WIND SPEED</b>	Central Massachussets	1	1	1
	Eastern Massachussets	1	2	1
	Nantucket	1	2	1
	Rhode Island	1	1	1
	Western Massachussets	1	1	1
<b>WIND GUST</b>	Central Massachussets	2	1	2
	Eastern Massachussets	2	1	2
	Nantucket	2	1	2
	Rhode Island	2	1	2
	Western Massachussets	2	1	2
<b>CONFIDENCE</b>	Central Massachussets	Medium	Medium	Low
	Eastern Massachussets	Medium	Medium	Low
	Nantucket	Medium	Medium	Low
	Rhode Island	Medium	Medium	Low
	Western Massachussets	Medium	Medium	Low

**Thomas, Rachel**

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**From:** WeatherDelivery@telventdtn.com  
**Sent:** Sunday, October 28, 2012 1:06 PM  
**To:** DivOpsNE\_Forecast  
**Subject:** National Grid New England Forecast  
**Attachments:** NATGRIDNEEII.HTM  
**Forecast For New England from TELVENT**

**For National Grid**

**Date:** October 28, 2012

**Time:** 1:00 PM EDT

**Forecaster:** M Nardozzi

**CURRENT CONDITIONS:** Skies are mostly cloudy with a few rain showers across Massachusetts. Temperatures are in the 50s to lower 60s. Winds are out of the north at 10-20 mph with gusts of 25-35 mph.

**SYNOPSIS:** Today will be the calm before the storm, as Hurricane Sandy makes landfall across the western Atlantic. Hurricane Sandy will track to the northwest by early morning and will make landfall along the south-central NJ coast late Monday night. Impacts from Sandy will be felt well outward from the center, as tropical storm force winds with a diameter of nearly 900 miles. Impacts from Hurricane Sandy will include a storm surge of 4-6ft above normal tide, damaging wind gusts of 50-70 mph, and heavy rainfall. Weather conditions will be slow to improve, but by Tuesday afternoon we should be beginning to diminish a bit, along with the rainfall. The remnants of Sandy will affect New England Wednesday and Thursday, bringing scattered showers and gusty winds.

**WIND IMPACT:** Hurricane Sandy will make landfall along the south-central NJ coast late Monday night. However, the large wind field associated with this tropical cyclone will be felt well outward to 450 miles from the center. Sustained winds of 20-30 mph with gusts of 50-70 mph. The most hazardous winds will be felt along the MA and RI; however, even the interior locations will see wind gusts of 45-60 mph. NES-Cape Cod will see the strongest winds associated with Sandy. The strongest winds will occur Monday afternoon into Tuesday and the worst of the conditions will be felt Monday afternoon through early on Tuesday.

**THUNDERSTORM IMPACT:** None.

**PRECIPITATION IMPACT:** Hurricane Sandy will bring heavy rain squalls on Monday. Amounts of 1-3" will be possible. The heavy period of rain will begin Monday evening and will last through at least 12am on Tuesday.

**TEMPERATURE IMPACT:** None.

**SNOW IMPACT:** None.

**ICE IMPACT:** None.

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**FLOOD IMPACT:** Storm surge of 4-6ft above normal tide, possibly locally higher along the south shores of RI, will be likely on Monday. This will lead to significant coastal flooding. The moderate to heavy rainfall associated with Hurricane Sandy will also contribute to flash flooding.

**THIS AFTERNOON:** Skies will be cloudy with isolated to scattered showers, mainly over eastern Massachusetts. Rain amounts will be less than .10". High temperatures will be in the middle 50s to lower 60s. Winds will be out of the east-northeast, increasing to 18-25 mph with gusts up to 35 mph.

**TONIGHT:** Skies will cloudy with a chance for scattered showers or areas of drizzle. Rain amounts will be in the .05-.10" range. Low temperatures will be in the 40s to lower 50s. Winds will be out of the northeast at 20-30 mph with gusts up to 45 mph.

**MONDAY:** Cloudy and becoming windy with rain developing in the morning, heavy at times in the afternoon. Rainfall amounts of .50-1.50". Highs will be in the upper 50s to middle 60s. Winds will be easterly at 20-30 mph in the morning increasing to 25-40 mph by late in the afternoon with gusts of 45-70 mph, strongest in coastal areas and southeastern Massachusetts.

**MONDAY NIGHT:** Cloudy with rain, diminishing some after midnight. Rainfall amounts .50-1.50". Winds will be easterly at 25-35 mph with gusts 45-65 mph with the highest winds over coastal areas. The wind may diminish some late at night. Lows will be in the upper 40s to middle 50s.

**DAYS 3-5:** As the remnants of Hurricane Sandy move into PA and NY on Tuesday and Wednesday the winds will gradually diminish and then rain will diminish to scattered showers. Additional rainfall amounts will be less than 1". Storm surge flooding will again likely occur on Tuesday with tides running 2-4 feet above normal. Scattered showers will remain possible into Thursday. Temperatures will be slightly above normal Tuesday, falling to near normal by Wednesday and Thursday.

NE EII	REGION	DAY 1	DAY 2	DAY 3
<b>WIND SPEED</b>	Central Massachussets	1	1	1
	Eastern Massachussets	1	2	1
	Nantucket	1	2	1
	Rhode Island	1	1	1
	Western Massachussets	1	1	1
<b>WIND GUST</b>	Central Massachussets	2	1	2
	Eastern Massachussets	2	1	2
	Nantucket	2	1	2
	Rhode Island	2	1	2
	Western Massachussets	2	1	2
<b>CONFIDENCE</b>	Central Massachussets	Medium	Medium	Low
	Eastern Massachussets	Medium	Medium	Low
	Nantucket	Medium	Medium	Low
	Rhode Island	Medium	Medium	Low
	Western Massachussets	Medium	Medium	Low

**Thomas, Rachel**

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**From:** WeatherDelivery@telventdn.com  
**Sent:** Sunday, October 28, 2012 7:33 PM  
**To:** DivOpsNE\_Forecast  
**Subject:** National Grid New England Forecast  
**Attachments:** NATGRIDNEEII.HTM  
**Forecast For New England from TELVENT**

**For National Grid**

Date: October 28, 2012

Time: 7:30 PM EDT

Forecaster: M Nardozzi

**CURRENT CONDITIONS:** Skies are mostly cloudy with a few rain showers across Massachusetts. Temperatures are in the 50s. Winds are out of the east-northeast with gusts of 25-35 mph.

**SYNOPSIS:** Sandy remains a Category 1 Hurricane with the tropical cyclone on a northerly track for the next 24 hours, then a gradual west-northwest shift will make landfall along the south-central New Jersey coast late Monday night. Impacts from Sandy will be far reaching, with tropical storm force winds extending 450 miles from center. Impacts from Hurricane Sandy will include a storm surge of 4-6ft above normal tide, damaging wind gusts of 50-70 mph, and heavy rainfall at times. Weather conditions are expected to improve, but by Tuesday afternoon we should see winds beginning to diminish with the rainfall. The remnants of Sandy will continue to affect New England through Thursday, bringing scattered showers and occasionally gusty winds.

**WIND IMPACT:** Hurricane Sandy will make landfall along the south-central NJ coast late Monday night. However, the large wind field associated with this tropical cyclone will bring storm force winds outwards to 450 miles from the center. Sustained winds of 20-30 mph are likely with gusts of 50-70 mph. The most hazardous winds will be felt along the MA and RI; however, even the interior locations will see wind gusts of 45-60 mph. The strongest winds associated with Sandy will occur Monday afternoon into Tuesday and the worst of the conditions will be felt Monday afternoon through early on Tuesday.

**THUNDERSTORM IMPACT:** None.

**PRECIPITATION IMPACT:** Hurricane Sandy will bring heavy rain squalls on Monday. Amounts of 1-3" will be possible. The heavy period of rain will begin Monday evening and will last through at least 12am on Tuesday.

**TEMPERATURE IMPACT:** None.

**SNOW IMPACT:** None.

**ICE IMPACT:** None.

**FLOOD IMPACT:** Storm surge of 4-6ft above normal tide, possibly locally high

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shores of RI, will be likely on Monday. This will lead to significant coastal flooding. The moderate to heavy rainfall associated with Hurricane Sandy will also contribute to flash flooding.

TONIGHT: Skies will cloudy with a chance for scattered showers or areas of drizzle. Rain amounts will be in the .05-.10" range. Low temperatures will be in the 40s to lower 50s. Winds will be out of the northeast at 20-30 mph with gusts up to 45 mph.

MONDAY: Cloudy and becoming windy with rain developing in the morning, heavy at times in the afternoon. Rainfall amounts of .50-1.50". Highs will be in the upper 50s to middle 60s. Winds will be easterly at 20-30 mph in the morning increasing to 25-40 mph by late in the afternoon with gusts of 45-70 mph, strongest in coastal areas and southeastern Massachusetts.

MONDAY NIGHT: Cloudy with rain, diminishing some after midnight. Rainfall amounts .50-1.50". Winds will be easterly at 25-35 mph with gusts 45-65 mph with the highest winds over coastal areas. The wind may diminish some late at night. Lows will be in the upper 40s to middle 50s.

DAYS 3-5: As the remnants of Hurricane Sandy move into PA and NY on Tuesday and Wednesday the winds will gradually diminish and then rain will diminish to scattered showers. Additional rainfall amounts will be less than 1". Storm surge flooding will again likely occur on Tuesday with tides running 2-4 feet above normal. Scattered showers will remain possible into Thursday. Temperatures will be slightly above normal Tuesday, falling to near normal by Wednesday and Thursday.

NE EI	REGION	DAY 1	DAY 2	DAY 3
WIND SPEED	Central Massachussets	1	1	1
	Eastern Massachussets	1	2	1
	Nantucket	1	2	1
	Rhode Island	1	2	1
	Western Massachussets	1	1	1
WIND GUST	Central Massachussets	2	1	2
	Eastern Massachussets	2	1	2
	Nantucket	2	1	2
	Rhode Island	2	1	2
	Western Massachussets	2	1	2
CONFIDENCE	Central Massachussets	Medium	Medium	Low
	Eastern Massachussets	Medium	Medium	Low
	Nantucket	Medium	Medium	Low
	Rhode Island	Medium	Medium	Low
	Western Massachussets	Medium	Medium	Low

**Thomas, Rachel**

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**From:** WeatherDelivery@telventdtn.com  
**Sent:** Monday, October 29, 2012 6:02 AM  
**To:** DivOpsNE\_Forecast  
**Subject:** National Grid New England Forecast  
**Attachments:** NATGRIDNEEII.HTM

**Forecast For New England from TELVENT**

**For National Grid**

Date: October 29, 2012

Time: 6:00 AM EDT

Forecaster: J Murphy

**CURRENT CONDITIONS:** Skies are cloudy with a few rain showers across the area in the upper 40s to lower 50s. Winds are out of the northeast at 10-25 mph 30-40 mph.

**SYNOPSIS:** Hurricane Sandy remains a Category 1 Hurricane with the tropics maintain a northerly track this morning and then turn sharply to the west and north after noon and night. Sandy will make landfall along the southern or central New England coast Monday night. The impacts from Sandy will be far reaching, with tropical storm force winds extending 450 miles from the center. Impacts from Hurricane Sandy will include 4-6ft above normal tide, damaging wind gusts of 50-75 mph, and heavy rain. Weather conditions will gradually improve on Tuesday, with diminishing winds especially in the afternoon. The remnants of Sandy will continue to affect New England Wednesday through Friday, bringing scattered showers which will become more of a passing day.

