National Grid

The Narragansett Electric Company

Report on Tropical Storm Irene Preparedness, Damage Assessment and Service Restoration Efforts

November 22, 2011

Docket No. 2509

Submitted to: Rhode Island Public Utilities Commission

Submitted by: nationalgrid

Letter/Motion



Jennifer Brooks Hutchinson Senior Counsel

November 22, 2011

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 <u>Tropical Storm Irene Report</u>

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 nine copies of National Grid's¹ summary report of Tropical Storm Irene (the "Report") that occurred on August 28 through September 5, 2011, 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 7 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 mentioned above to the Commission pending a determination on the Company's Motion. The Company has submitted a redacted version of Attachment 7 for the public record.

A supplemental report detailing the incremental restoration costs caused by Tropical Storm Irene 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,

Jennifer Brooks Hutchinson

Enclosures

cc: Leo Wold, Esq. Steve Scialabba, Division Greg Booth, Power Services (*via electronic mail*)

¹ The Narragansett Electric Company d/b/a National Grid.

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS

RHODE ISLAND PUBLIC UTILITIES COMMISSION

Docket 2509 – Storm Contingency Fund Tropical Storm Irene Report

NATIONAL GRID'S REQUEST FOR PROTECTIVE TREATMENT OF CONFIDENTIAL INFORMATION

National Grid¹ 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 November 22, 2011, National Grid filed with the Commission its summary report of Tropical Storm Irene in accordance with Order No. 15360 (August 19, 1997) in Docket 2509 (the "Report"). Attachment 7 of the Report contains confidential names and contact information of individuals integral to the implementation of the Company's Electric Emergency Plan ("EEP"). National Grid is requesting protective treatment for

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

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; <u>or</u> (2) to cause substantial harm to the competitive position of the person from whom the information was obtained. <u>Providence Journal Company v. Convention Center Authority</u>, 774 A.2d 40 (R.I.2001).

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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. <u>Providence Journal</u>, 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 <u>Providence Journal v. Kane</u>, 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 contact information of various personnel integral to the effective functioning of its EEP. The Company treats this information as confidential and for internal use only. 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

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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 7, 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,

Jennifer Brooks Hutchinson (RI Bar #6176 National Grid 280 Melrose Street Providence, RI 02907 (401) 784-7288

Dated: November 22, 2011

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Report

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REPORT

ON BEHALF OF THE NARRAGANSETT ELECTRIC COMPANY d/b/a NATIONAL GRID ON TROPICAL STORM IRENE PREPAREDNESS, DAMAGE ASSESSMENT AND SERVICE RESTORATION EFFORTS

I. EXECUTIVE SUMMARY

The Narragansett Electric Company d/b/a National Grid (the "Company") presents the following report on the planning and restoration activities, and damage assessment associated with Hurricane or Tropical Storm Irene ("Irene" or the "storm"), which battered the State of Rhode Island on August 28, 2011. The storm caused significant and extensive damage to the Company's electric infrastructure and caused power interruptions to approximately 273,000 at peak¹ of the Company's customers, which represents 57 percent of the Company's customers. The Company made steady progress in addressing the severe damage and restoring customers' power during the course of the week that followed, with 70 percent of customers restored by 8:00 p.m. on Tuesday, August 30 and 90 percent of customers restored by 6:00 p.m. on Thursday, September 1. Throughout the storm and restoration, the safety of our workforce and members of the public was a continued priority and no serious injuries resulted from our system or activities. This report details the Company's efforts, including advanced planning, post-event damage appraisal, restoration activity, and communications. This report also discusses the robust process underway to identify "lessons learned" from the Irene restoration process which will be incorporated for the future.

Irene was an extraordinary meteorological event, causing extensive and widespread destruction along the east coast from the Carolinas to New England. Irene's hurricane-force winds as it progressed towards New England extended outward as much as 90 miles from the center and tropical storm-force winds at the periphery of the storm extended outward as much as 290 miles. Irene shattered several flooding records in the northeast and in its wake interrupted electricity service to approximately 6,000,000 customers in 11 states along the east coast.

¹ The customer interruption numbers in this report will vary from the numbers provided during the storm. During the storm, the peak number of customers interrupted was reported as 344,000. As discussed below this report provides final validated customer interruption numbers from the Company's interruption reporting tool. During the storm, customer interruption information was reported from the PowerOn system, which is 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. For Irene, approximately 270 circuit breakers, pole top reclosers and individual events over 100,000 Customer Minutes Interrupted (CMI) were reviewed. This process removed duplicate events and adjusted interruption and restoration times to known switching events. In addition, the final numbers remove the field reporting lag between the time the restoration actually occurred and the time it was actually posted in the system. The restoration Disturbance System.

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In the normal course of managing system operations, the Company continually monitors the weather. On August 23, when it became apparent that there was a risk of a Tropical Storm or Hurricane coming to New England, the Company commenced planning for Irene's impact. The Company commenced formal reviews of hurricane preparation checklists. This phase of emergency preparedness is referred to as the Anticipation Phase. These tasks are designed to ensure that the Company was positioned to protect public safety, assess the damage, and restore power as quickly as possible. During the Anticipation Phase, weather forecasts for New England predicted that a strong tropical storm or low Category 1 hurricane would take a very wide path through New England with the center ultimately passing to the west of Rhode Island. This meant that Rhode Island was exposed to the eastern side of the storm, which carried less rain, but stronger winds. What made the storm so unique in Rhode Island was the long duration of the storm coupled with sustained wind gusts fifty five miles per hour. Attachment 1 provides both sustained wind speeds and wind gusts as measured in Providence and North Kingstown.

As a result of the weather forecast, the Company worked aggressively during the Anticipation Phase to identify and retain additional line and tree crews to supplement its internal employee workforce. Utilities historically rely upon one another for mutual aid to address storm events by sharing crews. In the case of Irene, however, the storm's expansive path and destructive impact constrained the availability of mutual assistance restoration forces to immediately aid the Company's restoration efforts. Faced with the emerging and threatened destruction of their electricity infrastructure occasioned by Irene, utilities along the east coast – from Florida to Maine – retained both their own internal crews and available contractors, putting resources that typically can be relied on in an emergency event in Rhode Island to aid in the Company's restoration effort out of reach. In addition, utilities directly affected by the storm were all simultaneously seeking mutual aid assistance from utilities in other regions not directly affected by Irene. As of August 29, the total number of requested resources along the east coast topped out at approximately 7,000 linemen, and National Grid received from mutual aid twenty-four out of a requested 400. Despite the mutual aid resource constraints, the Company was able to strategically stage both its own crews and its outside resources, along with necessary supplies, equipment, and vehicles, in advance of the storm at various locations prior to the storm reaching Rhode Island. This staging occurred in Marlboro, Raynham (for Massachusetts and Rhode Island), and Salem, NH (Rockingham Park)(for Massachusetts and New Hampshire). These three locations served as the staging sites for the Company and its New England affiliates, with the expectation that these sites would be convenient for access to the expected path of the storm and its aftermath throughout New England.

The Company also commenced extensive external communications by contacting affected stakeholders prior to the arrival of Irene. The Company contacted the Public Utilities Commission (the "Commission"), the Division of Public Utilities and Carriers (the "Division"), the Rhode Island Emergency Management Agency ("RIEMA"), federal, state and local elected officials, police and fire personnel, and general media sources. Contacts were made to the Company's life support customers. The Company maintained communications with all stakeholders throughout the storm and during the

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restoration period. In total, the Company used over ten different communications channels to reach stakeholders, including the customer contact center, the Company's website, Twitter, Facebook, YouTube, e-mail, text messaging and all Rhode Island news media.

Irene hit Rhode Island on August 28. The photographs below taken of the transmission system in residential areas in Rhode Island illustrate the severity of the damage caused by the storm that was typical to the Company's transmission and distribution infrastructure.



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As these photos indicate, once Irene passed through the service territory, the Company was left with a tremendous amount of damage. Damage appraisal itself was an extensive effort, performed by the Company's complement of damage appraisers, working on foot, in vehicles, and in helicopters. The Company implemented its system of prioritization for restoration, because it was clear that the attention needed for public safety hazards caused by downed wires and restoration work needed across the State was significant. As further described below, the Company's Electric Emergency Plan ("EEP") provides a restoration priority focused first on securing public safety from the danger from inadvertent contact with live wires and extreme hazards. Then, under the Company's priority system crews address problems with transmission lines and substations that serve large numbers of customers. Critical facilities and customers are given priority and consideration next, and the Company makes efforts to restore service to Life Support Customers as quickly as conditions warrant. Distribution lines that serve local neighborhoods are the next priority, starting with areas that involve the largest number of customers. Finally, distribution lines and transformers within neighborhoods and the wires that connect them to homes and businesses come next.

The Company followed its prioritization process with the resources that were available. Restoration efforts began on Sunday, focusing on public safety, and more extensive mobilization began at 6:00 AM Monday, August 29 after the storm and the winds had passed. Much of the work on Monday included identifying wires that were downed, performing public safety activities with police and fire chiefs, and doing damage assessments. The Company made steady progress in restoring power during the course of the week. As noted above, 90 percent of interrupted customers had power restored by 6:00 p.m. on Thursday, September 1 and the Company succeeded in restoring service throughout its system to 99.8% of interrupted customers by Sunday, September 4. Some customers, of course, may not have understood why they did not see crews repairing downed wires immediately after the storm winds subsided and the weather became clear and consequently could have felt ignored. In

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reality, the Company was following its prioritization process with the resources that were available. Unfortunately, this meant that some locations and customers would not have power restored until much later in the week.

The Company experienced record call volume from New England customers during the storm in the customer contact center, with approximately 168,000 calls received on August 28. The Company also had a significant amount of communication with other stakeholders, including daily scheduled calls with municipalities in addition to one-on-one communications with RIEMA, elected officials, and regulators, and regular media contact. In addition, the Company stationed its employees at RIEMA and participated in multi-agency meetings. The Company called all affected life support and critical/sensitive customers each day. The Company was not able to reach them all by phone, and Company personnel visited these customers in an effort to ensure that they were safe and aware of the Company's restoration efforts. In addition, the Company continued its use of other contact channels, including the Company's website, Twitter, Facebook, YouTube, e-mail, text messaging and broadcast radio.

The Company made every effort to accurately and effectively communicate estimated times for restoration (ETRs) to customers and other interested stakeholders. The Company typically communicates ETRs to customers through its Outage Central web page or through its Customer Contact Center. When damage is less severe and outages are more limited in scope than was the case for Irene, the Company is able to assess its ETRs fairly readily based on localized damage assessments that can be tied more easily to a particular customer's outage. However, the Company's ability in the wake of Irene to provide ETRs at the individual customer level was hampered by the scope and scale of the damage to the Company's transmission and distribution systems. With damage assessment still on-going in most areas on August 30, the Company did make ETRs available to municipal contacts that afternoon and posted them on the website. The Company was able to develop localized ETRs on August 31, and then refined them in the succeeding days. Towards the end of the restoration effort, the Company provided street level details for the remaining outages when requested by certain towns.

The Company is proud of the unwavering dedication of its employees and their response to Irene and especially grateful for the support offered by many customers, state and local government officials and public safety authorities before, during, and after the storm. In light of the widespread devastation caused by the storm, an effective emergency plan and a team effort by multiple parties were, undoubtedly, the most effective means to restore power.

II. THE STORM AND ITS IMPACT

Late on August 20, 2011, the National Hurricane Center warned of a hurricane forming in the Caribbean, and on August 22, Irene first made landfall in Puerto Rico as a Category 1 hurricane. After passing Puerto Rico, Irene strengthened over the warm waters of the Atlantic to a Category 3

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hurricane. Irene reached landfall in the continental United States in North Carolina on August 27. From there, Irene continued up the east coast, causing death, flooding, an estimated \$10-15 billion dollars of damage, with millions of power outages as it went. As reported by the Department of Energy, states of emergency were declared in South Carolina, North Carolina, Virginia, the District of Columbia, Maryland, Delaware, New Jersey, Pennsylvania, New York, Connecticut, Massachusetts, Rhode Island, Vermont, New Hampshire and Maine. In addition, the remnants of Irene continued into Canada.



By the time the storm arrived in Rhode Island early on August 28, Hurricane Irene had been downgraded to a tropical storm, yet maintained the strength to cause significant physical damage and destruction to infrastructure. The U.S. Department of Energy gathered situational reports from utilities in the United States affected by the storm. According to the DOE, at its peak on Sunday August 28, Irene had caused nearly 6,000,000 customers on the east coast to lose electrical power, as Irene concluded its devastating trek up the Eastern Seaboard. The DOE reported the track of outages and service restoration from Irene on its website. Figure 1 below depicts the aggregate peak number of power outages from all affected utilities in the path of Irene to full restoration of service, from August 27 through to September 2.

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Figure 1



Customer Power Outages from Hurricane Irene

*Customer means a household or business

The storm impacted a total of 360,000 customers in The Narragansett Electric Company's Rhode Island service territory; 273,000 customers at its peak. Figure 2 below shows a map of customers interrupted by town at the peak, which occurred on Sunday August 28 at 3:05 p.m. Figure 3 below shows the percent of customers interrupted by town at the peak. Rhode Island was one of the heaviest hit areas within the Company's service territory, with essentially every town and city impacted.

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The storm started in the early morning hours of Sunday, August 28, with approximately 54,000 customers interrupted in Rhode Island by 8:00 AM. This number of reported outages increased to approximately 256,000 customers by noon and peaked at approximately 273,000 customers at 3:05 p.m. Sunday. The storm remained over New England throughout the day, with sustained winds of 37 mph and gusts up to 55 mph². Figure 4 below shows the customers interrupted and restored, by hour, from midnight on Sunday August 28, to midnight on Monday August 29, with the coincident peak of approximately 273,000 customers interrupted, at 3:05 p.m. on Sunday, August 28.





The storm included damage to 10 transmission lines, 29 sub-transmission lines, and 322 distribution feeders. The transmission lines impacted are provided in Attachment 2; sub-transmission lines impacted are provided in Attachment 3; distribution feeders affected are listed in Attachment 4; and distribution feeder lockouts are listed in Attachment 5. The Company experienced interruptions in every community it serves in Rhode Island. Reliability data for all towns is shown in Figure 5.

² As measured in Providence and North Kingstown.

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Figure 5³

Town/City	Peak Customers Interrupted	Total Customers Interrupted	Customer Minutes Interrupted	Customers Served
Barrington	6,620	7,413	25,710,375	6,820
Bristol	7,165	8,570	31,503,546	10,267
Burrillville	2,564	3,536	11,057,068	2,574
Central Falls	5,016	5,632	19,476,482	7,017
Charlestown	5,716	11,429	33,709,398	5,716
Coventry	9,292	12,038	34,839,122	15,194
Cranston	14,245	17,307	44,128,290	35,313
Cumberland	11,782	14,757	40,684,800	14,889
East Greenwich	5,043	5,610	13,088,577	5,994
East Providence	9,107	11,919	18,784,988	21,951
Exeter	2,901	4,615	20,650,113	2,901
Foster	2,014	3,232	19,337,052	2,014
Glocester	4,424	4,807	29,327,710	4,496
Hopkinton	2,914	3,631	13,240,632	3,829
Jamestown	3,273	6,611	6,878,229	3,276
Johnston	8,743	10,450	19,259,631	13,377
Lincoln	8,470	11,248	19,216,377	9,820
Little Compton	2,545	3,803	5,323,116	2,552
Middletown	6,519	8,381	12,275,177	7,934
Narragansett	9,332	12,441	20,881,366	10,490
Newport	12,975	16,715	26,735,876	14,979
North Kingstown	8,793	9,577	30,587,032	12,994
North Providence	10,151	10,873	15,138,736	15,918
North Smithfield	4,618	9,120	17,395,246	5,660
Pawtucket	17,541	22,408	67,847,582	32,464
Portsmouth	9,033	12,873	26,376,576	9,033
Providence	14,323	17,514	28,425,092	68,636
Richmond	1,600	1,677	10,252,666	3,284
Scituate	3,765	5,588	25,561,091	4,603
Smithfield	3,599	4,527	11,987,472	8,630
South Kingstown	9,199	9,541	35,340,588	14,321
Tiverton	8,095	12,144	6,137,596	8,124
Warren	4,508	5,359	11,814,613	5,716
Warwick	21,211	27,764	76,062,055	40,573
West Greenwich	2,508	2,846	10,535,308	2,681
West Warwick	10,173	12,776	29,906,775	14,815
Westerly	5,231	6,048	9,937,982	14,172
Woonsocket	7,853	9,132	15,633,247	18,413

³ Peak Customers Interrupted is the highest number of customers interrupted in a town at a coincident time. Total Customers Interrupted represents all customers interrupted during the storm in a town, and customers can be interrupted more than once due to the steps of restoration in their local area. The sum of the Total Customers Interrupted in this table varies slightly from Total Customers Interrupted for the entire state of Rhode Island provided earlier in this report due to

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Figure 6 below shows the restoration of customers from Sunday, August 28 through Sunday, September 4.