**WIND IMPACT:** Hurricane Sandy will make landfall along the south or central New England coast Monday night. However, the large wind field associated with this tropical cyclone will bring storm force winds outwards to 450 miles from the center. Sustained winds of 20-30 mph likely with gusts of 50-70 mph, even 75 mph may occur over Nantucket. The storm will be felt along the coastlines of MA and RI; however, even the interior locations will see gusts of 50-60 mph. Ocean State and Nantucket/Cape Cod will see the strongest winds associated with Sandy. The strongest winds will occur Monday afternoon into evening and will be decreasing to 25-35 mph with gusts to 40-50 mph by late Tuesday.

**THUNDERSTORM IMPACT:** None.

**PRECIPITATION IMPACT:** Hurricane Sandy will bring heavy rain squalls on Monday. Amounts of 1-3" will be possible. The heavy period of rain will begin early Monday evening and will last through at least 12am on Tuesday.

**TEMPERATURE IMPACT:** None.

SNOW IMPACT: None.

ICE IMPACT: None.

FLOOD IMPACT: Storm surge of 4-6ft above normal tide, possibly locally higher along the south shores of RI, will be likely on Monday. This will lead to significant coastal flooding. The moderate to heavy rainfall associated with Hurricane Sandy will also contribute to isolated areas of flash flooding.

TODAY: Cloudy and becoming windy with rain developing in the morning, heavy at times in the afternoon. Rainfall amounts of .50-1.50". Highs will be in the upper 50s to middle 60s. Winds will be easterly at 20-30 mph in the morning increasing to 25-40 mph by late in the afternoon with gusts of 45-70 mph, strongest in coastal areas and southeastern Massachusetts.

TONIGHT: Cloudy with rain, diminishing some after midnight. Rainfall amounts .50-1.50". Winds will be easterly at 25-35 mph with gusts 45-65 mph with the highest winds over coastal areas. The wind may diminish some late at night. Lows will be in the upper 40s to middle 50s.

TUESDAY: Cloudy, windy with areas of rain. The rain and wind will be diminishing during the afternoon. Additional rainfall amounts of .15"-.40" possible. Winds will be east/southeast at 30-40 mph with gusts to 50-60 mph in the morning, diminishing to 25-35 mph with gusts to 40-50 mph by late in the afternoon. Highs will be in the upper 50s to upper 60s.

TUESDAY NIGHT: Cloudy with scattered showers. Rainfall amounts of .10-.20" will be possible. Winds will be southeast at 20-30 mph with gusts to 35-40 mph in the evening, diminishing to 15-25 mph after midnight. Lows will be in the middle 40s to middle 50s.

DAYS 3-5: Scattered to isolated showers will remain possible from Wednesday through Friday. The showers will get more isolated with each passing day. Temperatures will be near normal by Wednesday and Thursday and slightly below normal by Friday.

NE EII	REGION	DAY 1	DAY 2	DAY 3
<b>WIND SPEED</b>	Central Massachussets	1	1	1
	Eastern Massachussets	2	1	1
	Nantucket	2	1	1
	Rhode Island	1	1	1
	Western Massachussets	1	1	1
<b>WIND GUST</b>	Central Massachussets	1	2	1
	Eastern Massachussets	1	2	1
	Nantucket	1	2	2
	Rhode Island	1	2	2
	Western Massachussets	1	1	1
<b>CONFIDENCE</b>	Central Massachussets	Medium	Medium	Medium
	Eastern Massachussets	Medium	Medium	Medium
	Nantucket	Medium	Medium	Medium
	Rhode Island	Medium	Medium	Medium
	Western Massachussets	Medium	Medium	Medium

**Thomas, Rachel**

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**From:** WeatherDelivery@telventdn.com  
**Sent:** Monday, October 29, 2012 1:07 PM  
**To:** DivOpsNE\_Forecast  
**Subject:** National Grid New England Forecast  
**Attachments:** NATGRIDNEEII.HTM

**Forecast For New England from TELVENT**

**For National Grid**

Date: October 29, 2012

Time: 12:00 PM EDT

Forecaster: M Nardozzi

**CURRENT CONDITIONS:** Skies are cloudy with rain showers affecting most of the area. Temperatures are in the 50s to lower 60s. Winds are out of the east-northeast with gusts 35-55 mph.

**SYNOPSIS:** Hurricane Sandy continues to track to the northwest this afternoon and is expected to make landfall late tonight along the south-central shores of NJ. The impacts from Sandy will include a storm surge of 4-6ft above normal tide, damaging winds of 50-75 mph, and heavy rainfall at times. Weather conditions will gradually improve with diminishing winds and rainfall, especially in the afternoon. The remnants of Sandy will continue to affect New England Wednesday through Friday, bringing scattered showers and gusty winds. Conditions will become more isolated with each passing day.

**WIND IMPACT:** Hurricane Sandy will make landfall along the south or central coast of NJ late tonight. However, the large wind field associated with this tropical cyclone will bring storm force winds outwards to 450 miles from the center. Sustained winds of 25-50 mph are likely with gusts of 50-70 mph, even 75 mph may occur over Nantucket. The storm surge will be felt along the coastlines of MA and RI; however, even the interior locations will see gusts of 50-60 mph. Ocean State and Nantucket/Cape Cod will see the strongest winds associated with Sandy. The strongest winds will occur Monday afternoon into Tuesday and will be decreasing to 25-35 mph with gusts to 40-50 mph by late Tuesday.

**THUNDERSTORM IMPACT:** None.

**PRECIPITATION IMPACT:** Hurricane Sandy will bring heavy rain squalls on Monday. Amounts of 1-3" will be possible. The heavy period of rain will begin early Monday evening and will last through at least 12am on Tuesday.

**TEMPERATURE IMPACT:** None.

**SNOW IMPACT:** None.

**ICE IMPACT:** None.

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**FLOOD IMPACT:** Storm surge of 4-7ft above normal tide, possibly locally higher along the south shores of RI/MA, will be likely on Monday. This will lead to significant coastal flooding. The moderate to heavy rainfall associated with Hurricane Sandy will also contribute to isolated areas of flash flooding.

**THIS AFTERNOON:** Cloudy and windy with rain heavy at times in the afternoon. Rainfall amounts of .50-1.25". Highs will be in the upper 50s to middle 60s. Winds will be easterly at 20-30 mph in the morning increasing to 25-40 mph by late in the afternoon with gusts of 45-70 mph, strongest in coastal areas and southeastern Massachusetts.

**TONIGHT:** Cloudy with rain, diminishing some after midnight. Rainfall amounts .50-1.50". Winds will be easterly at 25-35 mph with gusts 45-65 mph with the highest winds over coastal areas. The wind may diminish some late at night. Lows will be in the upper 40s to middle 50s.

**TUESDAY:** Cloudy, windy with areas of rain. The rain and wind will be diminishing during the afternoon. Additional rainfall amounts of .15"- .40" possible. Winds will be east/southeast at 30-40 mph with gusts to 50-60 mph in the morning, diminishing to 25-35 mph with gusts to 40-50 mph by late in the afternoon. Highs will be in the upper 50s to upper 60s.

**TUESDAY NIGHT:** Cloudy with scattered showers. Rainfall amounts of .10-.20" will be possible. Winds will be southeast at 20-30 mph with gusts to 35-40 mph in the evening, diminishing to 15-25 mph after midnight. Lows will be in the middle 40s to middle 50s.

**DAYS 3-5:** Scattered to isolated showers will remain possible from Wednesday through Friday. The showers will get more isolated with each passing day. Temperatures will be near normal by Wednesday and Thursday and slightly below normal by Friday.

NE EII	REGION	DAY 1	DAY 2	DAY 3
<b>WIND SPEED</b>	Central Massachusetts	1	1	1
	Eastern Massachusetts	2	1	1
	Nantucket	2	1	1
	Rhode Island	2	1	1
	Western Massachusetts	1	1	1
<b>WIND GUST</b>	Central Massachusetts	1	2	1
	Eastern Massachusetts	1	2	1
	Nantucket	1	2	2
	Rhode Island	1	2	2
	Western Massachusetts	1	1	1
<b>CONFIDENCE</b>	Central Massachusetts	Medium	Medium	Medium
	Eastern Massachusetts	High	Medium	Medium
	Nantucket	High	Medium	Medium
	Rhode Island	High	Medium	Medium
	Western Massachusetts	Medium	Medium	Medium

**Thomas, Rachel**

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**From:** WeatherDelivery@telventdn.com  
**Sent:** Monday, October 29, 2012 7:33 PM  
**To:** DivOpsNE\_Forecast  
**Subject:** National Grid New England Forecast  
**Attachments:** NATGRIDNEEII.HTM  
**Forecast For New England from TELVENT**

**For National Grid**

**Date:** October 29, 2012

**Time:** 7:30 PM EDT

**Forecaster:** M Nardozzi

**CURRENT CONDITIONS:** Skies are cloudy with numerous rain showers affecting temperatures. Temperatures are in the 50s to lower 60s. Winds are out of the east-northeast with gusts 40-65 mph.

**SYNOPSIS:** Hurricane Sandy is making landfall at this time along the southern coast. From Hurricane Sandy will include a storm surge of 4-6ft above normal tide, gusts of 50-75 mph, and heavy rainfall at times. Weather conditions will gradually improve Tuesday, with diminishing winds and rainfall, especially in the afternoon. The rain will continue to affect New England Wednesday through Friday, bringing in clouds which will become more isolated with each passing day.

**WIND IMPACT:** Sustained winds of 25-45 mph will be likely with gusts of 50-75 mph may occur over Nantucket. The strongest winds will be felt along the coastline; however, even the interior locations will see wind gusts of 50-60 mph. Ocean side of Nantucket/Cape Cod will see the strongest winds associated with Sandy. The winds will occur through tonight and should begin to diminish some after 2am Tuesday, continue to subside during the day on Tuesday, decreasing to 25-35 mph with gusts to 40 mph.

**THUNDERSTORM IMPACT:** None.

**PRECIPITATION IMPACT:** Hurricane Sandy will bring moderate rain squalls a ton tonight and rainfall amounts of 1-3" will be possible. The heavy period of rain will be from 8pm today through 1am on Tuesday.

**TEMPERATURE IMPACT:** None.

**SNOW IMPACT:** None.

**ICE IMPACT:** None.

**FLOOD IMPACT:** Storm surge of 4-7ft above normal tide, possibly locally high

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shores of RI/MA, will be likely tonight. This will lead to significant coastal flooding. The moderate to heavy rainfall associated with Hurricane Sandy will also contribute to isolated areas of flash flooding.

**TONIGHT:** Cloudy with rain, diminishing some after midnight. Rainfall amounts .50-1.50". Winds will be easterly at 25-40 mph with gusts 45-65 mph with the highest winds over coastal areas. Peak wind gusts to 75 mph will be possible along the south shores of RI and MA. The wind may diminish some late at night. Lows will be in the upper 40s to middle 50s.

**TUESDAY:** Cloudy, windy with areas of rain. The rain and wind will be diminishing during the afternoon. Additional rainfall amounts of .15"-.40" possible. Winds will be east/southeast at 30-40 mph with gusts to 50-60 mph in the morning, diminishing to 25-35 mph with gusts to 40-50 mph by late in the afternoon. Highs will be in the upper 50s to upper 60s.

**TUESDAY NIGHT:** Cloudy with scattered showers. Rainfall amounts of .10-.20" will be possible. Winds will be southeast at 20-30 mph with gusts to 35-40 mph in the evening, diminishing to 15-25 mph after midnight. Lows will be in the middle 40s to middle 50s.

**DAYS 3-5:** Scattered to isolated showers will remain possible from Wednesday through Friday. The showers will get more isolated with each passing day. Temperatures will be near normal by Wednesday and Thursday and slightly below normal by Friday.

NE EII	REGION	DAY 1	DAY 2	DAY 3
<b>WIND SPEED</b>	Central Massachussets	2	1	1
	Eastern Massachussets	2	1	1
	Nantucket	2	1	1
	Rhode Island	2	1	1
	Western Massachussets	2	1	1
<b>WIND GUST</b>	Central Massachussets	1	2	1
	Eastern Massachussets	1	2	1
	Nantucket	1	2	2
	Rhode Island	1	2	2
	Western Massachussets	1	1	1
<b>CONFIDENCE</b>	Central Massachussets	Medium	Medium	Medium
	Eastern Massachussets	High	Medium	Medium
	Nantucket	High	Medium	Medium
	Rhode Island	High	Medium	Medium
	Western Massachussets	Medium	Medium	Medium

**Thomas, Rachel**

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**From:** WeatherDelivery@telventdn.com  
**Sent:** Tuesday, October 30, 2012 6:02 AM  
**To:** DivOpsNE\_Forecast  
**Subject:** National Grid New England Forecast  
**Attachments:** NATGRIDNEEII.HTM

**Forecast For New England from TELVENT**

**For National Grid**

**Date:** October 30, 2012

**Time:** 6:00 AM EDT

**Forecaster:** J Murphy

**CURRENT CONDITIONS:** Skies are cloudy with scattered showers. Temperatures are in the 40s-50s. Winds are southeast at 8-20 mph with gusts to 25-35.

**SYNOPSIS:** The remnants of Hurricane Sandy are over south-central PA and central/western NY by Wednesday and into southern Quebec by Thursday and will diminish on Tuesday with just scattered showers on Wednesday. Winds will be as well on Tuesday and should be down to 15-25 mph with gusts to 35 mph by afternoon and then continuing to diminish Tuesday night and Wednesday. Storm surge should be very minor Tuesday morning with tides running only 1-3 feet above morning high tide. Thursday and Friday will still have a chance of a few isolated showers but most areas should be dry. Dry weather looks to return for Saturday.

**WIND IMPACT:** Wind gusts could reach 40-45 mph for brief periods of time this morning. The likely area for high winds will be higher terrain and coastal areas.

**THUNDERSTORM IMPACT:** None.

**PRECIPITATION IMPACT:** None.

**TEMPERATURE IMPACT:** None.

**SNOW IMPACT:** None.

**ICE IMPACT:** None.

**FLOOD IMPACT:** Storm surge should only be around 1-3 feet above normal tide Tuesday morning high tide.

**TODAY:** Cloudy, windy with showers becoming more scattered by the afternoon. Total rainfall amounts of .15"-.40" possible. Winds will be east/southeast at 10-20 mph to 30-40 mph in the morning, diminishing to 15-25 mph with gusts to 35 mph by afternoon. Highs will be in the upper 50s to upper 60s.

TONIGHT: Cloudy with scattered showers. Rainfall amounts of .10-.20" will be possible. Winds will be southeast at 10-20 mph with gusts to 25-30 mph in the evening. Lows will be in the middle 40s to middle 50s.

WEDNESDAY: Mostly cloudy with a few scattered showers. Rainfall amounts of .05-.15" possible. Highs will be in the lower 50s west to the lower to middle 60s east. Winds will be south/southeast at 10-20 mph.

WEDNESDAY NIGHT: Cloudy with a few scattered showers. Rainfall amounts will be less than .05". Lows will be in the lower 40s to lower 50s. Winds will be southwest at 5-10 mph.

DAYS 3-5: Isolated showers will be possible on Thursday and Friday with dry weather returning for Saturday. Temperatures will be near normal on Thursday and below normal on Friday and Saturday.

NE EII	REGION	DAY 1	DAY 2	DAY 3
<b>WIND SPEED</b>	Central Massachussets	1	1	1
	Eastern Massachussets	1	1	1
	Nantucket	1	1	1
	Rhode Island	1	1	1
	Western Massachussets	1	1	1
<b>WIND GUST</b>	Central Massachussets	2	1	1
	Eastern Massachussets	2	1	1
	Nantucket	2	1	1
	Rhode Island	2	1	1
	Western Massachussets	2	1	1
<b>CONFIDENCE</b>	Central Massachussets	Medium	Medium	High
	Eastern Massachussets	Medlum	Medium	High
	Nantucket	Medium	Medium	High
	Rhode Island	Medium	Medium	High
	Western Massachussets	Medium	Medium	High

**Thomas, Rachel**

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**From:** WeatherDelivery@telventdtn.com  
**Sent:** Tuesday, October 30, 2012 1:07 PM  
**To:** DivOpsNE\_Forecast  
**Subject:** National Grid New England Forecast  
**Attachments:** NATGRIDNEEII.HTM  
**Forecast For New England from TELVENT**

**For National Grid**

Date: October 30, 2012

Time: 1:00 PM EDT

Forecaster: J Murphy

**CURRENT CONDITIONS:** Skies are cloudy with scattered showers. Temperatures are in the 50s to middle 60s. Winds are southeast at 10-18 mph with a few gusts to 30-35 mph.

**SYNOPSIS:** The remnants of Hurricane Sandy are over south-central PA and western NY by Wednesday and into Quebec on Thursday. A cold front will move on Friday. Scattered rain showers will be possible this afternoon through Wednesday but will be diminishing this afternoon. Thursday and Friday will still have a chance for isolated rain showers but most areas should be dry. Dry weather looks to return on Saturday. Winds will become a little gusty behind the cold front on Friday and Saturday with gusts of 30-35 mph possible.

**WIND IMPACT:** None.

**THUNDERSTORM IMPACT:** None.

**PRECIPITATION IMPACT:** None.

**TEMPERATURE IMPACT:** None.

**SNOW IMPACT:** None.

**ICE IMPACT:** None.

**FLOOD IMPACT:** None.

**THIS AFTERNOON:** Cloudy with scattered showers. Additional rainfall amount possible. Winds will be southeast at 12-22 mph with gusts to 30-35 mph diminishing this afternoon. Highs will be in the upper 50s to upper 60s.

**TONIGHT:** Cloudy with scattered showers. Rainfall amounts of .10-.25" will be possible. Winds will be southeast at 8-15 mph. Lows will be in the middle 40s to lower 50s.

**WEDNESDAY:** Mostly cloudy with a few scattered showers. Rainfall amounts of .10-.25" will be possible. Highs will be in the lower 50s west to the lower to middle 60s east. Winds will be south/southwest at 10-20 mph.

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**WEDNESDAY NIGHT:** Cloudy with a few scattered showers, mainly in the evening. Rainfall amounts will be less than .05". Lows will be in the upper 30s to upper 40s. Winds will be southwest at 5-10 mph.

**DAYS 3-5:** Isolated showers will be possible on Thursday and Friday with dry weather returning for Saturday. Temperatures will be near normal on Thursday and below normal on Friday and Saturday.

**10 day temperature outlook:** Thursday will have highs in the 50s with lows in the upper 30s to upper 40s. Friday will have highs in the upper 40s to upper 50s with lows in the middle 30s to lower 40s. Saturday will have highs in the middle 40s to lower 50s with lows in the 30s. Sunday through Thursday will have highs in the upper 40s to lower 50s with lows in the 30s to middle 40s.

NE EII	REGION	DAY 1	DAY 2	DAY 3
<b>WIND SPEED</b>	Central Massachussets	1	1	1
	Eastern Massachussets	1	1	1
	Nantucket	1	1	1
	Rhode Island	1	1	1
	Western Massachussets	1	1	1
<b>WIND GUST</b>	Central Massachussets	2	1	1
	Eastern Massachussets	2	1	1
	Nantucket	2	1	1
	Rhode Island	2	1	1
	Western Massachussets	2	1	1
<b>CONFIDENCE</b>	Central Massachussets	Medium	High	High
	Eastern Massachussets	Medium	High	High
	Nantucket	Medium	High	High
	Rhode Island	Medium	High	High
	Western Massachussets	Medium	High	High

**Thomas, Rachel**

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**From:** WeatherDelivery@telventdn.com  
**Sent:** Tuesday, October 30, 2012 4:58 PM  
**To:** DivOpsNE\_Forecast  
**Subject:** National Grid New England Forecast  
**Attachments:** NATGRIDNEEII.HTM  
**Forecast For New England from TELVENT**

**For National Grid**

Date: October 30, 2012

Time: 5:00 PM EDT

Forecaster: J Murphy

**CURRENT CONDITIONS:** Skies are cloudy with scattered showers and even over eastern MA. Temperatures are in the middle 50s to middle 60s. Winds are 10-18 mph with a few gusts to 30-35 mph.

**SYNOPSIS:** The remnants of Hurricane Sandy are over south-central PA and western NY by Wednesday and into Quebec on Thursday. A cold front will move on Friday. Scattered rain showers and isolated thunderstorms will occur this evening just a few showers later tonight into Wednesday. Winds will be diminishing this Thursday and Friday will still have a chance of a few isolated rain showers but should be dry. Dry weather looks to return for Saturday. Winds will become a breeze behind the cold front on Friday and Saturday with some gusts of 30-35 mph possible.

**WIND IMPACT:** None.

**THUNDERSTORM IMPACT:** Isolated thunderstorms will occur over eastern MA this evening. Low amounts will occur with the storms.

**PRECIPITATION IMPACT:** None.

**TEMPERATURE IMPACT:** None.

**SNOW IMPACT:** None.

**ICE IMPACT:** None.

**FLOOD IMPACT:** None.

**THIS AFTERNOON:** Cloudy with scattered showers and isolated thunderstorms possible. Amounts of .10"-.25" possible. Winds will be southeast at 12-22 mph with gusts to 30 mph. Highs will be in the upper 50s to upper 60s.

**TONIGHT:** Cloudy with scattered showers, thunderstorms possible through 10 PM. Amounts of .10-.25" will be possible. Winds will be southeast at 8-15 mph. Lows will be in the middle 40s to lower 50s.

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**WEDNESDAY:** Mostly cloudy with a few scattered showers. Rainfall amounts of .05-.15" possible. Highs will be in the lower 50s west to the lower to middle 60s east. Winds will be south/southwest at 10-20 mph.

**WEDNESDAY NIGHT:** Cloudy with a few scattered showers, mainly in the evening. Rainfall amounts will be less than .05". Lows will be in the upper 30s to upper 40s. Winds will be southwest at 5-10 mph.

**DAYS 3-5:** Isolated showers will be possible on Thursday and Friday with dry weather returning for Saturday. Temperatures will be near normal on Thursday and below normal on Friday and Saturday.