Figure 6



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

III. INCIDENT ANTICIPATION

A. Determination of Incident Classification

In accordance with the EEP and System Incident Command System, National Grid activated the System Incident Commander, with responsibility for the entire National Grid service area in Massachusetts, Rhode Island, New Hampshire, and New York, on Wednesday, August 24 at 3:00 PM. On Thursday, August 25 at approximately 9:00 AM, National Grid activated the Regional Incident Commander for New England. The System Emergency Operations Center and Regional Emergency

pulling data from the system by town rather than by feeder. Service quality statistics are reported by feeder, and some minor inconsistencies exist when viewed by town.

Operations Center were located in Northborough, MA. The System Incident Commander was primarily responsible for establishing the projected and actual Incident Classification level for Irene. Whenever a significant incident capable of causing interruptions to electric service does, or is anticipated to, occur, the System Incident Commander, with support from the Company's emergency planning organization, determines the necessary level of the Company's response.

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 6 for copies of weather forecasts for New England prepared for National Grid by Telvent.

The Company anticipated a Level 5 event for the New England Region, which includes the Company's New England North (NE-North) and New England South (NE-South) Divisions encompassing Massachusetts, Rhode Island, and New Hampshire. The System Incident Commander communicated the incident classification to Company leadership and organizations anticipated to be engaged in restoration or support activities via the system and operations storm conference calls. On the afternoon of Friday, August 26, the Company revised the anticipated classification to Level 4 based on information from its weather service provider, Telvent, as the storm had weakened slightly, with a track more toward the Northeast. However, on Sunday, August 28, the Company revised Irene to Level 5, with approximately 273,000 customers interrupted Rhode Island and 327,000 customers in Massachusetts interrupted by Sunday afternoon and the expectation that restoration in both states would require more than 72 hours.

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

In accordance with the Company's EEP, a number of positions were activated by the System Incident Commander, at her discretion, and in consideration of the level of response likely required for the event. Throughout the day on Thursday, August 25 and Friday, August 26, the Company reviewed the ICS organization and made personnel assignments to fill the necessary positions in the ICS structure.

The Regional Incident Commander appointed the following ICS assignments pursuant to the EEP on Thursday, August 25 and communicated at 7:30 PM that day:

- Regional Liaison Officer
- Regional Planning Section Chief
- Regional Public Information Officer
- Regional Logistics Section Chief
- Regional Safety & Health Officer; and
- Regional Finance Section Chief.

In addition, the Regional Incident Commander established Branch Directors for Rhode Island, Massachusetts - North Massachusetts -South to facilitate National Grid's "decentralized" approach to the restoration effort.

The following day, Friday, August 26, the Regional Incident Commander appointed individuals to fill the following additional ICS assignments:

- Regional Environmental Officer
- Regional Human Resources Section Chief; and
- Additional Branch Director for NE-North.

The Company announced additional assignments below the Branch Directors that day.

The Company continuously reviewed existing assignments and made further assignments and/or adjustments to assignments throughout the restoration period in order to better match the Company's resources to the areas affected by the restoration. For example, on Tuesday, August 30 the Rhode Island restoration area was split into two; with a Branch Director responsible for southern Rhode Island (North Kingstown) and a Branch Director responsible for northern Rhode Island (Providence). Copies of ICS organization charts in effect throughout the storm are included as Attachment 7.

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C. Determination of Crew Needs and Pre-Staging

1. Distribution and Transmission Line Crews

a) Company and Contractor Crews

From Wednesday, August 24, until Friday, September 3, National Grid requested crews in support of its effort to restore service to its customers. Due to the magnitude and severity of anticipated damage to electric utility infrastructure along the eastern United States, dozens of utilities in numerous states mobilized activities to secure external crews for service restoration. With a much greater number of utilities competing for the same resources, the Company encountered more challenges in securing crew resources for Irene than is typical for less intense storm events. National Grid made hundreds of calls to vendors as far west as Colorado and as far south as Florida over this time period.

Utilities in southern states quickly absorbed resources and equipment as Irene approached the east coast. A significant number of the southern utilities were also in discussions with contractors in the New England area to secure crew compliments. These utilities looking to move labor and equipment south to aid in their restoration efforts solicited many of the Company's regular New York and New England vendors along with other vendors north and west of the Carolinas. Many of these normally available resources had been committed to participating in restoration activities in the southeast, based on the timing and projected landfall of the hurricane.

The Company also contacted contractors and utilities in Canada for availability, but their resources were either already committed to other utilities or were being held until the projected path of Irene had passed their service areas without incident. Additionally, Canadian utility crews were not available due to damage incurred by an EF-3 tornado in Ontario earlier in the week.

However, the Company successfully procured crews before Irene impacted Rhode Island and ultimately secured all available crews to support restoration to its customers. The Regional Planning Section Chief, in coordination with the Regional Incident Commander, led discussions well in advance of the onset of Irene in New England regarding the acquisition of resources. National Grid began discussions with its Alliance vendors⁴ and other local contractors on Tuesday evening, August 23, prior to the first planned System Storm Call, to tentatively secure resources that were readily available in the Company's service territory. Approximately 25 Alliance two-person crews were made available Tuesday evening. On Wednesday, August 24 at 6:00 AM, the Company started to verify with the Alliance vendors that these crews would be used for service restoration rather than normal work upon

⁴ 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 emergencies work.

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the arrival of Irene, with the intent to lock up local resources as soon as possible, once the decision was made by the Regional Incident Commander that such resources were needed. Alliance crews were staged in areas local to where they were working that Friday. The Company also had many of the other local vendors remain at their places of business, where their vehicles and men could assemble and wait to be deployed. Many of the vendors who reported to National Grid on Saturday were staged where lodging became available. Most of the local vendors were headquartered in Massachusetts in the communities of Woburn, Billerica, Abington, Canton, Holbrook, and Bedford. Once the impact of Irene became known, National Grid deployed these external resources to areas in Massachusetts, Rhode Island, and New Hampshire.

On August 24 at 8:00 AM, the Regional Incident Commander directed the Planning Section Chief to secure 200 additional contract distribution line crews for New England. By late Wednesday evening, the Company had secured the 160 of the 200 distribution line crews requested. By the morning of Thursday, August 26, the Company secured over 200 distribution line crews.

In addition, approximately 285 transmission line workers were pre-staged on Saturday, August 27 at 6:00 PM. Approximately 101 of those were internal transmission line workers and 184 were contractor transmission line workers. Of these, 152 transmission line workers were pre-staged in Rhode Island, of which 17 were internal and 135 were contractor workers.

b) Mutual Assistance Crews

In addition to marshalling its own resources and securing resources from contractors, the Company vigorously 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.

In preparation for Irene, the EEI Mutual Assistance process was initiated on Thursday, August 25 at 8:00 AM when the Northeast Mutual Assistance Group ("NEMAG") convened a conference call to discuss the forecast for Irene. This call included representatives from fourteen northeast utilities and focused on the potential impact of Irene and pre-landfall activities. At the time, all utilities were holding their crews and monitoring the development of the storm. As part of this call, members of NEMAG also acknowledged that Irene had not yet reached landfall along the eastern seaboard and therefore NEMAG could not evaluate the full impact of the storm and the resulting need and duration for resources by the southern utilities.

Due to the potential magnitude of the damage from Irene, NEMAG leadership initiated a subsequent conference call on Thursday August 25, at 6:30 PM that included multiple Regional Mutual Assistance Groups (RMAGs) from across the United States. This call included the leadership

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from NEMAG, the New York Mutual Assistance Group (NYMAG), Southeast Electricity Exchange (SEE), and the Midwest Mutual Assistance Group. While the call did not yield the Company additional crews, it did establish key contacts and a process that would be continued throughout the event.

The Company's emergency planning group was working closely with Regional Planning Section Chief staff on August 26 and 27 in an attempt to secure an additional 400 crew resources. Following the 8:00 AM NEMAG call on Saturday, August 27, the NEMAG members determined that, due to the damage along the east coast, the Great Lakes Mutual Assistance Group and the Mid-Atlantic Mutual Assistance Group were also asked to participate on conference calls.

On Sunday, August 28, the total number of resources requested through NEMAG from electric distribution companies was in excess of 1,500 line personnel, inclusive of National Grid's request of 400. Additionally, other utilities along the east coast were requesting additional restoration resources in excess of 1,800 line personnel. However, as of August 28, participating utilities did not make additional resources available.

After the height of the storm had passed on August 28, National Grid continued to request additional resources through the mutual assistance process. As of 4:00 PM on August 29, approximately 7,000 line personnel had been requested by electric distribution companies along the east coast. National Grid ultimately secured twenty-four released line workers for New England restoration.

National Grid continued to participate in the NEMAG, NYMAG and RMAG Coordination Calls throughout the duration of the event. The last call was conducted on Sunday, September 4. As a result of its continuous effort to secure all available resources, National Grid obtained additional resources from Ohio, Florida, Canada, and New Hampshire, providing approximately 118 personnel, inclusive of the 24 line workers identified above.

2. Vegetation Management and Tree Crews

National Grid's forestry group, in support of the Regional Planning Section Chief, participated in all System Level Storm calls beginning on August 24 and used the weather projections to anticipate the number of forestry crews required to respond to this event.

The Company had completed a comprehensive assessment of its local forestry resources on Wednesday, August 24 well prior to the onset of Irene. Local resources are defined as contract tree crews currently performing scheduled work for the Company as part of their annual contracts. Through evaluation of local resources, which is the baseline support for the Company's normal forestry operations, the Company was able to identify incremental tree crews to support restoration efforts. This review considered both the location of the local forestry resources as well as the anticipated need for these resources during Irene.

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The Company determined that incremental resources beyond local forestry resources were required to respond to Irene. Consequently, the Company initially contacted existing forestry contractors to understand resource availability outside of the Company's service area. The Company's ability to hire contractors for tree work is enhanced by the Company regularly engaging large national, as well as local, contractors. These vendors prioritize their response to National Grid based on the annual volume and overall stability of the vegetation management program, and have the ability to quickly move resources from one part of the country to another to assist with significant storm events such as Irene.

As Irene progressed and the potential impact to the Company's system became more certain, National Grid formally requested and obtained commitments for incremental resources from these contractors. Once committed, the Company commenced the mobilization process. These commitments provided specific assurance that all resources would be on site prior to Irene's anticipated impact on August 28.

By end of day Saturday, August 27, all forestry contractors were on site and staged at various locations across the New England region. By the time Irene impacted the Company's service area on August 28, the Forestry group had successfully procured and staged over 400 tree crews across New England, of which 182 tree crews were in Rhode Island, ready to respond to potentially impacted areas.

D. Logistics

Irene's timing significantly affected the Company's logistics activities prior to and during the event. The activities surrounding logistics for meals, lodging, vehicles and other services is dependent not only on the demand pertaining to the estimated number of crews required to support restoration work and the anticipated locations of service restoration, but also on the competing demands for similar services in the affected areas by other, non-utility consumers, such as the college move-in weekend, the Deutsche Bank Championship and other regional festivals, each of which occurred at some point during the Company's restoration efforts.

The Vice President of Operations Support contacted members of the logistics team by email on the morning of Wednesday, August 24, to activate the three-day pre-storm checklists in anticipation of Irene. Members of the logistics team are sourced from a variety of National Grid departments and are pre-identified, providing logistics support for all events throughout New England. The following National Grid functions were represented on the logistics team pre-ICS designation:

- Regional Logistics Section Chief (Director of Investment Strategy)
- Regional Staging Site Lead (Director of Facilities Management)
- Regional Meals and lodging Lead (Manager of Operations Performance)
- Regional Fleet Management Lead (Director of Fleet)
- Regional Inventory Management Lead (Director of Inventory Management)

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The logistics team members participated on System Storm Call #1 at 2:00 PM on Wednesday, August 24, during which the size and complexity of the event, based on the Telvent weather predictions at that time, were discussed.

During the following days, further pre-event daily system storm calls culminating with System Storm Call #5 on Sunday, August 28, added further granularity to the forecast and predictions, enabling the logistics team to refine response plans during the incident anticipation stage.

The team assumed their ICS roles following System Storm Call #2 on Thursday, August 25, at which time a determination on the storm's level was made and the Senior Vice President of Network Strategy was appointed Incident Commander for New England.

The logistics team mobilized after System Storm Call #1 and initiated its pre-event activities.



1. <u>Staging Sites</u>

Following System Storm Call #1, the staging site core team members were contacted on Wednesday, August 24 and activated on Thursday August 25. Contact lists were confirmed and updated where necessary on Thursday August 25. The core team notified all remaining team members on Wednesday, August 24 concerning the likelihood of activating multiple staging sites, and the Company contacted Base Logistics, a third party logistics vendor, on Wednesday, August 24 to put it on notice that the Company may be requiring its support.

The core team participated on subsequent system storm calls and held preliminary discussions with Branch Emergency Operations Centers ("Branch EOC") and consulted with National Grid's project management and complex construction group, which is responsible for obtaining contractor line and forestry crews needed for restoration work, to obtain information regarding the number of crews planned to be deployed and their location. On Thursday, August 25, 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

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their availability as stated in the pre-negotiated agreements. The team also verified the list of available sites on Thursday.

The Company decided to establish staging sites along the perimeter of where the greatest anticipated damage would likely be sustained, based on the latest forecast information. This strategy helps keep crews, equipment and supplies directly out of harms way, until the storm passes, yet keeps the resources "close by" to where the greatest damage is expected. The core team reviewed the staging site plans for Raynham, MA to verify capacity and determine equipment requirements. Based upon this review, the core team initially selected Raynham, MA to support restoration in southern Massachusetts and in Rhode Island. As restoration activities began two staging sites were established in Rhode Island: one at Twin Rivers in Lincoln and the other at the Warwick campus of Community College of Rhode Island (CCRI).

The staging site team held discussions daily beginning Thursday, August 25 with the meals and lodging team to identify hotels in close proximity to proposed staging sites. In addition, the staging site team held discussions with inventory management and fleet management to confirm the locations of proposed staging sites, determine stock level requirements, and to provide overnight fueling services.

On Saturday, August 27, the Regional Staging Site Lead mobilized Staging Site Managers and personnel, enlisting the help of National Grid personnel who did not have previously assigned storm responsibility to assist with set up and operation of the sites. The staging site team activated the staging sites in Marlborough, Raynham, and Rockingham Park for the purpose of pre-stage line crews on Saturday, August 27. Activation of the Rhode Island staging sites occurred on August 30 as more crews arrived in Rhode Island. As part of this process, the staging site team, in coordination with the meals and lodging team, arranged for the transportation and meals for the line crews.

The principle of a staging site is to enhance the efficiency of restoration. The crews parked their trucks at the site and many were taken to their hotels by bus at the end of the day. The trucks were fueled overnight. There were inventory materials at the site and crews were assigned work, collected the materials and progressed to their work locations. They were provided boxed lunches before they left to prevent the need to break down a work site to find a location for meals. At CCRI there was enough space to establish a catering operation. The crews were provided meals before they began work and before they retired to their hotels in an effort to maximize the time they could work.

2. <u>Meals and Lodging</u>

After System Storm Call #1, the Regional Meals and Lodging Lead communicated on August 24 to the Meals and Lodging Team to prepare for activation. The Regional Meals and Lodging Lead developed a schedule for the next three days. Upon receipt of pre-staging sites and the preliminary number of line crews supporting restoration efforts in New England, the meals and lodging team began

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acquiring hotel inventory based upon this information. National Grid's procurement group informed the meals and lodging team of communication channels for expedited processing of hotel-related purchase orders. The meals and lodging team also ensured that an event would be opened in Resource on Demand ("RoD") (which is a software tool used during storm emergencies to track personnel working during an event) on August 25 and communicated with the RoD Intake Team to ensure that their mailbox was being monitored for incoming crew sheets.

On Thursday, August 25, Meals and Lodging set up operations. The team began to secure hotels near Lincoln RI and Warwick RI as well as the staging site in Marlborough, MA. Various field resources populated crew sheets and the RoD Intake Team uploaded the sheets in RoD and rooms were assigned as the need demanded. The meals and lodging team participated in all storm calls on Thursday, August 25, and met with representatives from various groups requiring weekend lodging. Meals and lodging and procurement maintained constant communication to expedite purchase orders as the Company acquired hotel inventory. Updates regarding inventory acquired were sent throughout the day as requested by the Regional Meals and Lodging Lead to emergency planning when the Company determined this would be a multi-day event requiring significant resources. The Regional Meals and Lodging Lead communicated with the team updating them of this change in status and prepared a schedule for the next four days and communicated it to the team, along with the expectations that the team report to the Northborough Customer Contact Center ("Contact Center") starting Saturday morning, August 27.

On Friday, August 26, the meals and lodging team was fully operational at the Contact Center. The team was instructed to come prepared to stay at least through the following Wednesday, August 31. The previous schedule was adjusted to have 24-hour coverage of the meals and lodging room beginning Saturday morning and was circulated to the team. The team compiled a list of all open restaurants at 12:30 PM, which was continuously updated as more information from the field came into the meals and lodging team. Concurrent with this activity was constant communication with the project, management and construction group, forestry, transmission, and other groups supporting service restoration, identifying arriving line crews and necessary lodging. Updates regarding hotel inventory were provided to logistics leads as requested, and, at the end of Friday night, Meals and lodging sent out a report of hotel inventory for Saturday and Sunday to logistics leads along with contact information for emergency calls.

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Throughout the week, it became evident that the inventory of hotel rooms in Rhode Island for the weekend commencing Friday, the 2nd of September would diminish due to the number of local events. To mitigate the loss of hotel rooms, it became necessary to seek an alternate venue for over 300 restoration workers. Gratefully, the Dunkin Donuts Center in Providence was made available for the workers.



3. <u>Inventory Management</u>



The Company's inventory management group ensures adequate materials and resources are engaged to provide effective material supply during the storm. Inventory Management contacted materials suppliers beginning Wednesday, August 24, to begin preparations for material needs, including the delivery of materials throughout the upcoming weekend and during Labor Day holiday weekend. Inventory management ordered 1,000 additional poles for delivery to the New England Distribution Center (NEDC) from the Company's supplier as a proactive measure to ensure an adequate supply. Procurement also provided a dedicated buyer to proactively begin discussions with

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both primary and secondary suppliers of transformers, poles, and storm kit materials in advance of actual need to ensure that sources for needed materials/supplies could be obtained, if and when required. Throughout the storm, inventory management employed a team of strategic buyers that worked under the direction of its material planning group to anticipate material needs. This proved to be very effective and allowed the material planning analysts to concentrate on replenishment of stock items, while the procurement team worked with suppliers to orchestrate delivery requirements, providing inventory a few days ahead of its need. During the duration of the storm, inventory management and procurement had four daily storm calls to coordinate needs and proactively identify any issues related to surety of supply.

Materials on hand were adequate to address all needs during the restoration. There were no instances of material shortages during the entire storm. Materials came directly from the crew locations, staging sites, and from the NEDC. Additional pole needs were delivered directly from the supplier's stocking yards to the staging sites, crew locations, and operations yards. Staging sites were utilized to locate materials in close proximity to the damaged areas and the location of line crews brought in to perform restoration activities. Three procurement buyers under the direction of inventory management were sent to the designated staging sites as material coordinators to monitor stocking levels and assist with deployment of materials to contractor crews. As the storm progressed and 24/7 coverage was necessary, additional staff from finance and facilities were engaged to assist as material coordinators, and to provide necessary rest to the individuals working 12-16 hour day shifts. Contract material handlers were procured to provide labor to operate forklifts and load trucks as a supplement to existing National Grid staff.

Stock rooms were reviewed for adequate material levels as a matter of course before the storm and additional required materials were delivered well in advance of the storm. All "routine" deliveries for normal business requirements on Monday, August 29 were moved up and delivered on Friday, August 26 or Saturday, August 27, so that all delivery trucks were empty and available at the NEDC, beginning on the morning of Sunday, August 28, when the storm was predicted to begin. Warehouse and material planning staff was scheduled for around-the-clock coverage and all vacations were cancelled to ensure adequate resources available 24/7. In addition, inventory management also enlisted the help of National Grid personnel who did not have previously assigned storm duties. Three procurement buyers and one category manager were brought into the NEDC to answer phones, process material stock requests, and provide daily order and delivery reports. Two additional material planning analysts were also deployed to the NEDC to assist with material stock requests as well as making sure that stock issues were processed correctly through the material management system. Inventory management personnel were present on every system storm call to respond to any material-related issues or inquiries. Due to the predicted magnitude of the storm, inventory management also engaged three mobile maintenance, repair and operations storerooms from one of the Company's suppliers to ensure on-site availability of high demand consumable items and eliminate delays due to lead time constraints.

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The staging sites were the means to effectively provide materials to line crews from a central location. Requested deliveries were made to crew locations and staging sites during the storm for specific materials and replenishment of common stock.

- 4. Fleet Management

Based upon the predicted size and impact, discussed on system storm calls, fleet management conducted a staffing review and resource level evaluation for the remainder of the week and throughout the weekend of August 27-28. The Company decided to commence round-the-clock staffing for fleet operations beginning Saturday, August 27, and consecutive 12-hour shifts were then established at all Rhode Island fleet garage locations.

Fleet management conducted a comprehensive availability review of all vehicles and equipment which were under repair. Those that could be utilized for restoration purposes were reprioritized, focusing to have these available for service by Friday, August 26.

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. With this in mind, fleet management raised the transaction limit of the Company's fuel card provider assuring preparedness for vehicle gasoline and diesel procured at fueling stations. Additionally, anticipating the potential for staging sites, 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. The meals and lodging team provided a list to fleet management on a daily basis, indicating which hotels would be occupied. Fleet management also interacted daily with the staging site lead to determine if there were any changes in staging site fueling requirements. In addition, fleet management contacted vehicle material suppliers reaffirming their stock levels of spare parts and revalidating off hours coverage to support fleet needs.

Fleet management contacted rental vehicle and equipment suppliers to establish availability of restoration-type equipment. Specialty vehicles (e.g., digger derrick, aerial trucks, and amphibious

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equipment) were flagged and made ready awaiting reservation. Rental vehicles for damage assessment and wires down were also identified. Rental sedans/Sport Utility Vehicles were ordered and delivered to strategic locations based on the forecasted storm track by Saturday, August 27, and were available for dispatch.

The fleet group participated in all system storm calls. Plan modifications were discussed and adjustments made as the forecast and storm progressed. Additionally, fleet services conducted departmental calls for its specific group to assure it was in alignment and sharing relevant storm preparedness information for all areas inclusive of Rhode Island.

Below is a chart depicting vehicles and equipment available for storm restoration in Rhode Island:

Asset Category	Count
AERIAL	78
BACKHOE/LOADER	32
CRANE	3
DIGGER DERRICK	10
PICKUP	156
PSGR CAR	27
TRAILER	121
TRUCK/BODY	94
VAN	222
	743

Repairs for Company vehicles and equipment during the storm restoration effort were performed at local Company fleet garage locations, or local external vendors. Local external vendors performed road calls, towing/recovery tasks. Repairs for foreign vehicles were handled by their supplier.

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 systems (Power On), through customer-reported troubles and information from all other sources. The storm damage appraisal process is used to formulate an assessment of the appropriate level of storm response by National Grid management. Information collected from the storm damage appraisal process is also
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used to create the construction work packages, which identify and describe individual "jobs" to be assigned to available line crews and tree crews in the restoration effort.

A. Transmission

1. <u>Transmission Damage Appraisal Process</u>

The Company's transmission damage appraisal 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 appraisal, 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 Sunday, August 28, the first day of the storm, no aerial patrols of the transmission system were possible due to excessive wind speeds. The first patrols during Sunday were performed by foot patrols and by vehicle patrols. There were approximately 285 transmission line workers that also were pre-staged overnight into hotels the evening of August 27 in order to respond to damage assessed by foot patrols and vehicles on August 28. However, these patrols could not be undertaken safely until the peak storm winds began to subside in the late afternoon hours of Sunday. The extent of these initial patrols was limited due to safety reasons and reducing the risk of injury to employees on right of ways where tree limbs and trees could still be susceptible to falling. When it was safe, these resources were assigned foot patrols through the Branch EOC based on the priority set by the control center.

The second day of the storm, Monday, August 29, as the winds diminished 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 and sub-transmission corridors in Rhode Island and adjoining states affected by the storm were coordinated with the transmission control center.

2. <u>Transmission Damage</u>

On August 28, at approximately 7:40 AM, the storm began impacting National Grid's Massachusetts and Rhode Island transmission systems. The storm impacted the following transmission assets in New England:

- 2 230kV lines tripped and remained open
- 8 115kV lines tripped and remained open

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- 14 69kV lines tripped and remained open
- 2–115kV lines tripped and reclosed automatically
- 5- 69kV lines tripped and reclosed automatically
- 2 115kV lines were taken out of service for emergency repairs
- 2- 69kV lines were taken out of service for emergency repairs

In most cases, customers were not impacted by the loss of a transmission line as the typical substation is supplied by two transmission lines. In some cases where both transmission lines supplying a station were out of service, the Transmission Control Center performed switching to isolate the faulted section of the line and restored one or both of the transmission supplies to the station while the faulted section was repaired. In cases where both transmission supplies were out of service, both lines are isolated for repairs and lines were restored as soon as repairs were completed. Examples in Rhode Island include:

- B23- On 8/28/11 at 7:40 a.m., the B23 line locked out. A tree was found on the line at Structure 54 in the Right of Way and a phase was down. Repairs were made and the line was returned to service at 2:50 p.m.
- Q10- on 8/28/11 at 7:50 a.m., the Q 10 locked out. Through remote switching the faulted line section was isolated and the Staples Substation was picked up on the J16 line at 8:59 a.m.. A tree was down 10 structures out of Robinson Ave.
- F184- On 8/28/11 at 8:07 a.m. the F184 locked out. Load transferred on the low side of the Warren and Bristol substations.
- M13 and L14- On 8/28/11 at 9:50 a.m. and 9:55 a.m., respectively, each line locked out. A tree came down and took down Structure 54 on the M13 line, which also took out the L 14 line. These two lines feed all of Aquidneck Island and Tiverton. The area with the structure down was isolated and the Tiverton substation was picked up 12:28 p.m. Repairs were made to L14 line was back in service at 9:30 a.m., on 8/29, this was the first 115kV feed into Aquidneck Island and allowed restoration to begin. On 8/29 at 1:56 p.m., the M13 was returned to service after repairs were made.
- 3761 and 3762- both these 69KV lines came out of service with the M13 and L14 outage. Nothing was found on either line, but they could not be put back in service until an 115kV source came back, which was the L14 on 8/29 at 9:30 a.m.
- V148- On 8/28/11 at 9:43 a.m., the V148 locked out. The Washington Substation transferred load.

- H17- On 8/28/11 at 9:52 a.m., the H17 locked out, at 10:42 a.m. customers were restored at West Farnum through remote switching.
- T7- On 0828/11 at 9:55 a.m. the T7 locked out. No customers were affected; as this is one of (3) 115kV sources into the Pawtucket Substation. A tree was removed and repairs made in Swansea, MA and the line was put back in service on 08/29/11 at 5:55 p.m..

The damage to the transmission lines was largely caused by fallen trees that resulted in damaged conductors, cross-arms, and structures.

B. Distribution

1. Damage Appraisal Process

During restoration activities related to Hurricane Irene, distribution damage appraisal operations were coordinated out of the Providence (Melrose Street) office location. This function was staffed for 24-hour operations. Day and Night shift leads (field coordinators) reported to a centralized management team that coordinated damage appraisal activities across all of National Grid's New England service territory.

Preparations for damage appraisal began on Thursday, August 25th, including staff assignment, requests for vehicles, and securing materials including appraisal forms, and circuit prints. On Friday, August 26th, the Company provided Damage Appraisal "refresher" training in Waltham, MA to those individuals assigned to this storm restoration activity and then dispatched key personnel to their assigned regional offices (including Providence) to set up the damage assessment offices. Set up included a test of computer connections to Company systems, establishment and test of phone lines, and confirmation of delivery or delivery status of damage assessment supplies that had been arranged for the prior day. On Sunday, August 28, before the arrival of the storm, the Providence damage appraisal field coordinator and support personnel activated the regional damage appraisal office at 5:00 AM. Throughout the day and through the night, as the storm progressed, this team prepared the necessary patrol packages and made arrangements for the efficient assignment of damage appraisal patrollers on the first morning following the storm. Circuit patrols were prioritized based on the number of customers interrupted and the nature (ex. hospitals, schools, etc.) of customers served).

Damage appraisal patrols are performed in multiple phases. In response to Hurricane Irene, damage appraisal began on Monday, August 29 and was dedicated to Phase 1 patrols. In Phase 1, the patrollers collected restoration requirements for circuit mainlines. Phase 1 patrols were completed on Tuesday August 30th and Phase 2 patrols began. In Phase 2, the patrollers collected restoration requirements for much more of the circuit (including fused taps, single phase primary distribution, secondary, and services). By the nightfall August 31st, Phase 2 patrols were complete on all but two circuits (which were completed the following day). From September 1st through September 3rd, damage appraisal efforts focused on targeted survey of issues reported in the Company's outage

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management system (Power On). Throughout each day of the response effort, regular calls were made to or received from the patrollers to capture information and enter it into the Company's storm damage appraisal database.

Each evening beginning on August 29th through September 2nd, the patrollers returned and explained their field notes to Work Packet Support teams. These teams would review the field notes and update the storm damage appraisal database. Then, for each feeder patrolled, two work packets were created, one for tree crews and one for line construction crews. These work packages were ready each morning by 5:00 AM and provided for assignment to the appropriate crews.

In Rhode Island, damage appraisers were assigned 213 Phase 1 and 234 Phase 2 patrols covering a total of 292 (75%) of the distribution circuits in Rhode Island. These patrols represent approximately 4,500 out of a total 5,100 circuit miles of overhead conductor in service in Rhode Island. This was accomplished even though appraisal of the damage was hampered by downed trees and closed roads in many locations.

2. <u>Distribution Damage</u>

As examples of the extent of storm damage, the Company's damage assessment effort identified and logged in our storm damage appraisal system throughout the state of Rhode Island:

- over one hundred⁵ distribution poles potentially requiring replacement
- over forty distribution transformers potentially requiring replacement
- approximately 800 tree conditions that needed to be addressed by tree crews
- over 700 sections of primary overhead line (single and three phase) down
- over 400 sections of secondary line down
- close to 400 services down

Attachments 8, 9 and 10 provide details for poles, transformers and wire replaced, respectively.