10 day temperature outlook: Thursday will have highs in the 50s with lows in the upper 30s to upper 40s. Friday will have highs in the upper 40s to upper 50s with lows in the middle 30s to lower 40s. Saturday will have highs in the middle 40s to lower 50s with lows in the 30s. Sunday through Thursday will have highs in the upper 40s to lower 50s with lows in the 30s to middle 40s.

NE EII	REGION	DAY 1	DAY 2	DAY 3
<b>WIND SPEED</b>	Central Massachusetts	1	1	1
	Eastern Massachusetts	1	1	1
	Nantucket	1	1	1
	Rhode Island	1	1	1
	Western Massachusetts	1	1	1
<b>WIND GUST</b>	Central Massachusetts	2	1	1
	Eastern Massachusetts	2	1	1
	Nantucket	2	1	1
	Rhode Island	2	1	1
	Western Massachusetts	2	1	1
<b>CONFIDENCE</b>	Central Massachusetts	Medium	High	High
	Eastern Massachusetts	Medium	High	High
	Nantucket	Medium	High	High
	Rhode Island	Medium	High	High
	Western Massachusetts	Medium	High	High

**Thomas, Rachel**

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**From:** WeatherDelivery@telventdn.com  
**Sent:** Tuesday, October 30, 2012 7:33 PM  
**To:** DivOpsNE\_Forecast  
**Subject:** National Grid New England Forecast  
**Attachments:** NATGRIDNEEII.HTM  
**Forecast For New England from TELVENT**

**For National Grid**

Date: October 30, 2012

Time: 7:30 PM EDT

Forecaster: J Murphy

**CURRENT CONDITIONS:** Skies are cloudy with scattered showers and even rain over eastern MA. Temperatures are in the middle 50s to lower 60s. Winds are 10-15 mph with a few gusts to 25 mph.

**SYNOPSIS:** The remnants of Hurricane Sandy are over western PA and will be over western NY by later tonight and into Quebec on Thursday. A cold front will move over the area on Friday. Scattered rain showers and isolated thunderstorms will occur with just a few showers later tonight into Wednesday. Thursday and Friday will have a chance of a few isolated rain showers but most areas should be dry. Dry weather will return for Saturday. Winds will become a little gusty behind the cold front on Saturday with some gusts of 30-35 mph possible.

**WIND IMPACT:** None.

**THUNDERSTORM IMPACT:** Isolated thunderstorms will occur over eastern MA in the evening. Low amounts will occur with the storms.

**PRECIPITATION IMPACT:** None.

**TEMPERATURE IMPACT:** None.

**SNOW IMPACT:** None.

**ICE IMPACT:** None.

**FLOOD IMPACT:** None.

**TONIGHT:** Cloudy with scattered showers, thunderstorms possible through 10 PM into NH. Rainfall amounts of .10-.35" will be possible. Winds will be southeasterly. Lows will be in the middle 40s to lower 50s.

**WEDNESDAY:** Mostly cloudy with a few scattered showers. Rainfall amounts .10-.35" will be possible. Highs will be in the lower 50s west to the lower to middle 60s east. Winds will be south/southwest at 10-20 mph.

**WEDNESDAY NIGHT:** Cloudy with a few scattered showers, mainly in the evening. Rainfall amounts will be less than .05". Lows will be in the upper 30s to upper 40s. Winds will be southwest at 5-10 mph.

**DAYS 3-5:** Isolated showers will be possible on Thursday and Friday with dry weather returning for Saturday. Temperatures will be near normal on Thursday and below normal on Friday and Saturday.

10 day temperature outlook: Thursday will have highs in the 50s with lows in the upper 30s to upper 40s. Friday will have highs in the upper 40s to upper 50s with lows in the middle 30s to lower 40s. Saturday will have highs in the middle 40s to lower 50s with lows in the 30s. Sunday through Thursday will have highs in the upper 40s to lower 50s with lows in the 30s to middle 40s.

NE EII	REGION	DAY 1	DAY 2	DAY 3
<b>WIND SPEED</b>	Central Massachussets	1	1	1
	Eastern Massachussets	1	1	1
	Nantucket	1	1	1
	Rhode Island	1	1	1
	Western Massachussets	1	1	1
<b>WIND GUST</b>	Central Massachussets	1	1	1
	Eastern Massachussets	1	1	1
	Nantucket	1	1	1
	Western Massachussets	1	1	1
<b>CONFIDENCE</b>	Central Massachussets	Medium	High	High
	Eastern Massachussets	Medium	High	High
	Nantucket	Medium	High	High
	Rhode Island	Medium	High	High
	Western Massachussets	Medium	High	High

**Thomas, Rachel**

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**From:** WeatherDelivery@telventdtn.com  
**Sent:** Wednesday, October 31, 2012 6:02 AM  
**To:** DivOpsNE\_Forecast  
**Subject:** National Grid New England Forecast  
**Attachments:** NATGRIDNEEII.HTM  
**Forecast For New England from TELVENT**

**For National Grid**

Date: October 31, 2012

Time: 6:00 AM EDT

Forecaster: J Murphy

**CURRENT CONDITIONS:** Skies are cloudy with a few scattered showers. Temperature in the middle 40s to lower 50s. Winds are generally southwest at 6-12 mph.

**SYNOPSIS:** The remnants of Hurricane Sandy are moving into southwest NY and Quebec on Thursday. A cold front will move through the area on Friday. A few showers remain possible on Wednesday with just a very slight chance of an isolated shower on Thursday night. Thursday and Friday will still have a chance of a few isolated rain showers. Areas should be dry. Dry weather looks to return for Saturday and Sunday. Winds will be a little gusty behind the cold front on Friday and Saturday with some gusts of 30 mph possible.

**WIND IMPACT:** None.

**THUNDERSTORM IMPACT:** None.

**PRECIPITATION IMPACT:** None.

**TEMPERATURE IMPACT:** None.

**SNOW IMPACT:** None.

**ICE IMPACT:** None.

**FLOOD IMPACT:** None.

**TODAY:** Mostly cloudy with a few scattered showers. Rainfall amounts of .05-.10 inches. Highs will be in the lower 50s west to the lower to middle 60s east. Winds will be south/southwest at 10-20 mph.

**TONIGHT:** Cloudy with a slight chance of an isolated rain shower. Rainfall amounts less than .05". Lows will be in the upper 30s to upper 40s. Winds will be south/southwest at 10-20 mph.

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**THURSDAY:** Mostly cloudy with a chance of an isolated rain shower. Rainfall amounts will be less than .05". Highs will be in the upper 40s to upper 50s. Winds will be west/southwest at 8-15 mph.

**THURSDAY NIGHT:** Partly to mostly cloudy. Lows will be in the upper 30s to upper 40s. Winds will be westerly at 4-8 mph.

**DAYS 3-5:** Isolated showers will be possible on Friday with dry weather returning for Saturday and Sunday. Temperatures will be below normal from Friday through Sunday.  
10 day temperature outlook: Friday will have highs in the upper 40s to upper 50s with lows in the middle 30s to lower 40s. Saturday will have highs in the middle 40s to lower 50s with lows in the 30s. Sunday through Thursday will have highs in the upper 40s to lower 50s with lows in the 30s to middle 40s.

NE EII	REGION	DAY 1	DAY 2	DAY 3
<b>WIND SPEED</b>	Central Massachussets	1	1	1
	Eastern Massachussets	1	1	1
	Nantucket	1	1	1
	Rhode Island	1	1	1
	Western Massachussets	1	1	1
<b>WIND GUST</b>	Central Massachussets	1	1	1
	Eastern Massachussets	1	1	1
	Nantucket	1	1	1
	Rhode Island	1	1	1
	Western Massachussets	1	1	1
<b>CONFIDENCE</b>	Central Massachussets	Medium	High	High
	Eastern Massachussets	Medium	High	High
	Nantucket	Medium	High	High
	Rhode Island	Medium	High	High
	Western Massachussets	Medium	High	High

**Thomas, Rachel**

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**From:** WeatherDelivery@telventdtn.com  
**Sent:** Wednesday, October 31, 2012 1:03 PM  
**To:** DivOpsNE\_Forecast  
**Subject:** National Grid New England Forecast  
**Attachments:** NATGRIDNEEII.HTM  
**Forecast For New England from TELVENT**

**For National Grid**

Date: October 31, 2012

Time: 1:00 PM EDT

Forecaster: J Chrzanowski

**CURRENT CONDITIONS:** Skies are mostly cloudy across New England early isolated showers are reported. Temperatures are in the lower 50s west to upper 60s east. Winds are generally from the southwest at 8-15 mph.

**SYNOPSIS:** The remnants of post-tropical cyclone Sandy are moving across the area this afternoon and it will be moving into Quebec on Thursday. A few showers will be reported this afternoon with just a very slight chance of an isolated shower or two tonight through Thursday. A cold front will move through the area on Friday and that may cause a few showers. However, many areas will tend to remain dry. Dry weather looks to continue through Saturday and Sunday. Winds will become gusty behind the cold front on Friday with some gusts of 30-35 mph likely to occur. The next appreciable chance for rain looks to be early next week (late Monday and Tuesday). There is the potential for a significant snowfall.

**WIND IMPACT:** None.

**THUNDERSTORM IMPACT:** None.

**PRECIPITATION IMPACT:** None.

**TEMPERATURE IMPACT:** None.

**SNOW IMPACT:** None.

**ICE IMPACT:** None.

**FLOOD IMPACT:** None.

**THIS AFTERNOON:** Mostly cloudy with a few scattered showers possible. Rainfall amounts to .10" possible. High temperatures will be in the lower 50s west to the lower 60s east. Winds will be from the south/southwest at 10-20 mph with a few gusts to 25 mph.

**TONIGHT:** Cloudy with a slight chance of an isolated rain shower. Rainfall amounts less than .05". Lows will be in the upper 30s to upper 40s (mildest at Cape Cod).

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Winds will be southwest at 5-10 mph.

**THURSDAY:** Mostly cloudy with a chance of an isolated rain shower. Rainfall amounts will be less than .05". Highs will be in the upper 40s to upper 50s. Winds will be west/southwest at 10-15 mph.

**THURSDAY NIGHT:** Partly cloudy to mostly cloudy. Lows will be in the upper 30s to middle 40s (mildest at Cape Cod/Nantucket). Winds will be westerly at 4-8 mph.

**DAYS 3-5:** Isolated rain showers will be possible on Friday with dry weather returning for Saturday and Sunday. Temperatures will be below normal from Friday through Sunday.

**10 DAY TEMPERATURE OUTLOOK:** Friday will have highs in the upper 40s to upper 50s with overnight lows in the middle 30s to lower 40s. Saturday will have highs in the middle 40s to lower 50s with lows in the lower to middle 30s except near 40 near Cape Cod/Nantucket. Sunday through Thursday will have highs in the middle 40s to lower 50s with lows in the 30s to lower/middle 40s.