V. RESTORATION

A. Timing and Priority of Service Restoration

The Company implemented the system of prioritization for restoration found in the EEP, 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,

⁵ 81 poles were actually replaced in the storm based on confirming work orders. Damage assessment may indicate poles which are impacted (such as leaning poles), but do not necessarily need to be replaced.

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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 customers, and made efforts to restore service to its life support customers as quickly as conditions warranted,. Even with the challenge of accessing mutual aid crews while other utilities experienced similar damage from Irene, the Company had at one point approximately 1,500 resources in line crews, tree crews, personnel attending to downed wires, damage appraisers, and substation personnel working to restore service in the wake of Irene.

During a normal "Blue Sky" day, the Company's Northborough control center is responsible for all service restoration activities, including response to public safety situations where there may be wires down or police and fire apparatus standing by. However, due to the magnitude of Irene, the Company decentralized its service restoration efforts. In doing so, the company opened Branch EOCs and wires down rooms across much of its service area, allowing for the analysis, assignment, dispatch, repair and closeout functions to be performed closer to locations where outages were anticipated, thereby providing more accurate and timely deployment of resources to perform these activities. Branch EOCs were opened in Providence and North Kingstown. Local crews were dispatched directly from the Branch EOCs, and contractor crews worked from damage assessment packages.

Each wires down room was staffed to operate in the same manner as the field workforce (<u>i.e.</u>, 12 hour shifts/ 24 hour coverage). Each shift had at minimum one wires down coordinator responsible while assigned to the room for the overall operation of the wires down function for the area. Wires down dispatchers, clerical support and police and fire call back support reported to the wires down coordinator for that area. The wires down coordinator worked directly with the Branch EOC lead manager to ensure effective and efficient use of the available resources and appropriate coverage of police and fire calls indicating a "stand by" condition exists.

The decentralized wires down rooms were responsible for handling the police and fire estimated time of arrival (ETA) call back process for Priority 2 and 3 calls received by the room where police and/or fire apparatus are "standing by" until relieved by Company forces. Prior to the onset of Irene, the Company communicated with all wires down rooms regarding the police and fire call back process, to remind personnel of the proper way to prioritize, as well as the proper procedures on how ETA call backs would be handled. The wires down rooms prioritized resources such that police and fire at locations where public safety apparatus were reported to be standing by were relieved first.

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The Company decentralized service restoration at 6:00 AM on Sunday, August 28. The Company initially selected its office at Melrose Street, Providence to be used as a Branch EOC, and on Monday August 29, also opened North Kingstown to be used as a Branch EOC. In addition, the Company opened a wires-down operation in Providence for all of Rhode Island.

The Branch EOCs and Northborough Control Room primarily focused on 911 Priority 1 Calls, as well as public safety and wires down support. This focus on public safety continued throughout every day of restoration. By early Sunday afternoon, most line crews were engaged in supporting wires down operations. Each wires-down operation mobilized the necessary office support staff (<u>i.e.</u>, dispatching) as well as field support (<u>e.g.</u>, standby, appraisers, cut and clear). Resources typically assigned to be wires down personnel are drawn by the Company from customer meter service workers, available electric operations workers, gas customer meter service workers. In the case of Irene, the Company also trained workers from National Grid gas field operations in Rhode Island, as well as available outside contractor resources.

As service restoration activities neared completion in a geographic area of responsibility, the Company executed a transition plan for returning to normal operations, allowing the Northborough Control Room to retake service restoration activities. The Incident Commander reassigned line crews to other geographic areas.

B. Personnel Resources

The Company's resources during and after the storm event are provided in Attachment 11 As noted previously, the Company planned for resources for Irene well in advance of the onset of the storm in Rhode Island and was ultimately able to secure approximately 1,500 resource personnel at one point to restore service to customers. 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 90 percent of its customers by 6:00 p.m. on September 1, even in the context of resource constraints.

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 Irene. This is common practice and was used in recent years by National Grid during storms in December 2009 and September 2010.

C. 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.

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As with any storm, prior to Irene's arrival, National Grid assembled a safety team with area responsibilities, established the reporting hierarchy, and prepared and communicated organ organization chart. The safety team prepared safety notices and delivered them Company-wide to all employees through corporate communications. The Company's communications from the Safety team to personnel involved in service restoration are provided in Attachment 12. Safety personnel were deployed to assist in specific geographic areas, and delivered on-site safety orientations to National Grid workers, contractors, and mutual aid personnel prior to the start of each day. During Irene, safety personnel were regularly assigned to work sites to advise Company personnel, contractors and mutual aid personnel of safety issues and practices. In addition, prior to the start of each new job, the assigned crews reviewed the work ahead, with a focus on safe working conditions for the specific job.

VI. COMMUNICATIONS DURING AND AFTER THE EVENT

A. Communications Regarding Emergency Times for Restoration (ETRs)

The Company is aware of the importance on accurate and timely information about estimated times for restoration ("ETR") after storm events. The Company made every effort to accurately and effectively communicate ETRs to customers and other interested stakeholders, in the context of widespread outages and damage to the Company's infrastructure. In general, the Company's primary communication vehicle for offering ETRs is through its Outage Central web page or through its Customer Contact Center. Outage Central is an interactive online tool directly accessible to customers, municipal officials, and state officials, which provides outage information, including ETRs. The information available on the Outage Central website is typically updated approximately every 15 minutes. During Irene, the Company used an integrated communications approach to reach customers with ETR information. The Company used its website, Twitter, Facebook, radio, email and text messages to encourage customers to visit Outage Central or call 1-800-465-1212 (Call Center) for ETRs. All residential and commercial customers who have email addresses on file with the Company and did not opt out of the email program received email updates. Only those customers who signed up to receive text message updates specifically for this storm received updates via text. The Company also used Twitter and Facebook to provide ETR information directly to customers who requested it rather than directing them to Outage Central or the customer contact center. ETR information provided by the Company through Twitter and Facebook was taken directly from the Company's Outage Central website, to ensure the most up-to-date information was provided to the customer.

On Sunday, August 28, because of the extensive and pervasive nature of the interruptions from the storm, the Company began experiencing performance issues with the Outage Central website, including slow response to users, outage and recovery time data not being updated properly and/or on a timely basis, and Outage Central intermittently not working entirely as a resource for its customers. The Company addressed these issues at the time of their occurrence as quickly as possible and attempted to resolve the issues by restarting servers and selectively turning off non-critical functionality on its website that competed for information technology resources. In addition, the Company's service suppliers worked at the time of the occurrence to address telecom and network

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issues. The Company subsequently also undertook server upgrades after the restoration period subsided, as is reviewing long-term actions to remediate the issues that arose.

One of the initial challenges with providing ETRs was that the Company did not yet have the information. The Company must have sufficient information of the extent of the damage to the electrical system before it can formulate and provide ETRs. When damage is less severe and outages are more limited in scope than was the case for Irene, the Company is able to assess ETRs fairly readily and reliably, based on localized damage assessments where the "cause" and "effect" can be tied more plainly to a particular customer's outage. As noted earlier, for this storm the distribution damage assessment in the field began on the evening of Sunday, August 28, as soon as weather conditions allowed damage assessment activities to begin safely. Since damage was still being assessed in most areas on August 30, these ETRs were set by area or region. During the remainder of the event, the Company continued to refine available ETR information. More specific ETRs were developed for the various geographic areas affected by the storm based on existing damage, resource allocations, and the expected complexity of repairs. As of the afternoon of August 30, ETRs were made available to the municipal rooms. This information was passed along to municipal contacts through the daily municipal calls and through individual calls and e-mails. This same information was posted on the Company's external website, which we communicated to the municipal contacts, in the event their citizens were seeking this information. On Wednesday August 31, as additional damage assessment information became available, the Company provided ETRs by type of outage (feeder breaker, mainline device, fused branch, or individual transformer/customer) for each crew platform location. On Thursday September 1, the Company focused on providing additional batched updates with ETRs by type of outage for each town. Adjustments to ETRs were made continuously each day based on information from the field and resource allocations. As crews were assigned to individual outages the ETRs were again updated. On Friday and Saturday the Company focused on updating ETRs by type of outage by town for each individual outage location. The Company continued to provide and make this information available to the municipalities. Towards the end of the restoration effort, primarily Friday, National Grid provided street level details for the remaining outages when requested by certain towns.

The Company is aware that some customers and government representatives were not satisfied with the Company's efforts to communicate ETRs and the level of detail available to customers during the event regarding their specific outage. The Company acknowledges that, in addition to the time necessary to perform a thorough damage appraisal of the Company's system, and to determine ETRs, its Outage Central website was not easily accessible by customers early in the week of August 28, which hampered some customers from receiving ETR information that the Company had available. The Company is currently analyzing the performance of its Outage Central website during Irene and will determine how the system can be improved for future storm events.

Additional information on the Company's general communications effort during and after the storm is presented below.

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B. Intra-Company

As part of the storm restoration effort, an internal communications protocol was implemented on August 28, under the direction of the System Public Information Officer. Periodic updates were issued each hour with detailed internal communications being issued from the EOC room after each storm call. These communications were shared so that all communications could be made in a timely manner. Internal communications were issued to all employees via email and the internal intranet daily throughout the duration of the event.

Regional storm calls were held twice daily – at 9:00 AM and 3:00 PM – from August 28 through September 4. System storm calls during and after the onset of Irene were coordinated with the regional calls and transpired once a day, between Sunday, August 28 and Sunday, September 4.

C. Public Officials: Governor's Office, RIEMA, State Agencies, Elected Officials, Municipalities

1. <u>Governor's Office and other State Elected Officials</u>

The Governor's office was contacted daily to communicate outage information and restoration efforts. Meetings also took place several times during the week after the storm, including an aerial assessment of the storm damage in Rhode Island with the Governor and the National Grid Rhode Island Jurisdiction President.

During the restoration period, the Company received many calls from state legislators either asking for estimated restoration times, or informing the Company of calls received from their constituency regarding outages to hospitals, municipal offices, businesses, and in some cases, elderly customers or customers with medical conditions. These calls were researched through the municipal rooms, and information regarding the status of the restoration activity for the affected customer was provided back to the requestor through the Company's Vice President of Government Affairs. Information regarding the area impacted along with estimated times of restoration were provided, along with follow-up, once the impacted party was restored.

2. Rhode Island Public Utilities Commission, Division and RIEMA

A Company representative was present in the RIEMA operations center from Friday, August 26 until the end of the storm and the closing of the RIEMA operations. In addition, the Company participated in multi-agency meetings and calls both prior to and during the storm. A call was held each day with the local EMAs and with the school Superintendents.

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The Company also provided information through each day of the storm to the Commission and the Division. Outage information was reported multiple times each day through phone calls and email reports.

3. <u>Municipalities</u>

Municipal calls were held beginning Sunday, August 28 until completion of the restoration activities in each region. For the first two days of the storm two calls were held each day and were reduced to daily calls until restoration was complete.

In addition to these daily calls, the Company maintained close contact daily with individual communities to provide an update on its activities and work closely with town and city officials to properly prioritize public safety concerns, critical facilities and customers, and important town functions (e.g. shelters, hospitals, schools, water/ sewer pumping stations, etc.). Company personnel also called health care facilities and school superintendents on a daily basis. In some of its harder hit communities, the Company deployed National Grid community liaisons to work with the city's or town's emergency, safety and public officials as a dedicated liaison. These community liaisons were assigned full time to a specific community and supported direct communications back into the Company's branch municipal rooms, public information coordinators and branch restoration personnel. The Company's liaisons accompanied the safety officials around their towns to review prioritized locations and provide any further details about any concerns being raised by the community. Throughout the event, the Company worked closely with local safety and elected officials to address specific details concerning the number of outages, locations experiencing outages within their city or town, daily updates on outage statistics and information of restoration progress and estimated times of restoration.

Throughout the event, the municipal rooms worked with the local safety, emergency and elected officials to manage the town's priorities, along side the Company's restoration process and priorities. In cooperation with the Company's operations personnel, the Company worked collaboratively with municipalities to confirm and clear all wires down and 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 then worked with the municipalities to prioritize restoration of critical facilities (e.g., hospitals, shelters), critical infrastructure (e.g., communications, water and sewer stations) and critical/sensitive customers (e.g., major elderly complexes, nursing homes). The local municipal room leads and the branch public information coordinator were active participants in the prioritization activities within in each division.

The Company also provided information on estimated restoration times for each city/town, which was posted on the Company's website, beginning Tuesday, August 30 and refreshed every 12

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hours. As the Company completed restoration of supply and substations, it continuously provided more finite ETRs as the restoration activities progressed.

D. Customers

1. <u>Communications During and After the Storm Event</u>

Prior to the storm, National Grid assigned personnel to roles as Customer Liaisons. This group reached out to our Rhode Island managed accounts list, approximately 250 customers, prior to the storm to discuss preparations and to set up a communications plan for priority outage notification and restoration communication. The team worked with the customers throughout the storm and helped prioritized their restoration efforts by providing feeder and contact information to operations. Critical/sensitive customers were contacted by phone daily.

During the storm event, National Grid continued to provide customers with safety tips that were relevant during this phase of the storm, such as staying away from downed wires, and contact information to report power outages or downed wires, and to inform them that National Grid was assessing the damage to determine initial restoration times.

The messages during this phase of the storm were communicated with expanded coverage to increase communication frequency utilizing various communication channels including: web, email, radio, text, call center representative and Interactive Voice Response technology, along with postings on Twitter and Facebook. In addition, the Company utilized direct sales representative commercial customer calls and media outreach.

The Company conducted numerous outbound calls to customers regarding downed wires, crews, where to get ETRs, and also made calls to verify that power had been restored as feeders were restored, to help identify single customers that remained out of service. Scripts for these outbound calls were as follows:

Hurricane Irene Outage Restoration Call Script

This is <Heather> 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 nationalgridus.com and click on outage central. Any information you provide will help us to find local problems more quickly.

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Again that number is 1800-465-1212. Our crews will continue to work until all customers have power restored.

We appreciate your patience - thank you

Sunday August 28 all customers Alternative Message – This message was sent starting at 8:30 PM

Hello this is Rita calling from National Grid on Sunday August 28 with an update on Hurricane Irene which has caused widespread damage to National Grid's electric system across New England. Our crews' immediate efforts are focused on securing public safety. Over 3500 National Grid employees will be working around the clock to restore your service as quickly as possible. Because the damage to our system is significant, it could be several days before all customers are restored. Please contact 911 if you require emergency assistance or your local public safety officials. Please remember that all down wires should be considered live and dangerous. Thank you

Day 2 August 29 Message to all customers - This message was sent starting at 4:00 PM

New England

Hello, This is Rita calling from National Grid on Monday August 29 with an update on Hurricane Irene which has caused widespread damage to National Grid's electric system across New England/). We want to thank you for your patience as over (3500) National Grid employees and contractors work around the clock to restore your service as quickly and safely as possible. Our crews' immediate efforts today are focused on clearing downed wires and restoring power to as many customers as possible. Because the damage to our system is so significant and widespread, restoration is expected to last well into the weekend in some of the hardest hit areas. We are committed to providing you routine updates as additional information becomes available. Please contact 911 if you require emergency assistance or your local public safety officials. Please remember to treat all down wires as live and dangerous. Thank you.

All NE Customers August 30 starting at 6:00 PM

This is <NAME> calling from National Grid with two important messages. The first is a reminder to stay away from all downed wires which are potentially live and dangerous. Please report all downed wires by calling 1-800-465-1212. The second message is to let you know that we have starting posting estimated times of restoration or ETRs on our website. To see the ETR for your location , please visit nationalgridus.com and click on outage central. We appreciate your patience and commitment to safety - thank you.

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Due to the extensive and widespread damage to the region by Irene, immediately after the event, initial post-storm communications continued to focus on assessing restoration efforts and indication of multi-day restoration efforts along with safety information on downed wires and reporting power outages.

The Company provided customers with an update of restoration efforts, which consisted of crew updates and restoration estimates, as appropriate. In addition, other information that provided context to the magnitude of the hurricane, such as number of crews deployed, number of customers without power, numbers customers restored, extent of damage (with photos in applicable channels), and number of poles replaced, was provided. We also continued to emphasize safety and provided post-storm tips around downed wires, generators and home outdoor debris clean up.

Given the need for the timeliness of the above information, the channels most utilized during this phase were Call Center, Website, Twitter and Facebook. The other channels such as email, text, radio, representative calls, and media relations were also utilized. To help customers better understand the magnitude of the hurricane, we also deployed YouTube to provide videos of the damage.

Upon completion of restoration efforts, National Grid communicated 'thank you' messages to customers via web, email, social media, radio and newspaper print ads to let the customers know we appreciated their patience as everyone worked to safely restore power.

2. <u>Life Support Customers</u>

The Company remained in contact with Life Support Customers during and after the storm. A sample call message was as follows:

8/28 Outbound call made at 5:30 pm

Hello, this is Rita calling from National Grid with an important update about hurricane Irene which has caused widespread damage and power outages throughout the region.

3,500 National Grid employees will be working around the clock to restore your service as quickly as possible. Because the damage to our system is significant, it could be several days before all customers are restored. Your city or town may have information on locations where you can take shelter. Please contact 911 if you require emergency assistance. Please treat all downed wires as live and dangerous.

Thank you for your patience as we work to restore service as quickly and safely as possible.

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National Grid was unsuccessful in reaching approximately 200 life support customers, either because their line was busy or because there was no answer. In a further effort to contact these customers, National Grid employees went in two person teams to their homes to personally speak with them. In advance of dispatching these teams into the field, National Grid informed local police departments that it would be making these visits to check on the well-being of citizens in their town. At each customer location, the teams documented completion of the visit including date and time, whether contact was made with the customer, as well as whether power had been restored to the customer's location.

Upon completion of all field visits, follow-up calls were made to those customers with whom contact had not been made during those visits. The date and time of each follow-up call was documented along with whether the customer was reached and whether power had been restored to their location. If, upon completion of all follow-up calls, contact was still not made with the customer, the local police department was contacted and asked to make a wellness visit to check on the status of that customer.

The Company also placed follow-up calls to customers for whom the Company could not contact with during field visits. The date and time of each follow-up call was documented as was the result of the call and the status of whether power had been restored at the location. Some life support customers expressed a concern over too many follow-up calls during the multi-day event, and asked the Company to discontinue follow-up calls to their location.

E. Media

Media relations activities in support of National Grid's restoration efforts began on Sunday, 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.

On Sunday, August 28, Media Relations issued two news releases. The first urged customers in Massachusetts and Rhode Island to stay safe during and after the storm, and apprised customers that a total of 3,500 field staff were ready to respond to outages in the two states as soon as it was safe to do so. On Monday, the National Grid Rhode Island 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 Labor Day weekend.

During the subsequent days, the media relations team fielded hundreds of incoming calls from reporters across the state, conducted a myriad of interviews with print and broadcast media, arranged

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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. Media relations also continuously directed reporters to the Company's online "Outage Central" information site to provide estimated restoration times once they had become available.

Media relations also assisted RIEMA in the coordination of a series of news conferences for the media, which included the National Grid 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.

National Grid's President of U.S. business conducted a series of interviews with multiple media outlets at one of the Company's Rhode Island staging areas.

In all, 14 news releases were issued 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 EEP, 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 to ensure consistency and coordination of

VII. LESSONS LEARNED AND IMPROVEMENT ACTIONS

In accordance with the Company's EEP, detailed After Action Reviews (AAR) have been undertaken to identify what went well during the storm, as well as opportunities for improvement. Company-wide, cross functional workshops were held, each of which focused on improving the effectiveness of the Company's storm response in terms of safety, restoration time, public information flow, process efficiency, workforce utilization and customer satisfaction. Additionally, teams reviewed issues specific to Rhode Island based on their own experience and the information learned at agency hearings and community associations, and customer meetings.

While the development of recommendations addressing longer term strategic improvements is still underway, immediate improvement action items have been developed based on the lessons learned. These are presented below.

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1) Communication

As described in the previous sections, the Company communicated and collaborated with a variety of external stakeholders including government officials, state and local agencies and customers before and during the storm. This was done through a variety of means including emails, phone calls, meetings and field visits. While a good process for communication for storms is in place, the Company recognizes that improvement is required, especially concerning the quality of information provided to customers and communities. It was evident in after action reviews and other meetings that external stakeholders were dissatisfied with the company's performance communicating ETRs, both verbally and through the Company's website.

In a wide-spread storm such as Irene, it takes significant time to safely identify all the damage and the restoration work required before accurate ETRs may be provided. Therefore, during the first several days of the storm, only general restoration dates were available. The Company acknowledges that, in addition to the time necessary to perform a thorough damage appraisal of the Company's system, which prolonged the time otherwise necessary to determine ETRs, its Outage Central website did not provide customers with outage information with the speed or accuracy that they expected and that the web-page was overwhelmed by customer demand, especially during the early part of the week. The Company is currently analyzing the performance of its Outage Central website during Irene and will determine how the system can be improved for future storm events.

As damage assessments became available, we also experienced lag time in our internal online systems leading to a further delay in providing detailed information to the external stakeholders that participated in our daily conference calls. These also are being evaluated for performance improvements.

Action Items:

- Continue to foster collaboration with state and local agencies. Ensure response agencies and other community leaders understand the Company's storm preparedness, response and restoration practices and we understand their response plans and priorities. This will be done in part through sponsoring annual meetings with city and town and public safety officials to discuss public safety awareness, storm preparedness, response, and restoration process, communication methods, and emergency contacts. Additionally, community liaison meetings will be held throughout the year. The first meetings have been scheduled in November and December 2011.
- Improve interactions between Company staff members who communicate directly with agencies and communities and operations personnel in order to provide more detailed and timely outage and restoration information to the communities. Additional training on the process for communications and use of systems will be provided to those people with storm assignments different from their normal work activities.

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- Re-locate certain personnel normally in the Company's "Muni Room" to community locations most significantly affected by the storm.
- Improve performance of the internal and external IT systems used for outage information. The Company is currently reviewing ways to improve our external website, Outage Central, and internal systems.

2) Restoration

The Company implemented the system of prioritization for restoration 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. The Company also gave priority and consideration to critical facilities and customers, and made efforts to restore service to its life support customers as quickly as conditions warranted.

This led to customer complaints, especially within the rural communities, that their area was being neglected by the company. Local officials have also communicated that the company prioritization hindered their response efforts because they could not clear roads until the crews cleared wires entangled in fallen trees.

Action Items:

- Work on providing resources locally while balancing good restoration practices. In collaboration with state and local agencies, evaluate areas where National Grid personnel and other state and local resources could be located regionally before a storm begins to be more responsive to initial local efforts such as road clearing.
- Develop a plan to train and qualify additional personnel for certain storm assignments that help improve the restoration process. Ensure refresher training is provided annually and briefings are conducted before each storm.

VII. CONCLUSION

Although Hurricane Irene had been downgraded to a Tropical Storm by the time it affected Rhode Island, it nonetheless damaged a significant amount of the Company's transmission and distribution infrastructure, and caused interruptions to approximately 75 percent of the Company's customers. Moreover, although resources were in high demand from North Carolina to Canada during the days before and after Irene hit Rhode Island, National Grid secured as many resources as possible to restore service, with approximately 1,500 resources working at one point, and returned service to customers as quickly as possible during the week of August 28. The Company is proud of its

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restoration efforts, and grateful for the unwavering dedication of its employees and the support offered by many customers, state and local government officials, and public safety authorities before, during, and after the storm. As the Company continues to develop improvements that can implement during future storms, the Company looks forward to working with the Commission, the Division and other interested stakeholders over the coming weeks to further discuss the Company's restoration efforts relating to this event.

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Attachments 1 through 12

Attachment 1

Attachment 1 The Narragansett Electric Company d/b/a National Grid Report on Tropical Storm Irene Preparedness, Damage Assessment and Service Restoration Efforts Page 1 of 1

	Providence	<u>N Kingstown</u>
Total Rainfall (Inches)	2.03	Not Available
Max Sustained Wind (MPH)	39	36
Max Wind Gust (MPH)	55	54





Attachment 2

Attachment 2 The Narragansett Electric Company d/b/a National Grid Report on Tropical Storm Irene Preparedness, Damage Assessment and Service Restoration Efforts Page 1 of 2

TRA	SMISSI	ON LINE							
LINE	Type Of Incident	INCIDENT DATE & TIME	INCIDENT LOCATION INFO	DAMAGE REPORTED	SUBSTATIONS AFFECTED	REPAIR COMPLETED DATE & TIME	Line Out Notes	TRANSMISSION SWITCHING TO PICK UP CUSTOMERS	Switching Time On
B23	Line Out	8/28/11 @ 7:40	West Farnum, RI	The 115kV to 13.8kV transformer is out at the end of B23. Nasonville. Conductor Down Between Str 45- 55, Tree on Phase @ Str 54.	Nasonville; Pascoag	8/28/11 @ 14:50	8/29/11 Aerial Patrol Complete. West Farnum to Nasonville substation (North Smithfield, RI to Burriville, RI) possibly 5100 customer OOS - RTU down at this time. Field confirms that 5100 customers OOS. The B23 line tripped and locked out of West Farnum. Time of lock out is 0740. Crews at station and inspecting the yard. Pete Parquette patrolling in the AM of 8/29.	N/A	N/A
Q10	Line Out	8/28/11 @ 7:50	Robinson Ave/Staples MA/RI	10 Structures outside Robinson Ave.	Staples Sub	8/29/11 @ 17:05	8/29/11 Aerial Patrol Complete. 8/28/11 @ 9:00 AM - Robinson Avenue to Staples substation (Attleboro, MA to CumberaInd, RI) Staples substaion flat . Field report of tree on riser of 112W43 station energized at 0859 from J16 (Riverside substaion = Woonsocket, RI) and 13kV load being picked up. Q10 still isolated between Robinson Avenue and Staples.	Yes	8/29/11 18:04
F184	Line Out	8/28/11 @ 8:07	Brayton Point - Read Street, RI	Brayton Point - Read Street (12.9 M outside of Brayton Point) Str 187 Tree on line at Str 292 off of Pond Street Seekonk, MA	Read St; Bristol; West St No 1	Partial Restoration 8/28/11 @ 16:09 Cleared off 8/29/11 @ 22:02, Returned 8/29/11 @ 12:00PM	8/29/11 Aerial Patrol Clear. 8/29/11 Tree on line at Str 292 off of Pond Street Seekonk, MA 8/28/11 @ 16:09 PM Partial Restoration 8/28/11 @ 9:00 AM - Sation Transferred to Distribution feeder 40.Brayton Point to Mink Street to Read Street to Warren to Bristol (Somerset, MA to Seekonk, MA to Attleboro, MA to Warren, RI to Bristol, RI) Read St isolated to V148, Mink Street 2267(23kV) OOS and 13kv load transferred auto, Warren (12kV) 5F1+5F2+5F4 L/O, Bristol (12kV) 51F1 T/R + 51F3 L/O	Yes	8/29/11 12:12
M13	Line Out	08/28/2011 @ 9:50	Belirock, MA/RI	Trees down need cleared from lines. Bellrock. Back in service from Somerset to Tiverton, out from Conicus to Dexter, part of the M13	Dexter; Jepson; Navy 1; Gate II; Bates; Tiverton; EMI Tiverton; Canonicus;	8/29/11 @ 13:56	8/29/11 Aerial Patrol Clear. Trees down need cleared from lines	Yes	8/29/11 10:01
3761 and 3762	Line Out	08/28/2011 @ 09:30	Dexter, RI	Dexter, part of L14 & M13.	0	8/29/11 @ 9:30 AM	8/29/11 Aerial Patrol Clear.	N/A	N/A

Attachment 2 The Narragansett Electric Company d/b/a National Grid Report on Tropical Storm Irene Preparedness, Damage Assessment and Service Restoration Efforts Page 2 of 2

TRANSMISSION LINE

LINE	Type Of Incident	INCIDENT DATE & TIME	INCIDENT LOCATION INFO	DAMAGE REPORTED	SUBSTATIONS AFFECTED	REPAIR COMPLETED DATE & TIME	Line Out Notes	TRANSMISSION SWITCHING TO PICK UP CUSTOMERS	Switching Time On
V148	Line Out	8/28/11 @ 9:43	Robinson Avenue to Read Street to Washington, RI	Air break switch at Reed Street damaged. Mendon Road (Rt 122) Cumberland, RI Tree Bent Top	Read St; Bristol; West St No 1	08/29/2011 @ 9:43	8/29/11 Aerial Patrol Complete	Yes	08/29/2011 12:12
H17	Line Out	08/28/2011 @ 9:52	Riverside to Farnum and West Farnum, RI	Structure 30-31 near Dash 2 Dash 3 Switches Trees down brushed Phases.	0	8/28/11 @ 10:40	8/29/11 Aerial Patrol Complete.	N/A	N/A
T7	Line Out	8/28/11 9:55 AM	Pawtucket to Somerset Str 23-24, MA/RI	Pawtucket #1 to Sommerset. Swansea, MA confirmed phase down on Sharps lot Rd. structure 23 or 24.	0	8/29/11 @ 18:50	8/29/11 Aerial Partol Clear. Pawtucket #1 to Sommerset. Swansea, MA	N/A	N/A
L14	Line Out	8/28/11 9:55 AM	Str 54E Snapped at Base MA/RI	Str 54E Snapped at Base, Trees down need cleared from line. Structure 54 broken at the base in to the M14 line 20 20:15. Broken pole M13, AM Clearance part of the M13 outage poles, matting and	Dexter; Jepson; Navy 1; Gate II; Bates; Tiverton; EMI Tiverton; Canonicus;	8/29/11 @ 9:30 Somerset to Dexter	8/29/11 Aerial Patrol Clear. Structure 54 broken at the base in to the M14 line 20 20:15. Broken pole M13, AM Clearance part of the M13 outage poles, matting and crane ordered for the AM whole line out of service.	Yes	08/29/2011 10:01

Attachment 3

Attachment 3 The Narragansett Electric Company d/b/a National Grid Report on Tropical Storm Irene Preparedness, Damage Assessment and Service Restoration Efforts Page 1 of 3

Lock Outs						Page 1 of 3	
Subtransmission							
Substation	Line/Feeder	Voltage	Device	Date Off	Time Off	Day On	Time On
Admiral St	22	23	Station CB	08/28/2011	8:32	08/29/2011	15:17
Davisville	84T1	34	Station CB	08/28/2011	8:51	08/28/2011	18:34
Davisville	84T2	34	Station CB	08/28/2011	12:56	08/28/2011	17:07
Davisville	84T3	34	PTR - P.230 Post Road	08/28/2011	7:25	08/31/2011	0:14
Drumrock	2230	23		08/28/2011	9:18	08/28/2011	9:48
Drumrock to Hope	2232	23	Station CB	08/28/2011	10:29	08/31/2011	10:00
Farnum	105K1	23	Station CB	08/28/2011	9:03	08/31/2011	21:35
Franklin Sq.	2260	23	Station CB	08/28/2011	11:07	08/30/2011	1:04
Gate	38K23	23	PTR @ P3 Fort Wetherhill	08/28/2011	4:11	08/28/2011	5:29
Gate	38K23	23	PTR 382307 @ P3 Fort Wetherhill	08/28/2011	6:44	08/30/2011	0:54
Gate 2	38K21	23	69kV Supply	08/28/2011	9:55	08/29/2011	11:23
Gate 2	38K21	23	PTR 382115	08/28/2011	9:55	08/29/2011	15:40

Attachment 3 The Narragansett Electric Company d/b/a National Grid Report on Tropical Storm Irene Preparedness, Damage Assessment and Service Restoration Efforts Page 2 of 3