NE EII	REGION	DAY 1	DAY 2	DAY 3
<b>WIND SPEED</b>	Central Massachussets	1	1	1
	Eastern Massachussets	1	1	1
	Nantucket	1	1	1
	Rhode Island	1	1	1
	Western Massachussets	1	1	1
<b>WIND GUST</b>	Central Massachussets	1	1	1
	Eastern Massachussets	1	1	1
	Nantucket	1	1	1
	Rhode Island	1	1	1
	Western Massachussets	1	1	1
<b>CONFIDENCE</b>	Central Massachussets	High	High	High
	Eastern Massachussets	High	High	High
	Nantucket	High	High	High
	Rhode Island	High	High	High
	Western Massachussets	High	High	High

**Thomas, Rachel**

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**From:** WeatherDelivery@telventdn.com  
**Sent:** Wednesday, October 31, 2012 7:33 PM  
**To:** DivOpsNE\_Forecast  
**Subject:** National Grid New England Forecast  
**Attachments:** NATGRIDNEEII.HTM  
**Forecast For New England from TELVENT**

**For National Grid**

Date: October 31, 2012

Time: 7:30 PM EDT

Forecaster: J Chrzanowski

**CURRENT CONDITIONS:** Skies are mostly cloudy across New England this e showers are reported. Temperatures range from the middle 40s to lower 50s. generally from the southwest at 8-15 mph.

**SYNOPSIS:** The remnants of post-tropical cyclone Sandy are on their way intc isolated showers will be possible tonight and Thursday, but there will be many cold front will move through the area on Friday and that may cause a few isola However, many areas will tend to remain dry. Dry weather looks to return for 5 Sunday. Winds will become gusty behind the cold front on Friday and Saturda of 30-35 mph likely to occur. The next appreciable chance for precipitation loo next week (late Monday and Tuesday). There is the potential for this system to significant.

**WIND IMPACT:** None.

**THUNDERSTORM IMPACT:** None.

**PRECIPITATION IMPACT:** None.

**TEMPERATURE IMPACT:** None.

**SNOW IMPACT:** None.

**ICE IMPACT:** None.

**FLOOD IMPACT:** None.

**TONIGHT:** Cloudy with a slight chance for an isolated rain shower or two. Rai will be less than .05". Low temperatures will be in the upper 30s to upper 40s Cape Cod/Nantucket). Winds will be from the southwest at 5-10 mph.

**THURSDAY:** Mostly cloudy with a chance for a few isolated rain showers. Rai

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or so. Highs will be in the upper 40s to upper 50s. Winds will be west/southwest at 10-20 mph.

THURSDAY NIGHT: Partly cloudy to mostly cloudy. Lows will be in the upper 30s to middle 40s (mildest at Cape Cod/Nantucket). Winds will be westerly at 4-8 mph.

DAYS 3-5: Isolated rain showers will be possible on Friday with dry weather returning for Saturday and Sunday. Temperatures will be below normal from Friday through Sunday.

10 DAY TEMPERATURE OUTLOOK: Friday will have highs in the upper 40s to upper 50s with overnight lows in the middle 30s to lower 40s. Saturday will have highs in the middle 40s to lower 50s with overnight lows in the upper 20s to middle 30s except near 40 degrees for Cape Cod/Nantucket and coastal Rhode Island. Sunday through next Friday will generally have high temperatures in the middle 40s to lower 50s with lows in the 30s to lower 40s.

NE EII	REGION	DAY 1	DAY 2	DAY 3
<b>WIND SPEED</b>	Central Massachussets	1	1	1
	Eastern Massachussets	1	1	1
	Nantucket	1	1	1
	Rhode Island	1	1	1
	Western Massachussets	1	1	1
<b>WIND GUST</b>	Central Massachussets	1	1	1
	Eastern Massachussets	1	1	1
	Nantucket	1	1	1
	Western Massachussets	1	1	1
<b>CONFIDENCE</b>	Central Massachussets	High	High	High
	Eastern Massachussets	High	High	High
	Nantucket	High	High	High
	Rhode Island	High	High	High
	Western Massachussets	High	High	High

**Thomas, Rachel**

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**From:** WeatherDelivery@telventdn.com  
**Sent:** Thursday, November 01, 2012 8:02 AM  
**To:** DivOpsNE\_Forecast  
**Subject:** National Grid New England Forecast  
**Attachments:** NATGRIDNEEII.HTM  
**Forecast For New England from TELVENT**

**For National Grid**

Date: November 1, 2012

Time: 6:00 AM EDT

Forecaster: G Benedict

**CURRENT CONDITIONS:** Skies are mostly cloudy. Temperatures range from upper 40s. Winds are generally out of the southwest at 5-10 mph.

**SYNOPSIS:** A few isolated showers will be possible today, but there will be most places may remain dry. A cold front will move through the area on Friday produce a few more isolated showers. Like today, most areas will tend to remain weather looks to return for Saturday and Sunday. Winds will become a bit colder cold front on Saturday and Sunday, with some gusts of 25-30 mph possible. There is an appreciable chance for precipitation looks to develop on Monday and continue there is the potential for this system to be fairly significant.

**WIND IMPACT:** None.

**THUNDERSTORM IMPACT:** None.

**PRECIPITATION IMPACT:** None.

**TEMPERATURE IMPACT:** None.

**SNOW IMPACT:** None.

**ICE IMPACT:** None.

**FLOOD IMPACT:** None.

**TODAY:** Mostly cloudy with a chance for a few isolated rain showers. Rainfall so. Highs will range from the upper 40s to the upper 50s. Winds will be out of at 10-15 mph.

**TONIGHT:** Partly cloudy to mostly cloudy. Lows will range from the middle 30s. Winds will be out of the west to southwest at 4-8 mph.

**FRIDAY:** Mostly cloudy with a chance for a few isolated rain showers, mainly in the afternoon. Rainfall amounts .05" or less. Highs will range from the upper 40s to 50s. Winds will be west to northwest at 7-15 mph.

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**FRIDAY NIGHT:** Skies will be partly to mostly cloudy with isolated showers ending by mid-evening. Additional rainfall amounts will be less than .05". Lows will range from the low 30s to the low 40s. Winds will be out of the northwest at 10-15 mph.

**DAYS 3-5:** Dry weather will return for both Saturday and Sunday. Rain will develop by Saturday afternoon and will continue into Saturday night and at least part of Tuesday. Some areas of moderate rainfall will be possible during this period, especially Monday night. Temperatures will be near normal on Saturday, falling below normal Sunday and Monday.

**10 DAY TEMPERATURE OUTLOOK:** Saturday will have highs in the middle 40s to the middle 50s, with overnight lows in the low 30s to the low 40s. Sunday and Monday will have highs in the low 40s to the low 50s, with overnight lows in the upper 20s to the upper 30s, except near 40 degrees for Cape Cod/Nantucket and coastal Rhode Island. Tuesday through next Saturday will generally have high temperatures in the middle 40s to the middle 50s, with lows in the low 30s to middle 40s.

NE EII	REGION	DAY 1	DAY 2	DAY 3
<b>WIND SPEED</b>	Central Massachussets	1	1	1
	Eastern Massachussets	1	1	1
	Nantucket	1	1	1
	Rhode Island	1	1	1
	Western Massachussets	1	1	1
<b>WIND GUST</b>	Central Massachussets	1	1	1
	Eastern Massachussets	1	1	1
	Nantucket	1	1	1
	Rhode Island	1	1	1
	Western Massachussets	1	1	1
<b>CONFIDENCE</b>	Central Massachussets	High	High	High
	Eastern Massachussets	High	High	High
	Nantucket	High	High	High
	Rhode Island	High	High	High
	Western Massachussets	High	High	High

**Thomas, Rachel**

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**From:** WeatherDelivery@telventdtn.com  
**Sent:** Thursday, November 01, 2012 1:07 PM  
**To:** DivOpsNE\_Forecast  
**Subject:** National Grid New England Forecast  
**Attachments:** NATGRIDNEEII.HTM  
**Forecast For New England from TELVENT**

**For National Grid**

Date: November 1, 2012

Time: 1:00 PM EDT

Forecaster: J Chrzanowski

**CURRENT CONDITIONS:** Skies are partly sunny to mostly cloudy across New England this afternoon. Temperatures range from the upper 40s to middle 50s. Winds are at 10-15 mph.

**SYNOPSIS:** A few isolated showers will be possible across New England this afternoon. There will be many dry hours and most places may remain dry. Any showers will tend to be in the western portions. A cold front will move through the area on Friday and it will bring a few more isolated showers. Like today, most areas will tend to remain dry. Dry conditions will return for Saturday and Sunday. Winds will become a bit breezy behind the front on Saturday and Sunday with gusts to 30 mph likely. A few gusts may reach 35 mph. The chance for rain has been delayed until Tuesday but the better chance for rain is around the middle of the week. There is a potential for this system to be fairly strong with some forecast solutions indicating a coastal storm. With colder air in place, accumulating snow will be possible across the interior. We will be monitoring this system very carefully in the days ahead.

**WIND IMPACT:** None.

**THUNDERSTORM IMPACT:** None.

**PRECIPITATION IMPACT:** None.

**TEMPERATURE IMPACT:** None.

**SNOW IMPACT:** None.

**ICE IMPACT:** None.

**FLOOD IMPACT:** None.

**THIS AFTERNOON:** Mostly cloudy with a chance for a few isolated rain showers. Rainfall amounts will be .05" or so. High temperatures will range from the upper 40s to upper 50s. Winds will be from the southwest at 12-16 mph.

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TONIGHT: Partly cloudy to mostly cloudy. Lows will range from the middle 30s to lower 40s (mildest readings at Cape Cod/Nantucket). Winds will be out of the west to southwest at 6-12 mph.

FRIDAY: Mostly cloudy with a chance for a few isolated rain showers, mainly during the afternoon. Rainfall amounts .05" or less. Highs will range from the upper 40s to upper 50s. Winds will be west to northwest at 10-15 mph.

FRIDAY NIGHT: Skies will be partly to mostly cloudy with isolated showers ending by mid evening. Additional rainfall amounts will be less than .05". Lows will range from the lower to middle 30s interior portions to the lower 40s near Cape Cod and Nantucket. Winds will be out of the northwest at 10-15 mph.

DAYS 3-5: Dry weather will return for both Saturday and Sunday. Rain will develop by Saturday afternoon and will continue into Saturday night and at least part of Tuesday. Some areas of moderate rainfall will be possible during this period, especially Monday night. Temperatures will be near normal on Saturday falling to below normal readings on Sunday and Monday.

10 DAY TEMPERATURE OUTLOOK: Saturday will have highs in the middle 40s to middle 50s with overnight lows in the lower to middle 30s interior to the lower 40s near Cape Cod and Nantucket. Sunday and Monday will have highs in the lower 40s to lower 50s, with overnight lows in the upper 20s to upper 30s, except near 40 degrees for Cape Cod/Nantucket and coastal Rhode Island. Below normal temperatures are expected for the period Tuesday through next Saturday. Daily highs will generally be in the 40s with overnight lows in the 30s.