Lock Outs						Page 2 of 3	storation Efforts
Subtransmission							
Gate 2	38K23	23	69kV Supply	08/28/2011	9:55	08/29/2011	11:27
Jepson	37K21	23	69kV Supply	08/28/2011	9:55	08/29/2011	11:52
Jepson	37K22	23	69kV Supply	08/28/2011	9:55	08/29/2011	11:52
Jepson	37K33	23	69kV Supply	08/28/2011	9:55	08/29/2011	11:26
Johnston	2211	23	Station CB	08/28/2011	9:00	08/28/2011	20:09
Johnston	2227	23	PTR - P. 5 W.Greenville Rd	08/28/2011	9:00	08/30/2011	21:54
Johnston to Hope	2228	23	Station CB	08/28/2011	8:54	08/31/2011	12:50
Kent County	3311	34	Station CB	08/28/2011	11:53	08/28/2011	15:39
Kent County	3312	34	Station CB	08/28/2011	2:17	08/28/2011	3:17
Kent County	3312	34	Station CB	08/28/2011	6:35	08/29/2011	13:20
Valley	102K22	23	Station CB	08/28/2011	8:16	08/31/2011	21:36
Warren	2291	23	Station CB	08/28/2011	10:07	08/28/2011	18:20
West Kingston	3308	34	Station CB	08/28/2011	8:37	08/30/2011	22:30
Wolf Hill	2219	23	Station CB	08/28/2011	8:49		
Wolf Hill	2221	23	Station CB	08/28/2011	8:49	08/31/2011	2:28

Attachment 3 The Narragansett Electric Company d/b/a National Grid Report on Tropical Storm Irene Preparedness, Damage Assessment and Service Restoration Efforts Page 3 of 3

Lock Outs	Page 3 of 3						
Subtransmission							
Wood River	85T1	34	PTR 632008	08/28/2011	10:41	08/28/2011	13:10
Wood River	85T3	34	PTR 635006	08/28/2011	10:40	08/28/2011	13:10

Attachment 4

Attachment 4 The Narragansett Electric Company d/b/a National Grid Report on Tropical Storm Irene Preparedness, Damage Assessment and Service Restoration Efforts Page 1 of 4

Feeders Affected

State_District	FEEDER	State_District	FEEDER	State_District	FEEDER	State_District	FEEDER
RI - Capital	53-0022	RI - Capital	53-126W41	RI - Capital	53-23F4	RI - Capital	53-5F3
RI - Capital	53-102K22	RI - Capital	53-126W42	RI - Capital	53-23F6	RI - Capital	53-5F4
RI - Capital	53-102W42	RI - Capital	53-126W50	RI - Capital	53-24J1	RI - Capital	53-60J1
RI - Capital	53-102W44	RI - Capital	53-126W51	RI - Capital	53-27F1	RI - Capital	53-60J5
RI - Capital	53-102W51	RI - Capital	53-126W53	RI - Capital	53-27F2	RI - Capital	53-66J2
RI - Capital	53-102W52	RI - Capital	53-126W54	RI - Capital	53-27F4	RI - Capital	53-66J4
RI - Capital	53-102W54	RI - Capital	53-127W40	RI - Capital	53-27F5	RI - Capital	53-67J1
RI - Capital	53-104J3	RI - Capital	53-127W41	RI - Capital	53-27F6	RI - Capital	53-69F1
RI - Capital	53-104J5	RI - Capital	53-127W42	RI - Capital	53-28J1	RI - Capital	53-69F3
RI - Capital	53-104J7	RI - Capital	53-127W43	RI - Capital	53-28J2	RI - Capital	53-6J5
RI - Capital	53-105K1	RI - Capital	53-12J1	RI - Capital	53-2J1	RI - Capital	53-71J1
RI - Capital	53-106J1	RI - Capital	53-12J2	RI - Capital	53-2J10	RI - Capital	53-71J2
RI - Capital	53-106J3	RI - Capital	53-12J4	RI - Capital	53-2J7	RI - Capital	53-71J3
RI - Capital	53-106J7	RI - Capital	53-12J5	RI - Capital	53-30J1	RI - Capital	53-71J4
RI - Capital	53-107W43	RI - Capital	53-13F2	RI - Capital	53-30J3	RI - Capital	53-71J5
RI - Capital	53-107W50	RI - Capital	53-13F3	RI - Capital	53-30J5	RI - Capital	53-73J5
RI - Capital	53-107W53	RI - Capital	53-13F4	RI - Capital	53-34F1	RI - Capital	53-73J6
RI - Capital	53-107W61	RI - Capital	53-13F5	RI - Capital	53-34F2	RI - Capital	53-76F1
RI - Capital	53-107W62	RI - Capital	53-13F9	RI - Capital	53-34F3	RI - Capital	53-76F2
RI - Capital	53-107W63	RI - Capital	53-148J1	RI - Capital	53-37J1	RI - Capital	53-76F4
RI - Capital	53-107W65	RI - Capital	53-148J7	RI - Capital	53-37J2	RI - Capital	53-76F5
RI - Capital	53-107W66	RI - Capital	53-15F1	RI - Capital	53-37J4	RI - Capital	53-76F6
RI - Capital	53-107W80	RI - Capital	53-15F2	RI - Capital	53-37J5	RI - Capital	53-76F7
RI - Capital	53-107W81	RI - Capital	53-17W42	RI - Capital	53-38F1	RI - Capital	53-76F8
RI - Capital	53-107W83	RI - Capital	53-17W43	RI - Capital	53-38F2	RI - Capital	53-77J2
RI - Capital	53-107W84	RI - Capital	53-18F1	RI - Capital	53-38F3	RI - Capital	53-77J3
RI - Capital	53-107W85	RI - Capital	53-18F2	RI - Capital	53-38F4	RI - Capital	53-78F3
RI - Capital	53-108W51	RI - Capital	53-18F3	RI - Capital	53-38F5	RI - Capital	53-78F4
RI - Capital	53-108W53	RI - Capital	53-18F4	RI - Capital	53-38F6	RI - Capital	53-79F1
RI - Capital	53-108W55	RI - Capital	53-18F5	RI - Capital	53-45F2	RI - Capital	53-79F2
RI - Capital	53-108W60	RI - Capital	53-18F6	RI - Capital	53-47J2	RI - Capital	53-7F1
RI - Capital	53-108W61	RI - Capital	53-18F7	RI - Capital	53-47J3	RI - Capital	53-7F2
RI - Capital	53-108W62	RI - Capital	53-18F8	RI - Capital	53-47J4	RI - Capital	53-7F4

Attachment 4 The Narragansett Electric Company d/b/a National Grid Report on Tropical Storm Irene Preparedness, Damage Assessment and Service Restoration Efforts Page 2 of 4

Feeders Affected

State_District	FEEDER	State_District	FEEDER	State_District	FEEDER	State_District	FEEDER
RI - Capital	53-108W63	RI - Capital	53-18F9	RI - Capital	53-48F1	RI - Capital	53-9J1
RI - Capital	53-108W65	RI - Capital	53-20F2	RI - Capital	53-48F2	RI - Capital	53-9J5
RI - Capital	53-109J5	RI - Capital	53-21F1	RI - Capital	53-48F3		
RI - Capital	53-111J1	RI - Capital	53-21F2	RI - Capital	53-48F4		
RI - Capital	53-111J3	RI - Capital	53-21F4	RI - Capital	53-48F5		
RI - Capital	53-1123	RI - Capital	53-2211	RI - Capital	53-48F6		
RI - Capital	53-1125	RI - Capital	53-2213	RI - Capital	53-4F1		
RI - Capital	53-112W41	RI - Capital	53-2219	RI - Capital	53-4F2		
RI - Capital	53-112W42	RI - Capital	53-2227	RI - Capital	53-50F2		
RI - Capital	53-112W43	RI - Capital	53-2228	RI - Capital	53-50J1		
RI - Capital	53-112W44	RI - Capital	53-2228 ELM	RI - Capital	53-50J2		
RI - Capital	53-1131	RI - Capital	53-2229	RI - Capital	53-51F1		
RI - Capital	53-1137	RI - Capital	53-2267	RI - Capital	53-51F2		
RI - Capital	53-113J1	RI - Capital	53-23F1	RI - Capital	53-51F3		
RI - Capital	53-113J2	RI - Capital	53-23F2	RI - Capital	53-5F1		
RI - Capital	53-126W40	RI - Capital	53-23F3	RI - Capital	53-5F2		

Attachment 4 The Narragansett Electric Company d/b/a National Grid Report on Tropical Storm Irene Preparedness, Damage Assessment and Service Restoration Efforts Page 3 of 4

State_District

FEEDER

Feeders Affected

State_District State_District	FEEDER FEEDER	State_District State_District	FEEDER FEEDER	State_District State_District	FEEDER FEEDER
RI - Coastal	56-122.12	RI - Coastal	56-32.12	RI - Coastal	56-61E1
RI - Coastal	56-122.14	RI - Coastal	56-32.14	RI - Coastal	56-61F2
RI - Coastal	56-122.16	RI - Coastal	56-3309	RI - Coastal	56-61F3
RI - Coastal	56-131,112	RI - Coastal	56-3312	RI - Coastal	56-61F4
RI - Coastal	56-131J14	RI - Coastal	56-33F1	RI - Coastal	56-63F2
RI - Coastal	56-131J2	RI - Coastal	56-33F2	RI - Coastal	56-63F3
RI - Coastal	56-131J4	RI - Coastal	56-33F3	RI - Coastal	56-63F4
RI - Coastal	56-131J6	RI - Coastal	56-33F4	RI - Coastal	56-63F5
RI - Coastal	56-146J14	RI - Coastal	56-36W41	RI - Coastal	56-63F6
RI - Coastal	56-146J2	RI - Coastal	56-36W42	RI - Coastal	56-64F1
RI - Coastal	56-14F1	RI - Coastal	56-36W43	RI - Coastal	56-64F2
RI - Coastal	56-14F2	RI - Coastal	56-36W44	RI - Coastal	56-65J12
RI - Coastal	56-14F3	RI - Coastal	56-37J2	RI - Coastal	56-65J2
RI - Coastal	56-14F4	RI - Coastal	56-37J4	RI - Coastal	56-68F1
RI - Coastal	56-154J14	RI - Coastal	56-37W41	RI - Coastal	56-68F2
RI - Coastal	56-154J16	RI - Coastal	56-37W42	RI - Coastal	56-68F3
RI - Coastal	56-154J18	RI - Coastal	56-37W43	RI - Coastal	56-68F4
RI - Coastal	56-154J2	RI - Coastal	56-38J2	RI - Coastal	56-72F1
RI - Coastal	56-154J4	RI - Coastal	56-38J4	RI - Coastal	56-72F2
RI - Coastal	56-154J6	RI - Coastal	56-3F1	RI - Coastal	56-72F3
RI - Coastal	56-154J8	RI - Coastal	56-3F2	RI - Coastal	56-72F4
RI - Coastal	56-16F1	RI - Coastal	56-40F1	RI - Coastal	56-72F5
RI - Coastal	56-16F2	RI - Coastal	56-41F1	RI - Coastal	56-72F6
RI - Coastal	56-16F3	RI - Coastal	56-42F1	RI - Coastal	56-83F1
RI - Coastal	56-16F4	RI - Coastal	56-43F1	RI - Coastal	56-83F2
RI - Coastal	56-17F1	RI - Coastal	56-45J2	RI - Coastal	56-83F3
RI - Coastal	56-17F2	RI - Coastal	56-45J4	RI - Coastal	56-84T1
RI - Coastal	56-17F3	RI - Coastal	56-45J6	RI - Coastal	56-84T4
RI - Coastal	56-19J14	RI - Coastal	56-46F1	RI - Coastal	56-85T1
RI - Coastal	56-19J16	RI - Coastal	56-46F2	RI - Coastal	56-85T3
RI - Coastal	56-19J2	RI - Coastal	56-46F3	RI - Coastal	56-86F1

Attachment 4 The Narragansett Electric Company d/b/a National Grid Report on Tropical Storm Irene Preparedness, Damage Assessment and Service Restoration Efforts Page 4 of 4

Feeders Affected

State_District	FEEDER	State_District	FEEDER	State_District	FEEDER
RI - Coastal	56-21J2	RI - Coastal	56-46F4	RI - Coastal	56-87F1
RI - Coastal	56-21J4	RI - Coastal	56-49J1	RI - Coastal	56-87F2
RI - Coastal	56-21J6	RI - Coastal	56-49J2	RI - Coastal	56-87F3
RI - Coastal	56-22F1	RI - Coastal	56-49J3	RI - Coastal	56-87F4
RI - Coastal	56-22F2	RI - Coastal	56-49J4	RI - Coastal	56-88F1
RI - Coastal	56-22F3	RI - Coastal	56-51J12	RI - Coastal	56-88F3
RI - Coastal	56-22F4	RI - Coastal	56-51J14	RI - Coastal	56-88F5
RI - Coastal	56-23J12	RI - Coastal	56-51J16		
RI - Coastal	56-23J14	RI - Coastal	56-52F1		
RI - Coastal	56-23J2	RI - Coastal	56-52F2		
RI - Coastal	56-23J4	RI - Coastal	56-52F3		
RI - Coastal	56-23J6	RI - Coastal	56-54F1		
RI - Coastal	56-29F1	RI - Coastal	56-57J1		
RI - Coastal	56-29F2	RI - Coastal	56-57J2		
RI - Coastal	56-30F1	RI - Coastal	56-57J3		
RI - Coastal	56-30F2	RI - Coastal	56-57J5		
RI - Coastal	56-31J1	RI - Coastal	56-59F1		
RI - Coastal	56-31J2	RI - Coastal	56-59F2		
RI - Coastal	56-32J12	RI - Coastal	56-59F3		
RI - Coastal	56-32J14	RI - Coastal	56-59F4		

State_District FI

FEEDER

Attachment 5

Feeder Lockouts

Attachment 5 The Narragansett Electric Company d/b/a National Grid Report on Tropical Storm Irene Preparedness, Damage Assessment and Service Restoration Efforts Page 1 of 6

Distribution Feeder Lockouts							
SUBSTATION	FEEDER	VOLTAGE	DEVICE	DATE_OFF	TIME_OFF	DATE_ON	TIME_ON
VALLEY SUB	53-102K22	K (24.90 kV)	None operated	08/28/2011	08:16	08/31/2011	21:36
VALLEY SUB	53-102W42	W (13.80 kV)	None operated	08/28/2011	09:56	08/30/2011	01:05
VALLEY SUB	53-102W42	W (13.80 kV)	None operated	08/29/2011	23:19	08/30/2011	01:05
VALLEY SUB	53-102W52	W (13.80 kV)	None operated	08/31/2011	14:50	08/31/2011	20:32
VALLEY SUB	53-102W54	W (13.80 kV)	Distribution Feeder circuit breaker or recloser(in substation)	08/28/2011	10:49	08/31/2011	12:28
CENTRAL FALLS SUB	53-104J3	J (4.16 kV)	Distribution Feeder circuit breaker or recloser(in substation)	08/30/2011	13:57	08/31/2011	12:10
CENTRAL FALLS SUB	53-104J5	J (4.16 kV)	Distribution Feeder circuit breaker or recloser(in substation)	08/30/2011	13:57	08/31/2011	17:44
CENTRAL FALLS SUB	53-104J7	J (4.16 kV)	Distribution Feeder circuit breaker or recloser(in substation)	08/28/2011	09:39	08/31/2011	14:48
FARNUM SUB	53-105K1	K (24.90 kV)	Distribution Feeder circuit breaker or recloser(in substation)	08/28/2011	09:03	08/31/2011	21:34
CENTRE ST	53-106J1	J (4.16 kV)	Substation transformer - low side device	08/28/2011	08:48	08/31/2011	13:03
CENTRE ST	53-106J3	J (4.16 kV)	Substation transformer - low side device	08/28/2011	08:48	08/31/2011	15:49
CENTRE ST	53-106J7	J (4.16 kV)	Substation transformer - low side device	08/28/2011	08:48	08/31/2011	13:03
PAWTUCKET #1 STATION	53-107W63	W (13.80 kV)	Distribution Feeder circuit breaker or recloser(in substation)	08/28/2011	10:50	08/29/2011	19:44
PAWTUCKET #1 STATION	53-107W80	W (13.80 kV)	Distribution Feeder circuit breaker or recloser(in substation)	08/28/2011	08:48	08/29/2011	09:51
PAWTUCKET #1 STATION	53-107W81	W (13.80 kV)	Distribution Feeder circuit breaker or recloser(in substation)	08/28/2011	08:53	08/28/2011	16:37
PAWTUCKET #1 STATION	53-107W83	W (13.80 kV)	Distribution Feeder circuit breaker or recloser(in substation)	08/28/2011	09:43	08/29/2011	11:14
PAWTUCKET #1 STATION	53-107W84	W (13.80 kV)	Distribution Feeder circuit breaker or recloser(in substation)	08/28/2011	13:43	08/31/2011	11:53
RIVERSIDE 8	53-108W55	W (13.80 kV)	Distribution Feeder circuit breaker or recloser(in substation)	08/30/2011	05:00	08/30/2011	14:30
RIVERSIDE 8	53-108W55	W (13.80 kV)	Distribution Feeder circuit breaker or recloser(in substation)	08/28/2011	12:27	08/29/2011	12:15
RIVERSIDE 8	53-108W60	W (13.80 kV)	Distribution Feeder circuit breaker or recloser(in substation)	08/28/2011	12:48	08/29/2011	16:40
RIVERSIDE 8	53-108W62	W (13.80 kV)	Distribution Feeder circuit breaker or recloser(in substation)	08/28/2011	09:02	08/28/2011	20:48
RIVERSIDE 8	53-108W65	W (13.80 kV)	Distribution Feeder circuit breaker or recloser(in substation)	08/28/2011	10:47	08/29/2011	17:44
COTTAGE STREET SUB	53-109J5	J (4.16 kV)	Distribution Feeder circuit breaker or recloser(in substation)	08/28/2011	10:33	09/02/2011	06:50
CROSSMAN STREET SUB	53-111J1	J (4.16 kV)	None operated	08/28/2011	08:56	08/31/2011	15:30
CROSSMAN STREET SUB	53-111J1	J (4.16 kV)	None operated	08/28/2011	08:39	08/31/2011	15:30
CROSSMAN STREET SUB	53-111J3	J (4.16 kV)	None operated	08/28/2011	08:56	08/31/2011	10:17
FRANKLIN SQUARE	53-1123		Distribution Feeder circuit breaker or recloser(in substation)	08/28/2011	09:22	09/01/2011	13:30
STAPLES 112	53-112W41	W (13.80 kV)	Supply Line Switching Device	08/28/2011	07:50	08/29/2011	10:07
STAPLES 112	53-112W42	W (13.80 kV)	Supply Line Switching Device	08/28/2011	07:50	08/29/2011	10:03
STAPLES 112	53-112W43	W (13.80 kV)	Supply Line Switching Device	08/28/2011	07:50	08/29/2011	11:56
STAPLES 112	53-112W44	W (13.80 kV)	Supply Line Switching Device	08/28/2011	07:50	08/29/2011	23:58
STAPLES 112	53-112W44	W (13.80 kV)	Distribution Feeder circuit breaker or recloser(in substation)	09/01/2011	14:27	09/01/2011	14:53
DAGGETT SUB	53-113J1	J (4.16 kV)	Supply Line Switching Device	08/28/2011	08:01	08/31/2011	21:39
DAGGETT SUB	53-113J2	J (4.16 kV)	Supply Line Switching Device	08/28/2011	08:01	08/31/2011	15:51
WASHINGTON SUB	53-126W40	W (13.80 kV)	Distribution Feeder circuit breaker or recloser(in substation)	08/28/2011	09:21	08/30/2011	10:53
WASHINGTON SUB	53-126W41	W (13.80 kV)	Distribution Feeder circuit breaker or recloser(in substation)	08/28/2011	09:03	08/28/2011	20:32
WASHINGTON SUB	53-126W42	W (13.80 kV)	Distribution Feeder circuit breaker or recloser(in substation)	08/28/2011	09:43	08/29/2011	01:59

Feeder Lockouts

Attachment 5 The Narragansett Electric Company d/b/a National Grid Report on Tropical Storm Irene Preparedness, Damage Assessment and Service Restoration Efforts Page 2 of 6

Distribution Feeder Lockouts		;					
SUBSTATION	FEEDER	VOLTAGE	DEVICE	DATE_OFF	TIME_OFF	DATE_ON	TIME_ON
WASHINGTON SUB	53-126W50	W (13.80 kV)	Distribution Feeder circuit breaker or recloser(in substation)	08/28/2011	09:34	08/29/2011	05:13
WASHINGTON SUB	53-126W51	W (13.80 kV)	Distribution Feeder circuit breaker or recloser(in substation)	08/28/2011	09:34	08/29/2011	02:03
WASHINGTON SUB	53-126W53	W (13.80 kV)	Distribution Feeder circuit breaker or recloser(in substation)	08/28/2011	07:39	08/29/2011	09:20
WASHINGTON SUB	53-126W54	W (13.80 kV)	Distribution Feeder circuit breaker or recloser(in substation)	08/28/2011	09:33	08/29/2011	02:05
NASONVILLE SUB	53-127W40	W (13.80 kV)	Distribution Feeder circuit breaker or recloser(in substation)	08/28/2011	03:14	08/28/2011	04:21
NASONVILLE SUB	53-127W40	W (13.80 kV)	Supply Line Switching Device	08/28/2011	07:39	08/30/2011	11:18
NASONVILLE SUB	53-127W41	W (13.80 kV)	Supply Line Switching Device	08/28/2011	07:39	08/31/2011	09:58
NASONVILLE SUB	53-127W42	W (13.80 kV)	Supply Line Switching Device	08/28/2011	07:39	08/31/2011	17:11
NASONVILLE SUB	53-127W43	W (13.80 kV)	Supply Line Switching Device	08/28/2011	07:39	08/30/2011	15:36
CLARKSON STREET 13	53-13F3	F (12.47 kV)	Distribution Feeder circuit breaker or recloser(in substation)	08/28/2011	09:30	08/28/2011	12:37
CLARKSON STREET 13	53-13F4	F (12.47 kV)	Distribution Feeder circuit breaker or recloser(in substation)	08/28/2011	09:17	08/28/2011	12:35
HOPE 15	53-15F1	F (12.47 kV)	Distribution Feeder circuit breaker or recloser(in substation)	08/28/2011	09:19	08/29/2011	20:16
WEST FARNUM #17	53-17W42	W (13.80 kV)	Distribution Feeder circuit breaker or recloser(in substation)	08/28/2011	09:11	08/31/2011	21:09
WEST FARNUM #17	53-17W43	W (13.80 kV)	Distribution Feeder circuit breaker or recloser(in substation)	08/28/2011	09:05	08/29/2011	14:10
JOHNSTON 18	53-18F3	F (12.47 kV)	Distribution Feeder circuit breaker or recloser (in substation)	08/28/2011	08:56	08/28/2011	16:34
WEST CRANSTON 21	53-21F1	F (12.47 kV)	Distribution Feeder circuit breaker or recloser (in substation)	08/28/2011	07:55	08/30/2011	02:03
PONTIAC 27	53-27F1	F (12.47 kV)	Distribution Feeder circuit breaker or recloser(in substation)	08/28/2011	07:30	08/29/2011	19:45
HYDE SUB	53-28J1	J (4.16 kV)	Distribution Feeder circuit breaker or recloser(in substation)	08/28/2011	08:53	08/30/2011	19:08
HYDE SUB	53-28J2	J (4.16 kV)	Distribution Feeder circuit breaker or recloser(in substation)	08/28/2011	08:53	08/30/2011	19:08
DYER STREET 2	53-2J7	J (4.16 kV)	Distribution Feeder circuit breaker or recloser(in substation)	08/28/2011	08:24	08/30/2011	20:55
CHOPMIST 34	53-34F1	F (12.47 kV)	Supply Line Switching Device	08/28/2011	08:58	08/31/2011	12:52
CHOPMIST 34	53-34F2	F (12.47 kV)	Supply Line Switching Device	08/28/2011	08:58	08/31/2011	13:47
CHOPMIST 34	53-34F3	F (12.47 kV)	Distribution Feeder circuit breaker or recloser(in substation)	08/28/2011	08:09	08/31/2011	16:05
ROCHAMBEAU AVENUE 37	53-37J1	J (4.16 kV)	Distribution Feeder circuit breaker or recloser (in substation)	08/28/2011	09:18	08/30/2011	19:14
PUTNAM PIKE 38	53-38F3	F (12.47 kV)	Distribution Feeder circuit breaker or recloser (in substation)	08/28/2011	09:00	08/28/2011	19:51
PUTNAM PIKE 38	53-38F4	F (12.47 kV)	Distribution Feeder circuit breaker or recloser(in substation)	08/28/2011	09:28	08/29/2011	22:32
PUTNAM PIKE 38	53-38F5	F (12.47 kV)	Distribution Feeder circuit breaker or recloser(in substation)	08/28/2011	11:15	08/28/2011	18:28
WEST GREENVILLE 45	53-45F2	F (12.47 kV)	Supply Line Switching Device	08/28/2011	08:58	08/29/2011	11:07
KENTS CORNER 47	53-47J2	J (4.16 kV)	Distribution Feeder circuit breaker or recloser(in substation)	08/28/2011	07:29	08/28/2011	18:39
KENTS CORNER 47	53-47J3	J (4.16 kV)	Supply Line Switching Device	08/28/2011	10:04	08/28/2011	19:29
KENTS CORNER 47	53-47J4	J (4.16 kV)	Supply Line Switching Device	08/28/2011	10:04	08/28/2011	19:36
BARRINGTON 4	53-4F1	F (12.47 kV)	Distribution Feeder circuit breaker or recloser(in substation)	08/28/2011	08:35	08/30/2011	04:39
BARRINGTON 4	53-4F2	F (12.47 kV)	Supply Line Switching Device	08/28/2011	10:04	08/29/2011	11:02
CENTREDALE 50	53-50F2	F (12.47 kV)	Supply Line Switching Device	08/28/2011	09:33	08/29/2011	05:40
CENTREDALE 50	53-50J1	J (4.16 kV) ′	Supply Line Switching Device	08/28/2011	09:33	08/29/2011	05:41
CENTREDALE 50	53-50J2	J (4.16 kV)	Supply Line Switching Device	08/28/2011	09:33	08/29/2011	05:42
CENTREDALE 50	53-50J3	J (4.16 kV)	Supply Line Switching Device	08/28/2011	09:33	08/29/2011	05:42
Feeder Lockouts

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Distribution Feeder Lockouts							
SUBSTATION	FEEDER	VOLTAGE	DEVICE	DATE_OFF	TIME_OFF	DATE_ON	TIME_ON
BRISTOL 51A	53-51F1	F (12.47 kV)	Distribution Feeder circuit breaker or recloser(in substation)	08/28/2011	09:04	08/30/2011	09:20
BRISTOL 51A	53-51F3	F (12.47 kV)	Distribution Feeder circuit breaker or recloser(in substation)	08/28/2011	06:46	08/31/2011	14:12
WARREN 5	53-5F1	F (12.47 kV)	Distribution Feeder circuit breaker or recloser(in substation)	08/28/2011	07:39	08/28/2011	21:43
WARREN 5	53-5F2	F (12.47 kV)	Distribution Feeder circuit breaker or recloser(in substation)	08/28/2011	08:06	08/28/2011	22:51
WARREN 5	53-5F4	F (12.47 kV)	Distribution Feeder circuit breaker or recloser(in substation)	08/28/2011	07:44	08/29/2011	10:35
SOUTHEAST SUB	53-60J5	J (4.16 kV)	Distribution Feeder circuit breaker or recloser(in substation)	08/29/2011	14:41	09/01/2011	09:01
HUNTINGTON PARK 67	53-67J1	J (4.16 kV)	Supply Line Switching Device	08/28/2011	17:58	08/31/2011	00:31
MANTON 69	53-69F1	F (12.47 kV)	Supply Line Switching Device	08/28/2011	09:33	08/28/2011	20:08
MANTON 69	53-69F3	F (12.47 kV)	Distribution Feeder circuit breaker or recloser(in substation)	08/28/2011	07:47	08/28/2011	21:35
GENEVA 71	53-71J1	J (4.16 kV)	Supply Line Switching Device	08/28/2011	09:33	08/29/2011	05:25
GENEVA 71	53-71J2	J (4.16 kV)	Supply Line Switching Device	08/28/2011	09:33	08/29/2011	05:25
GENEVA 71	53-71J3	J (4.16 kV)	Supply Line Switching Device	08/28/2011	09:33	08/31/2011	10:09
GENEVA 71	53-71J4	J (4.16 kV)	Supply Line Switching Device	08/28/2011	09:33	08/29/2011	05:25
GENEVA 71	53-71J5	J (4.16 kV)	Supply Line Switching Device	08/28/2011	09:33	08/29/2011	05:25
AUBURN 73	53-73J5	J (4.16 kV)	Distribution Feeder circuit breaker or recloser(in substation)	09/02/2011	12:30	09/02/2011	16:15
POINT STREET 76	53-76F7	F (12.47 kV)	Distribution Feeder circuit breaker or recloser (in substation)	08/28/2011	08:04	08/28/2011	10:50
WATERMAN AVENUE 78	53-78F3	F (12.47 kV)	Distribution Feeder circuit breaker or recloser(in substation)	08/28/2011	09:52	08/29/2011	11:53
WATERMAN AVENUE 78	53-78F3	F (12.47 kV)		08/29/2011	12:19	08/29/2011	12:27
WATERMAN AVENUE 78	53-78F4	F (12.47 kV)	Supply Line Switching Device	08/28/2011	08:07	08/29/2011	19:02
ADMIRAL STREET 9	53-9J1	J (4.16 kV)	Distribution Feeder circuit breaker or recloser(in substation)	08/28/2011	12:45	08/28/2011	18:10
SOUTH AQUIDNECK 122	56-122J2	J (4.16 kV)	Supply Line Switching Device	08/28/2011	09:55	08/29/2011	17:32
SOUTH AQUIDNECK 122	56-122J4	J (4.16 kV)	Supply Line Switching Device	08/28/2011	09:55	08/29/2011	20:02
SOUTH AQUIDNECK 122	56-122J6	J (4.16 kV)	Supply Line Switching Device	08/28/2011	09:55	08/29/2011	14:41
KINGSTON 131	56-131J12	J (4.16 kV)	Supply Line Switching Device	08/28/2011	09:55	08/29/2011	11:23
KINGSTON 131	56-131J14	J (4.16 kV)	Supply Line Switching Device	08/28/2011	09:55	08/29/2011	11:23
KINGSTON 131	56-131J2	J (4.16 kV)	Supply Line Switching Device	08/28/2011	09:55	08/29/2011	16:01
KINGSTON 131	56-131J4	J (4.16 kV)	Supply Line Switching Device	08/28/2011	09:55	08/29/2011	15:21
KINGSTON 131	56-131J6	J (4.16 kV)	Supply Line Switching Device	08/28/2011	09:55	08/29/2011	16:03
HOSPITAL SUB 146	56-146J2	J (4.16 kV)	Supply Line Switching Device	08/28/2011	09:55	08/29/2011	18:09
DRUMROCK 14	56-14F2	F (12.47 kV)	Distribution Feeder circuit breaker or recloser(in substation)	08/28/2011	09:15	08/29/2011	22:00
DRUMROCK 14	56-14F3	F (12.47 kV)	Distribution Feeder circuit breaker or recloser (in substation)	08/28/2011	02:45	08/28/2011	03:35
DRUMROCK 14	56-14F3	F (12.47 kV)	Distribution Feeder circuit breaker or recloser (in substation)	08/28/2011	09:00	08/29/2011	13:37
WEST HOWARD 154	56-154J14	J (4.16 kV)	Supply Line Switching Device	08/28/2011	09:55	08/29/2011	11:23
WEST HOWARD 154	56-154J16	J (4.16 kV)	Supply Line Switching Device	08/28/2011	09:55	08/29/2011	11:23
WEST HOWARD 154	56-154J18	J (4.16 kV)	Supply Line Switching Device	08/28/2011	09:55	08/29/2011	15:01
WEST HOWARD 154	56-154J2	J (4.16 kV)	Supply Line Switching Device	08/28/2011	09:55	08/29/2011	13:13
WEST HOWARD 154	56-154J4	J (4.16 kV)	Supply Line Switching Device	08/28/2011	09:55	08/29/2011	13:37