NE EII	REGION	DAY 1	DAY 2	DAY 3
WIND SPEED	Central Massachussets	1	1	1
	Eastern Massachussets	1	1	1
	Nantucket	1	1	1
	Rhode Island	1	1	1
	Western Massachusetts	1	1	1
WIND GUST	Central Massachusetts	1	1	1
	Eastern Massachusetts	1	1	1
	Nantucket	1	1	1
	Rhode Island	1	1	1
	Western Massachusetts	1	1	1
CONFIDENCE	Central Massachusetts	High	High	High
	Eastern Massachusetts	High	High	High
	Nantucket	High	High	High
	Rhode Island	High	High	High
	Western Massachusetts	High	High	High

**Thomas, Rachel**

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**From:** WeatherDelivery@telventdn.com  
**Sent:** Thursday, November 01, 2012 7:33 PM  
**To:** DivOpsNE\_Forecast  
**Subject:** National Grid New England Forecast  
**Attachments:** NATGRIDNEEII.HTM  
**Forecast For New England from TELVENT**

**For National Grid**

Date: November 1, 2012

Time: 7:30 PM EDT

Forecaster: J Chrzanowski

**CURRENT CONDITIONS:** Skies are mostly cloudy across New England this e isolated rain showers in far western Massachusetts. Temperatures range from near 50 degrees. Winds are from the southwest at 10-15 mph.

**SYNOPSIS:** A few isolated rain showers will occur across western New Englar places may remain dry. A cold front will move through the area on Friday and few more isolated rain showers. Dry weather looks to return for Saturday and will become a bit breezy behind the cold front on Saturday and Sunday with g likely. A few gusts may reach 35 mph. The next chance for rain may arrive by but the much better chance for widespread precipitation and wind will be arou the week. There is an increasing potential for the development of a strong coe impact the region on Wednesday. With colder air in place, accumulating wet s possible across the interior. We will be monitoring that potential very carefully ahead.

**WIND IMPACT:** None.

**THUNDERSTORM IMPACT:** None.

**PRECIPITATION IMPACT:** None.

**TEMPERATURE IMPACT:** None.

**SNOW IMPACT:** None.

**ICE IMPACT:** None.

**FLOOD IMPACT:** None.

**TONIGHT:** Mostly cloudy. A few isolated rain showers are possible across Ba Rainfall amounts will be 0.05" or less. Low temperatures will range from the r lower 40s (mildest readings at Cape Cod/Nantucket). Winds will be out of the southwest at 6-12 mph.

**FRIDAY:** Mostly cloudy with a chance for a few isolated rain showers, mainly during the afternoon. Rainfall amounts .05" or less. Highs will range from the upper 40s to upper 50s. Winds will be west to northwest at 10-15 mph.

**FRIDAY NIGHT:** Skies will be partly to mostly cloudy with isolated showers ending by mid evening. Additional rainfall amounts will be less than .05". Lows will range from the lower to middle 30s interior portions to the lower 40s near Cape Cod and Nantucket. Winds will be out of the northwest at 10-15 mph.

**DAYS 3-5:** Dry weather will return for both Saturday and Sunday. Rain will develop by Saturday afternoon and will continue into Saturday night and at least part of Tuesday. Some areas of moderate rainfall will be possible during this period, especially Monday night. Temperatures will be near normal on Saturday falling to below normal readings on Sunday and Monday.

**10 DAY TEMPERATURE OUTLOOK:** Saturday will have highs in the middle 40s to middle 50s with overnight lows in the lower to middle 30s interior to the lower 40s near Cape Cod and Nantucket. Sunday and Monday will have highs in the lower 40s to lower 50s, with overnight lows in the upper 20s to upper 30s, except near 40 degrees for Cape Cod/Nantucket and coastal Rhode Island. Below normal temperatures are expected for the period Tuesday through next Saturday. Daily highs will generally be in the 40s with overnight lows in the 30s.

NE EII	REGION	DAY 1	DAY 2	DAY 3
<b>WIND SPEED</b>	Central Massachussets	1	1	1
	Eastern Massachussets	1	1	1
	Nantucket	1	1	1
	Rhode Island	1	1	1
	Western Massachusetts	1	1	1
<b>WIND GUST</b>	Central Massachussets	1	1	1
	Eastern Massachussets	1	1	1
	Nantucket	1	1	1
	Western Massachusetts	1	1	1
<b>CONFIDENCE</b>	Central Massachussets	High	High	High
	Eastern Massachussets	High	High	High
	Nantucket	High	High	High
	Rhode Island	High	High	High
	Western Massachusetts	High	High	High

**Thomas, Rachel**

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**From:** WeatherDelivery@telventdn.com  
**Sent:** Friday, November 02, 2012 6:02 AM  
**To:** DivOpsNE\_Forecast  
**Subject:** National Grid New England Forecast  
**Attachments:** NATGRIDNEEII.HTM

**Forecast For New England from TELVENT**

**For National Grid**

Date: November 2, 2012

Time: 6:00 AM EDT

Forecaster: G Benedict

**CURRENT CONDITIONS:** Skies are mostly cloudy, with temperatures in the u 40s. Winds are from the southwest at 3-7 mph.

**SYNOPSIS:** A cold front will move through the area today and it may produce showers. Dry weather looks to return for Saturday and Sunday. Winds will be behind the cold front on Saturday and especially Sunday, with gusts up to 25-30 mph. The next chance for rain may arrive by late Tuesday night, but a much better widespread precipitation and potentially strong winds will be on Wednesday. There is an increasing potential for the development of a strong coastal storm to impact the area this time. With colder air in place, accumulating wet snow will also be possible in the interior. We will be monitoring that potential very carefully in the days ahead.

**WIND IMPACT:** None.

**THUNDERSTORM IMPACT:** None.

**PRECIPITATION IMPACT:** None.

**TEMPERATURE IMPACT:** None.

**SNOW IMPACT:** None.

**ICE IMPACT:** None.

**FLOOD IMPACT:** None.

**TODAY:** Skies will be mostly cloudy with a chance for a few isolated rain show during the afternoon. Rainfall amounts .05" or less. Highs will range from the the middle 50s. Winds will be out of the west to northwest at 7-15 mph.

**TONIGHT:** Skies will be partly to mostly cloudy with isolated showers ending by midnight. Additional rainfall amounts will be less than .05". Lows will range from the low 30s interior portions to the low 40s near Cape Cod and Nantucket. Winds will be from the northwest at 6-12 mph.

**SATURDAY:** Skies will be partly to mostly cloudy. Highs will range from the middle 50s to the low 60s. Lows will be in the middle 40s. Winds will be from the northwest at 10-20 mph.

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**SATURDAY NIGHT:** Skies will be mostly cloudy. Lows will range from the low 30s interior portions to the upper 30s and low 40s near Cape Cod and Nantucket. Winds will be out of the northwest at 10-20 mph.

**DAYS 3-5:** Dry weather will return for both Sunday and Monday and Most of Tuesday. The next chance for rain will hold off until late Tuesday night. Temperatures will be below normal from Sunday through Tuesday.

**10 DAY TEMPERATURE OUTLOOK:** Sunday and Monday will have highs in the low 40s to the low 50s, with overnight lows in the middle 20s to the upper 30s, except near 40 degrees for Cape Cod/Nantucket and coastal Rhode Island. Below normal temperatures are expected for the period Tuesday through next Sunday, with high temperatures generally in the low 40s to the low 50s, and overnight lows in the low 30s to the middle 40s.

NE EII	REGION	DAY 1	DAY 2	DAY 3
<b>WIND SPEED</b>	Central Massachusetts	1	1	1
	Eastern Massachusetts	1	1	1
	Nantucket	1	1	1
	Rhode Island	1	1	1
	Western Massachusetts	1	1	1
<b>WIND GUST</b>	Central Massachusetts	1	1	1
	Eastern Massachusetts	1	1	1
	Nantucket	1	1	1
	Rhode Island	1	1	1
	Western Massachusetts	1	1	1
<b>CONFIDENCE</b>	Central Massachusetts	High	High	High
	Eastern Massachusetts	High	High	High
	Nantucket	High	High	High
	Rhode Island	High	High	High
	Western Massachusetts	High	High	High

**Thomas, Rachel**

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**From:** WeatherDelivery@telventdn.com  
**Sent:** Friday, November 02, 2012 1:06 PM  
**To:** DivOpsNE\_Forecast  
**Subject:** National Grid New England Forecast  
**Attachments:** NATGRIDNEEII.HTM  
**Forecast For New England from TELVENT**

**For National Grid**

Date: November 2, 2012

Time: 1:00 PM EDT

Forecaster: J Murphy

**CURRENT CONDITIONS:** Skies are mostly cloudy, with temperatures in the low 40s. Winds are from the northwest at 5-15 mph.

**SYNOPSIS:** Skies will be mostly cloudy this afternoon through Saturday with a chance for showers possible over far western MA this afternoon and early evening. Dry weather will return for Saturday and Sunday. Winds will become a bit breezy on Saturday with gusts up to 25-30 mph possible. The next chance for rain may arrive by late Tuesday but a much better chance for widespread precipitation and potentially strong winds is expected Wednesday. There is an increasing potential for the development of a strong low pressure system to impact the region at this time. With colder air in place, accumulating wet snow is possible across the interior. We will be monitoring that potential very carefully ahead.

**WIND IMPACT:** None.

**THUNDERSTORM IMPACT:** None.

**PRECIPITATION IMPACT:** None.

**TEMPERATURE IMPACT:** None.

**SNOW IMPACT:** None.

**ICE IMPACT:** None.

**FLOOD IMPACT:** None.

**THIS AFTERNOON:** Skies will be mostly cloudy with a chance for a few isolated showers over western MA. Rainfall amounts .05" or less. Highs will range from the upper 40s to the middle 50s. Winds will be out of the northwest at 7-15 mph.

**TONIGHT:** Skies will be mostly cloudy with isolated showers ending by mid-evening over western MA. Additional rainfall amounts will be less than .05". Lows will range from the middle 30s in interior portions to the low 40s near Cape Cod and Nantucket. Winds will be from the northwest at 8-14 mph.

**SATURDAY:** Skies will be partly to mostly cloudy. Highs will range from the middle 40s to the low 50s.

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middle 50s. Winds will be northwest at 10-20 mph with gusts to 30 mph.

**SATURDAY NIGHT:** Skies will be mostly cloudy. Lows will range from the upper 20s to lower 30s interior portions to the upper 30s near Cape Cod and Nantucket. Winds will be out of the northwest at 10-20 mph.

**DAYS 3-5:** Dry weather will return for both Sunday and Monday and Most of Tuesday. The next chance for rain will hold off until late Tuesday night. Temperatures will be below normal from Sunday through Tuesday.

**10 DAY TEMPERATURE OUTLOOK:** Sunday and Monday will have highs in the low 40s to the low 50s, with overnight lows in the middle 20s to the upper 30s, except near 40 degrees for Cape Cod/Nantucket and coastal Rhode Island. Below normal temperatures are expected for the period Tuesday through next Sunday, with high temperatures generally in the low 40s to the low 50s, and overnight lows in the low 30s to the middle 40s.

NE EII	REGION	DAY 1	DAY 2	DAY 3
<b>WIND SPEED</b>	Central Massachusetts	1	1	1
	Eastern Massachusetts	1	1	1
	Nantucket	1	1	1
	Rhode Island	1	1	1
	Western Massachusetts	1	1	1
<b>WIND GUST</b>	Central Massachusetts	1	1	1
	Eastern Massachusetts	1	1	1
	Nantucket	1	1	1
	Rhode Island	1	1	1
	Western Massachusetts	1	1	1
<b>CONFIDENCE</b>	Central Massachusetts	High	High	High
	Eastern Massachusetts	High	High	High
	Nantucket	High	High	High
	Rhode Island	High	High	High
	Western Massachusetts	High	High	High

**Thomas, Rachel**

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**From:** WeatherDelivery@telventdtn.com  
**Sent:** Friday, November 02, 2012 7:34 PM  
**To:** DivOpsNE\_Forecast  
**Subject:** National Grid New England Forecast  
**Attachments:** NATGRIDNEEII.HTM  
**Forecast For New England from TELVENT**

**For National Grid**

Date: November 2, 2012

Time: 7:30 PM EDT

Forecaster: J Murphy

**CURRENT CONDITIONS:** Skies are mostly cloudy with a few light rain showers in NH. Temperatures are in the 40s. Winds are from the northwest at 8-12 mph.

**SYNOPSIS:** Skies will be mostly cloudy tonight through Saturday with a few isolated showers ending this evening. Dry weather looks to return for Saturday and Sunday, but become a bit breezy on Saturday and Sunday, with gusts up to 25-30 mph possible. A chance for rain may arrive by late Tuesday night, but a much better chance for precipitation and potentially strong winds will be on Wednesday. There is an increased potential for the development of a strong coastal storm to impact the region at the end of the week. With colder air in place, accumulating wet snow will also be possible across the region, mainly far western MA. We will be monitoring that potential very carefully in the coming days.

**WIND IMPACT:** None.

**THUNDERSTORM IMPACT:** None.

**PRECIPITATION IMPACT:** None.

**TEMPERATURE IMPACT:** None.

**SNOW IMPACT:** None.

**ICE IMPACT:** None.

**FLOOD IMPACT:** None.

**TONIGHT:** Skies will be mostly cloudy with isolated showers ending by mid-evening. Rainfall amounts will be less than .02". Lows will range from the low to middle 30s in interior portions to the low 40s near Cape Cod and Nantucket. Winds will be out of the northwest at 8-14 mph.

**SATURDAY:** Skies will be partly to mostly cloudy. Highs will range from the middle 40s to the middle 50s. Winds will be northwest at 10-20 mph with gusts to 30 mph.

**SATURDAY NIGHT:** Skies will be mostly cloudy. Lows will range from the upper 30s in interior portions to the upper 30s near Cape Cod and Nantucket. Winds will be northwest at 10-20 mph.

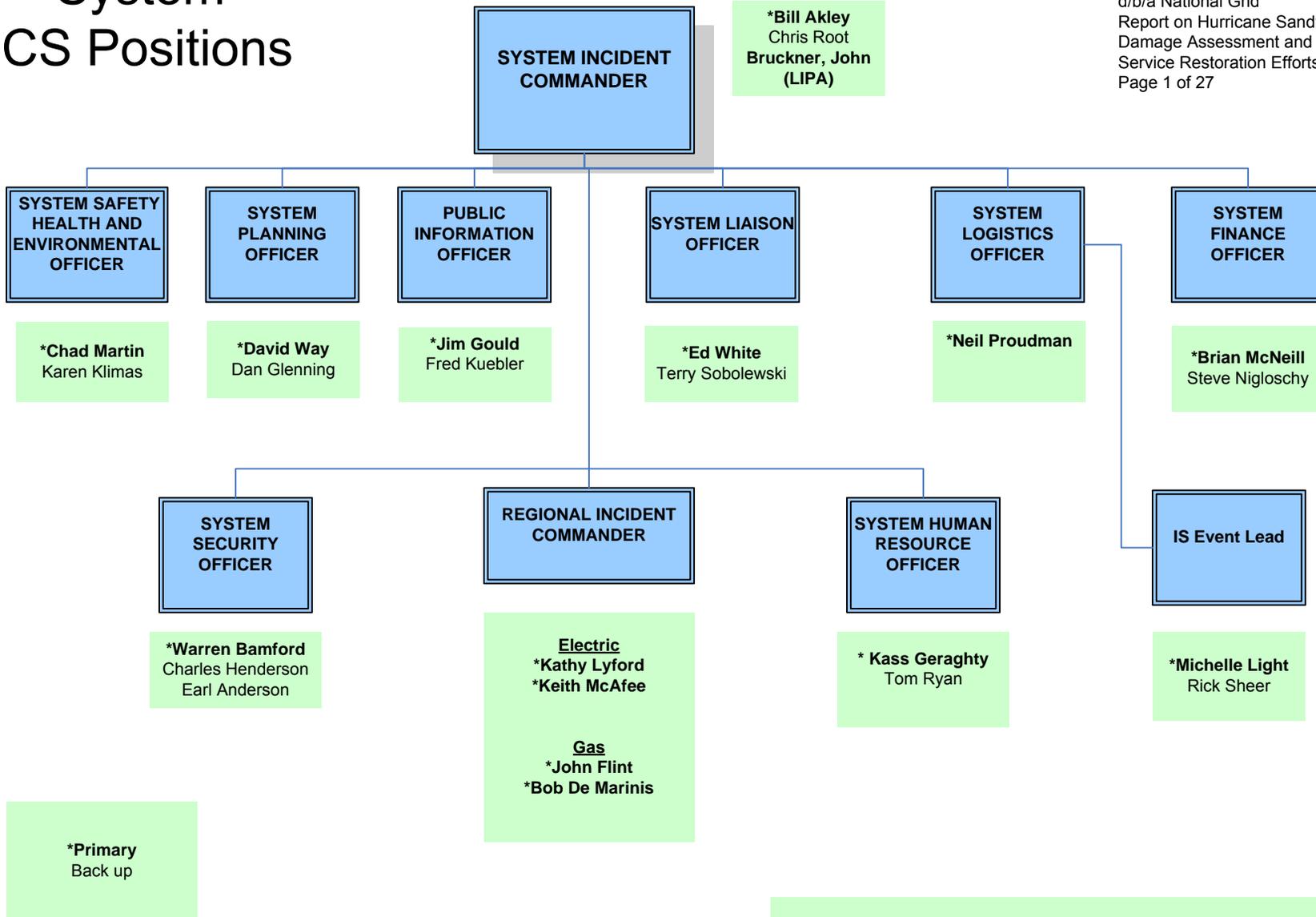
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DAYS 3-5: Dry weather will return for both Sunday and Monday and Most of Tuesday. The next chance for rain will hold off until late Tuesday night. Temperatures will be below normal from Sunday through Tuesday.

10 DAY TEMPERATURE OUTLOOK: Sunday and Monday will have highs in the low 40s to the low 50s, with overnight lows in the middle 20s to the upper 30s, except near 40 degrees for Cape Cod/Nantucket and coastal Rhode Island. Below normal temperatures are expected for the period Tuesday through next Sunday, with high temperatures generally in the low 40s to the low 50s, and overnight lows in the low 30s to the middle 40s.

NE EII	REGION	DAY 1	DAY 2	DAY 3
<b>WIND SPEED</b>	Central Massachussets	1	1	1
	Eastern Massachussets	1	1	1
	Nantucket	1	1	1
	Rhode Island	1	1	1
	Western Massachussets	1	1	1
<b>WIND GUST</b>	Central Massachussets	1	1	1
	Eastern Massachussets	1	1	1
	Nantucket	1	1	1
	Rhode Island	1	1	1
	Western Massachussets	1	1	1
<b>CONFIDENCE</b>	Central Massachussets	High	High	High
	Eastern Massachussets	High	High	High
	Nantucket	High	High	High
	Rhode Island	High	High	High
	Western Massachussets	High	High	High

# System ICS Positions



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<b>Incident Commander</b>
Kathy Lyford
<b>Liaison Officer</b>
Ed White
<b>Public Information Officer</b>
Jim Gould
<b>Safety and Health Officer</b>
Bo Maryyanek (Sunday and Monday)
Chad Martin (Tuesday until event close)
<b>Environmental Officer</b>
Peter Harley
<b>Security Officer</b>
John Jackson
<b>Planning Section Chief</b>
John Gavin
<b>Logistics Section Chief</b>
Brian Schuster
<b>Finance Section Chief</b>
Chris Paglia
<b>Human Resources Section Chief</b>
Kass Geraghty

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<b><u>Branch</u></b>	<b><u>Branch Director</u></b>	<b><u>Shift</u></b>	<b><u>Operations Coordinator</u></b>	<b><u>Shift</u></b>	<b><u>Phone</u></b>	<b><u>Planning Coordinator</u></b>	<b><u>Shift</u></b>	<b><u>Phone</u></b>
Providence	Mike Hrycin		Gary Bourque	Day		Gary Gelineau	Day	
			Dave Cardoza	Night		Mario Carlino	night	
North Kingstown	Ray Rosario		Wally Mcdonald	Day		Claire Livingston	Day	
			Ed O' Rourke	Night		John Cerrulli	Night	

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**Hurricane Sandy Hurricane Sandy - New England Branch ICS Staff - Rev 1 (10/25/2012)**

<b><u>Branch</u></b>	<b><u>Liason Coordiator</u></b>	<b><u>Shift</u></b>	<b><u>Phone</u></b>	<b><u>Safety and Health Coordinator</u></b>	<b><u>Shift</u></b>	<b><u>Phone</u></b>
Providence	John Isberg			Joe Callahan		
North Kingstown	Jeff Dunham			Tim Woycik		



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**Hurricane Sandy Hurricane Sandy - New England Branch ICS Staff - Rev 1 (10/25/2012)**

<b><u>Branch</u></b>	<b><u>Finance</u></b>	<b><u>Shift</u></b>	<b><u>HR Coor</u></b>	<b><u>Shift</u></b>
Providence	Parker Capwell (Sit in Providence)		See System HR Section Chief	
North Kingstown	Parker Capwell		See System HR Section Chief	

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**Hurricane Sandy - New England Regional ICS Staff - Rev 2 (10/26/2012)**

<b>Incident Commander</b>	<b>Phone</b>
Kathy Lyford	
<b>Liaison Officer</b>	
Ed White	
<b>Public Information Officer</b>	
Jim Gould	
<b>Safety and Health Officer</b>	
Bo Maryyanek (Sunday and Monday)	
Chad Martin (Tuesday until event close)	
<b>Environmental Officer</b>	
Peter Harley	
<b>Security Officer</b>	
John Jackson	
<b>Planning Section Chief</b>	
John Gavin	
<b>Logistics Section Chief</b>	
Brian Schuster	
<b>Finance Section Chief</b>	
Chris Paglia	
<b>Human Resources Section Chief</b>	
Kass Geraghty	

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**Hurricane Sandy - New England Branch ICS Staff - Rev 2 (10/26/2012)**

<b>Branch</b>	<b>Branch Director</b>	<b>Shift</b>	<b>Phone</b>
Providence	Mike Hrycin		[REDACTED]
			[REDACTED]
North Kingstown	Ray Rosario		[REDACTED]
			[REDACTED]

<b>Operations Coordinator</b>	<b>Shift</b>	<b>Phone</b>
Gary Bourque	Day	[REDACTED]
Dave Cardoza	Night	[REDACTED]
Wally Modonald	Day	[REDACTED]
Ed O' Rourke	Night	[REDACTED]

<b>Planning Coordinator</b>	<b>Shift</b>	<b>Phone</b>
Gary Gelineau	Day	[REDACTED]
Mario Carlino	night	[REDACTED]
Claire Livingston	Day	[REDACTED]
John Cerulli	Night	[REDACTED]



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**Hurricane Sandy - New England Branch ICS Staff - Rev 2 (10/26/2012)**

<b><u>Branch</u></b>	<b><u>Security Coordinator</u></b>	<b><u>Phone</u></b>	<b><u>Logistics Coordinator</u></b>	<b><u>Shift</u></b>	<b><u>Phone</u></b>
Providence	Anthony Itrich		Kevin Mahoney		
North Kingstown	Anthony Itrich		Mahati Guttikonda		

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**Hurricane SanHurricane Sandy - New England Branch ICS Staff - Rev 2 (10/26/2012)**

<b><u>Branch</u></b>	<b><u>Finance</u></b>	<b><u>Shift</u></b>	<b><u>HR Coor</u></b>	<b><u>Shift</u></b>
Providence	Parker Capwell (Sit in Providence)		See System HR Section Chief	
North Kingstown	Parker Capwell		See System HR Section Chief	

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### Hurricane Sandy - New England Regional ICS Staff - Rev 2 (10/26/2012)

<b>Incident Commander</b>	
Kathy Lyford	[REDACTED]
<b>Liaison Officer</b>	
Ed White	[REDACTED]
<b>Public Information Officer</b>	
Jim Gould	[REDACTED]
<b>Safety and Health Officer</b>	
Bo Maryanek (Sunday and Monday)	[REDACTED]
Chad Martin (Tuesday until event close)	[REDACTED]
<b>Environmental Officer</b>	
Peter Harley	[REDACTED]
<b>Security Officer</b>	
John Jackson	[REDACTED]
<b>Planning Section Chief</b>	
John Gavin	[REDACTED]
<b>Logistics Section Chief</b>	
Brian Schuster	[REDACTED]
<b>Finance Section Chief</b>	
Chris Paglia	[REDACTED]
<b>Human Resources Section Chief</b>	
Kass Geraghty	[REDACTED]

**Hurricane Sandy - New England Branch ICS Staff - Rev 2 (10/26/2012)**

<b>Branch</b>	<b>Branch Director</b>	<b>Shift</b>	<b>Operations Coordinator</b>	<b>Shift</b>	<b>Phone</b>	<b>Planning Coordinator</b>	<b>Shift</b>	<b>Phone</b>
Providence	Mike Hrycin		Gary Bourque	Day		Gary Gelineau	Day	
			Dave Cardoza	Night		Mario Carlino	night	
North Kingstown	Ray Rosario		Wally Mcdonald	Day		Claire Livingston	Day	
			Ed O' Rourke	Night		John Cerulli	Night	

**Hurricane SanHurricane Sandy - New England Branch ICS Staff - Rev 2 (10/26/2012)**

<b><u>Branch</u></b>	<b><u>Liason Coordiator</u></b>	<b><u>Shift</u></b>	<b><u>Phone</u></b>	<b><u>Safety and Health Coordinator</u></b>	<b><u>Shift</u></b>	<b><u>Phone</u></b>
Providence	John Isberg			Joe Callahan		
North Kingstown	Jeff Dunham			Tim Woycik		



**Hurricane SanHurricane Sandy - New England Branch ICS Staff - Rev 2 (10/26/2012)**

<b><u>Branch</u></b>	<b><u>Finance</u></b>	<b><u>Shift</u></b>	<b><u>HR Coor</u></b>	<b><u>Shift</u></b>
Providence	Parker Capwell (Sit in Providence)		See System HR Section Chief	
North Kingstown	Parker Capwell		See System HR Section Chief	

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**Hurricane Sandy - New England Regional ICS Staff - Rev 3 (10/29/2012)**

<b>Incident Commander</b>	
Kathy Lyford	[REDACTED]
<b>Liaison Officer</b>	
Ed White	[REDACTED]
<b>Public Information Officer</b>	
Jim Gould	[REDACTED]
<b>Safety and Health Officer</b>	
Bo Maryyanek (Sunday and Monday)	[REDACTED]
Chad Martin (Tuesday until event close)	[REDACTED]
<b>Environmental Officer</b>	
Peter Harley	[REDACTED]
<b>Security Officer</b>	
John Jackson	[REDACTED]
<b>Planning Section Chief</b>	
John Gavin	[REDACTED]
<b>Logistics Section Chief</b>	
Brian Schuster	[REDACTED]
Caroline Hon (Overnight Coverage)	[REDACTED]
<b>Finance Section Chief</b>	
Chris Paglia	[REDACTED]
<b>Human Resources Section Chief</b>	
Kass Geraghty	[REDACTED]

**Hurricane Sandy - New England Branch ICS Staff - Rev 3 (10/29/2012)**

<b>Branch</b>	<b>Branch Director</b>	<b>Shift</b>	<b>Phone</b>
Providence	Mike Hrycin		[REDACTED]
North Kingstown	Ray Rosario		[REDACTED]

<b>Operations Coordinator</b>	<b>Shift</b>	<b>Phone</b>
Gary Bourque	Day	[REDACTED] 4
Dave Cardoza	Night	[REDACTED]
Wally McDonald	Day	[REDACTED]
Ed O' Rourke	Night	[REDACTED]

<b>Planning Coordinator</b>	<b>Shift</b>	<b>Phone</b>
Gary Gelineau	Day	[REDACTED]
Mario Carlino	night	[REDACTED]
Claire Livingston	Day	[REDACTED]
John Cerulli	Night	[REDACTED]

**Hurricane San Hurricane Sandy - New England Branch ICS Staff - Rev 3 (10/29/2012)**

<b><u>Branch</u></b>	<b><u>Liason Coordiator</u></b>	<b><u>Shift</u></b>	<b><u>Phone</u></b>
Providence	John Isberg		[REDACTED]
North Kingstown	Jeff Dunham		[REDACTED]

<b><u>Safety and Health Coordinator</u></b>	<b><u>Shift</u></b>	<b><u>Phone</u></b>
Joe Callanan	6am-10pm	[REDACTED]
Tim Woycik	6am-10pm	[REDACTED]

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**Hurricane San      Hurricane Sandy - New England Branch ICS Staff - Rev 3 (10/29/2012)**

<b><u>Branch</u></b>
Providence
North Kingstown

<b><u>Env. Coordinator</u></b>	<b><u>Shift</u></b>	<b><u>Phone</u></b>
Bill Howard		[REDACTED]
Erin Whorinsky		[REDACTED]

<b><u>Security Coordinator</u></b>	<b><u>Shift</u></b>	<b><u>Phone</u></b>
Anthony Itrich		[REDACTED]
Anthony Itrich		[REDACTED]

<b><u>Logistics Coordinator</u></b>	<b><u>Shift</u></b>	<b><u>Phone</u></b>
Kevin Mahoney		[REDACTED]
Mahati Guttikonda		[REDACTED]

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**Hurricane San      Hurricane Sandy - New England Branch ICS Staff - Rev 3 (10/29/2012)**

<b><u>Branch</u></b>
Providence
North Kingstown

<b><u>Finance</u></b>	<b><u>Shift</u></b>	<b><u>Phone</u></b>
Parker Capwell (Sit in Providence)		
Parker Capwell		

<b><u>HR Coor</u></b>	<b><u>Shift</u></b>
See System HR Section Chief	
See System HR Section Chief	

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**Hurricane Sandy - New England Storm Room Leads - Rev 3 (10/29/2012)**

<b><i>Branch</i></b>	<b><i>Operations Coordinator</i></b>	<b><i>Shift</i></b>	<b><i>Phone</i></b>
Providence	John Castro	Day	
	Dan Marceau	Night	
North Kingstown	Jack Carey	Day	
	Chris Montalto	Night	

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**Hurricane Sandy - New England Regional ICS Staff - Rev 4 (10/30/2012)**

<b>Incident Commander</b>	
Kathy Lyford	[REDACTED]
<b>Liaison Officer</b>	
Ed White	[REDACTED]
<b>Public Information Officer</b>	
Jim Gould	[REDACTED]
<b>Safety and Health Officer</b>	
Bo Maryyanek (Sunday and Monday)	[REDACTED]
Chad Martin (Tuesday until event close)	[REDACTED]
<b>Environmental Officer</b>	
Peter Harley	[REDACTED]
<b>Security Officer</b>	
John Jackson	[REDACTED]
<b>Planning Section Chief</b>	
John Gavin	[REDACTED]
<b>Logistics Section Chief</b>	
Brian Schuster	[REDACTED]
Caroline Hon (Overnight Coverage)	[REDACTED]
<b>Finance Section Chief</b>	
Chris Paglia	[REDACTED]
<b>Human Resources Section Chief</b>	
Kass Geraghty	[REDACTED]

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**Hurricane Sandy - New England Branch ICS Staff - Rev 4 (10/30/2012)**

<b>Branch</b>	<b>Branch Director</b>	<b>Shift</b>	<b>Phone</b>
Providence	Mike Hrycin		
North Kingstown	Ray Rosario		

<b>Operations Coordinator</b>	<b>Shift</b>	<b>Phone</b>
Gary Bourque	Day	
Dave Cardoza	Night	
Wally Mcdonald	Day	

<b>Planning Coordinator</b>	<b>Shift</b>	<b>Phone</b>
Gary Gelineau	Day	
Mario Carlino	night	
Claire Livingston	Day	

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**Hurricane Sandy**

**Hurricane Sandy - New England Branch ICS Staff - Rev 4 (10/30/2012)**

<u>Branch</u>
Providence
North Kingstown

<u>Liason Coordiator</u>	<u>Shift</u>	<u>Phone</u>
John Isberg		
Jeff Dunham		

<u>Safety and Health Coordinator</u>	<u>Shift</u>	<u>Phone</u>
Joe Callanan	6am-10pm	
Tim Woyck	6am-10pm	

<u>Env. Coordinator</u>	<u>Shift</u>	<u>Phone</u>
Bill Howard		
Erin Whorinsky		

**Hurricane Sandy**

**Hurricane Sandy - New England Branch ICS Staff - Rev 4 (10/30/2012)**

<b>Branch</b>
Providence
North Kingstown

<b>Security Coordinator</b>	<b>Shift</b>	<b>Phone</b>
Anthony Itrich		
Anthony Itrich		

<b>Logistics Coordinator</b>	<b>Shift</b>	<b>Phone</b>
Kevin Mahoney		
Kim Goslant		

**Hurricane Sandy**

**Hurricane Sandy - New England Branch ICS Staff - Rev 4 (10/30/2012)**

<b>Branch</b>
Providence
North Kingstown

<b>Finance</b>	<b>Shift</b>	<b>Phone</b>
Parker Capwell (Sit in Providence)		
Parker Capwell		

<b>HR Coor</b>	<b>Shift</b>
See System HR Section Chief	
See System HR Section Chief	

Attachment 3  
The Narragansett Electric Company  
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**Attachment 3**

**Hurricane Sandy - Rhode Island Resources**

<b>Resource Type</b>	<b>Peak Crews Working</b>
Number of Company Line Crews (1)	74
Number of Company Tree Crews (2)	-
Number of Company Wire Down Crews (3)	141
Number of Company Damage Appraiser Crews (4)	93
Number of Company Substation Crews (5)	16
Number of Company Transmission Crews (6)	15
<b>Total Company</b>	<b>339</b>
Number of Contractor Line Crews (2)	245
Number of Contractor Tree Crews (2)	222
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)	6
<b>Total Contractor</b>	<b>473</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)	28
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>28</b>
<b>Peak Number of Crews Working</b>	<b>840</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