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Feeder Lockouts

Distribution Feeder Lockouts							
SUBSTATION	FEEDER	VOLTAGE	DEVICE	DATE_OFF	TIME_OFF	DATE_ON	TIME_ON
WEST HOWARD 154	56-154J6	J (4.16 kV)	Supply Line Switching Device	08/28/2011	09:55	08/29/2011	11:23
WEST HOWARD 154	56-154J8	J (4.16 kV)	Supply Line Switching Device	08/28/2011	09:55	08/29/2011	15:25
WAKEFIELD 17	56-17F2	F (12.47 kV)	None operated	08/28/2011	09:39	08/29/2011	15:28
BAILEY BROOK SUB 19	56-19J14	J (4.16 kV)	Supply Line Switching Device	08/28/2011	09:55	08/29/2011	15:25
BAILEY BROOK SUB 19	56-19J16	J (4.16 kV)	Supply Line Switching Device	08/28/2011	09:55	08/29/2011	15:26
BAILEY BROOK SUB 19	56-19J2	J (4.16 kV)	Supply Line Switching Device	08/28/2011	09:55	08/29/2011	15:25
NORTH AQUIDNECK 21	56-21J2	J (4.16 kV)	Supply Line Switching Device	08/28/2011	09:55	08/29/2011	17:15
NORTH AQUIDNECK 21	56-21J4	J (4.16 kV)	Supply Line Switching Device	08/28/2011	09:55	08/29/2011	16:19
NORTH AQUIDNECK 21	56-21J6	J (4.16 kV)	Supply Line Switching Device	08/28/2011	09:55	08/29/2011	15:41
KENT COUNTY 22	56-22F2	F (12.47 kV)	Distribution Feeder circuit breaker or recloser(in substation)	08/28/2011	06:17	08/28/2011	06:36
VERNON 23	56-23J12	J (4.16 kV)	Supply Line Switching Device	08/28/2011	06:52	08/28/2011	06:53
VERNON 23	56-23J12	J (4.16 kV)	Supply Line Switching Device	08/28/2011	09:55	08/29/2011	17:18
VERNON 23	56-23J14	J (4.16 kV)	Supply Line Switching Device	08/28/2011	09:55	08/29/2011	18:44
VERNON 23	56-23J14	J (4.16 kV)	Supply Line Switching Device	08/28/2011	06:52	08/28/2011	06:53
VERNON 23	56-23J2	J (4.16 kV)	Supply Line Switching Device	08/28/2011	06:52	08/28/2011	06:53
VERNON 23	56-23J2	J (4.16 kV)	Supply Line Switching Device	08/28/2011	09:55	08/29/2011	18:46
VERNON 23	56-23J4	J (4.16 kV)	Supply Line Switching Device	08/28/2011	06:52	08/28/2011	06:53
VERNON 23	56-23J4	J (4.16 kV)	Supply Line Switching Device	08/28/2011	09:55	08/29/2011	18:45
VERNON 23	56-23J6	J (4.16 kV)	Supply Line Switching Device	08/28/2011	06:52	08/28/2011	06:53
VERNON 23	56-23J6	J (4.16 kV)	Supply Line Switching Device	08/28/2011	09:55	08/29/2011	18:45
NATICK 29	56-29F1	F (12.47 kV)	Distribution Feeder circuit breaker or recloser(in substation)	08/28/2011	08:06	08/29/2011	01:15
LAFAYETTE 30	56-30F1	F (12.47 kV)	Supply Line Switching Device	08/28/2011	07:25	08/30/2011	20:34
LAFAYETTE 30	56-30F2	F (12.47 kV)	Supply Line Switching Device	08/28/2011	07:25	08/30/2011	20:34
PAWTUXET 31	56-31J1	J (4.16 kV)	Supply Line Switching Device	08/28/2011	11:07	08/30/2011	06:05
PAWTUXET 31	56-31J2	J (4.16 kV)	Supply Line Switching Device	08/28/2011	11:07	08/30/2011	06:05
HARRISON 32	56-32J12	J (4.16 kV)	Supply Line Switching Device	08/28/2011	09:55	08/29/2011	16:49
HARRISON 32	56-32J14	J (4.16 kV)	Supply Line Switching Device	08/28/2011	09:55	08/29/2011	16:50
HARRISON 32	56-32J2	J (4.16 kV)	Supply Line Switching Device	08/28/2011	09:55	08/29/2011	14:30
HARRISON 32	56-32J4	J (4.16 kV)	Supply Line Switching Device	08/28/2011	09:55	08/29/2011	15:31
TIVERTON 2 33	56-33F1	F (12.47 kV)	Distribution Feeder circuit breaker or recloser(in substation)	08/28/2011	08:10	08/28/2011	13:07
TIVERTON 2 33	56-33F2	F (12.47 kV)	Distribution Feeder circuit breaker or recloser(in substation)	08/28/2011	14:51	08/28/2011	22:34
TIVERTON 2 33	56-33F2	F (12.47 kV)	Supply Line Switching Device	08/28/2011	09:55	08/28/2011	13:08
TIVERTON 2 33	56-33F3	F (12.47 kV)	Distribution Feeder circuit breaker or recloser(in substation)	08/28/2011	09:30	08/28/2011	13:25
TIVERTON 2 33	56-33F4	F (12.47 kV)	Supply Line Switching Device	08/28/2011	09:55	08/28/2011	13:36
DEXTER 36	56-36W41	W (13.80 kV)	Supply Line Switching Device	08/28/2011	09:55	08/29/2011	10:46
DEXTER 36	56-36W42	W (13.80 kV)	Supply Line Switching Device	08/28/2011	09:55	08/29/2011	11:58
DEXTER 36	56-36W43	W (13.80 kV)	Supply Line Switching Device	08/28/2011	09:55	08/29/2011	11:59

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TIME ON

12:17

06:22

13:32

12:02

15:59

21:23

14:50

19:12

15:31

03:39

07:21

08/28/2011 15:30

08/30/2011 20:04 08/28/2011 15:19

08/28/2011 08:47

08/28/2011

08/28/2011

08/28/2011

08/28/2011

08/28/2011 08/28/2011 12:43

11:07

11:53

06:27

07:43

Distribution Feeder Lockouts DATE_ON SUBSTATION FEEDER VOLTAGE DEVICE DATE OFF TIME OFF DEXTER 36 56-36W44 W (13.80 kV) Supply Line Switching Device 08/28/2011 09:55 08/29/2011 56-37J2 08/28/2011 09:55 08/29/2011 18:14 **JEPSON 37** J (4.16 kV) Supply Line Switching Device 56-37J4 08/28/2011 08/29/2011 18:14 **JEPSON 37** J (4.16 kV) Supply Line Switching Device 09:55 56-37W41 W (13.80 kV) Supply Line Switching Device 09:55 08/29/2011 11:51 **JEPSON 37** 08/28/2011 56-37W42 W (13.80 kV) Supply Line Switching Device 08/28/2011 08/29/2011 13:04 **JEPSON 37** 09:55 **JEPSON 37** 56-37W43 W (13.80 kV) Distribution line fuse 08/28/2011 04:32 08/28/2011 **JEPSON 37** 56-37W43 W (13.80 kV) Supply Line Switching Device 08/28/2011 09:55 08/29/2011 GATE II 38 56-38J2 J (4.16 kV) Supply Line Switching Device 08/28/2011 09:55 08/29/2011 16:27 GATE II 38 56-38J4 J (4.16 kV) Supply Line Switching Device 08/28/2011 09:55 08/29/2011 **APPONAUG 3** 56-3F2 F (12.47 kV) Distribution Feeder circuit breaker or recloser(in substation) 08/28/2011 08:55 08/28/2011 16:39 HUNT RIVER 40 56-40F1 F (12.47 kV) 08/28/2011 08:57 08/28/2011 23:23 Distribution Feeder circuit breaker or recloser(in substation) 56-42F1 08/28/2011 08/28/2011 07:51 **BONNET 42** F (12.47 kV) Distribution Feeder circuit breaker or recloser(in substation) 06:20 **BONNET 42** 56-42F1 F (12.47 kV) Distribution Feeder circuit breaker or recloser(in substation) 08/28/2011 10:22 08/29/2011 08:07 ELDRED SUB 56-45J2 J (4.16 kV) Supply Line Switching Device 08/28/2011 04:11 08/28/2011 05:29 ELDRED SUB 56-45J2 J (4.16 kV) Supply Line Switching Device 08/28/2011 06:33 08/29/2011 15:59 56-45J4 08/28/2011 04:11 08/28/2011 05:29 ELDRED SUB J (4.16 kV) Supply Line Switching Device ELDRED SUB 56-45J4 J (4.16 kV) Supply Line Switching Device 08/28/2011 06:33 08/29/2011 ELDRED SUB 56-45J6 J (4.16 kV) Supply Line Switching Device 08/28/2011 06:33 08/29/2011 15:59 ELDRED SUB 56-45J6 J (4.16 kV) Supply Line Switching Device 08/28/2011 04:11 08/28/2011 05:29 **OLD BAPTIST ROAD 46** 56-46F1 F (12.47 kV) None operated 08/28/2011 14:58 08/29/2011 11:24 Distribution Feeder circuit breaker or recloser(in substation) **OLD BAPTIST ROAD 46** 56-46F4 F (12.47 kV) 08/28/2011 08:31 08/28/2011 56-49J1 08/28/2011 10:29 08/30/2011 01:44 ARCTIC 49 J (4.16 kV) Supply Line Switching Device Supply Line Switching Device **ARCTIC 49** 56-49J3 10:29 08/30/2011 01:22 J (4.16 kV) 08/28/2011 **MERTON 51** 56-51J12 J (4.16 kV) Supply Line Switching Device 08/28/2011 09:55 08/29/2011 14:50 MERTON 51 56-51J14 J (4.16 kV) Supply Line Switching Device 08/28/2011 09:55 08/29/2011 11:52 09:55 **MERTON 51** 56-51J16 J (4.16 kV) Supply Line Switching Device 08/28/2011 08/29/2011 WARWICK 52 56-52F1 F (12.47 kV) Distribution Feeder circuit breaker or recloser(in substation) 08/28/2011 10:50 08/28/2011 WARWICK 52 56-52F2 F (12.47 kV) Distribution Feeder circuit breaker or recloser(in substation) 08/28/2011 10:11 08/28/2011 19:11 08/29/2011 **COVENTRY 54** 56-54F1 F (12.47 kV) Supply Line Switching Device 08/28/2011 12:12 LAKEWOOD 57 56-57J2 J (4.16 kV) Distribution Feeder circuit breaker or recloser(in substation) 08/28/2011 10:08 08/31/2011 LAKEWOOD 57 56-57J5 J (4.16 kV) Distribution Feeder circuit breaker or recloser(in substation) 08/28/2011 10:38 08/31/2011 11:34 PEACEDALE 59 56-59F1 F (12.47 kV) Distribution Feeder circuit breaker or recloser(in substation) 08/28/2011 12:43 08/30/2011 11:39

Distribution Feeder circuit breaker or recloser(in substation)

Distribution Feeder circuit breaker or recloser(in substation)

Distribution Feeder circuit breaker or recloser(in substation)

F (12.47 kV) Distribution Feeder circuit breaker or recloser(in substation)

Supply Line Switching Device

Feeder Lockouts

56-59F2

56-59F3

56-61F1

56-61F1

56-61F2

F (12.47 kV)

F (12.47 kV)

F (12.47 kV)

F (12.47 kV)

PEACEDALE 59

PEACEDALE 59

DIVISION ST 61

DIVISION ST 61

DIVISION ST 61

Feeder Lockouts

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Distribution Feeder Lockouts							
SUBSTATION	FEEDER	VOLTAGE	DEVICE	DATE_OFF	TIME_OFF	DATE_ON	TIME_ON
DIVISION ST 61	56-61F2	F (12.47 kV)	Supply Line Switching Device	08/28/2011	11:53	08/28/2011	15:19
DIVISION ST 61	56-61F3	F (12.47 kV)	Distribution Feeder circuit breaker or recloser(in substation)	08/28/2011	08:28	08/28/2011	17:15
DIVISION ST 61	56-61F4	F (12.47 kV)	Supply Line Switching Device	08/28/2011	11:53	08/28/2011	15:19
HOPKINS HILL 63	56-63F3	F (12.47 kV)	Distribution Feeder circuit breaker or recloser(in substation)	08/28/2011	11:57	08/29/2011	09:51
HOPKINS HILL 63	56-63F4	F (12.47 kV)	Distribution Feeder circuit breaker or recloser(in substation)	08/28/2011	11:57	08/29/2011	02:20
ANTHONY 64	56-64F2	F (12.47 kV)	Distribution Feeder circuit breaker or recloser(in substation)	08/28/2011	08:55	08/31/2011	19:27
CLARKE STREET 65	56-65J12	J (4.16 kV)	Supply Line Switching Device	08/28/2011	06:33	08/29/2011	15:44
CLARKE STREET 65	56-65J12	J (4.16 kV)	Supply Line Switching Device	08/28/2011	04:11	08/28/2011	05:29
CLARKE STREET 65	56-65J2	J (4.16 kV)	Supply Line Switching Device	08/28/2011	06:33	08/29/2011	15:43
CLARKE STREET 65	56-65J2	J (4.16 kV)	Supply Line Switching Device	08/28/2011	04:11	08/28/2011	05:29
KENYON 68	56-68F3	F (12.47 kV)	Distribution Feeder circuit breaker or recloser(in substation)	08/28/2011	08:31	08/30/2011	11:15
LINCOLN AVENUE 72	56-72F3	F (12.47 kV)	Distribution Feeder circuit breaker or recloser(in substation)	08/28/2011	07:20	08/29/2011	18:14
LINCOLN AVENUE 72	56-72F4	F (12.47 kV)	Distribution Feeder circuit breaker or recloser(in substation)	08/28/2011	08:47	08/29/2011	14:07
LINCOLN AVENUE 72	56-72F5	F (12.47 kV)	Distribution Feeder circuit breaker or recloser(in substation)	08/28/2011	14:03	08/28/2011	17:38
QUONSET 83	56-83F1	F (12.47 kV)	Supply Line Switching Device	08/28/2011	12:56	08/28/2011	18:13
QUONSET 83	56-83F2	F (12.47 kV)	Distribution Feeder circuit breaker or recloser(in substation)	08/28/2011	08:52	08/28/2011	19:59
QUONSET 83	56-83F3	F (12.47 kV)	Distribution Feeder circuit breaker or recloser(in substation)	08/28/2011	08:51	08/28/2011	18:19
LANGWORTHY CORNER 86	56-86F1	F (12.47 kV)	Distribution line recloser	08/28/2011	10:40	08/28/2011	13:11

Attachment 6

Attachment 6 The Narragansett Electric Company d/b/a National Grid Report on Tropical Storm Irene Preparedness, Damage Assessment and Service Restoration Efforts Page 1 of 32

From: Sent: To: Subject:

WeatherDelivery@telventdtn.com Wednesday, August 24, 2011 6:02 AM DivOpsNE_Forecast National Grid New England Forecast

Forecast For New England from Telvent For National Grid

Date:August 24, 2011Time:6:00 AM EDTForecaster:J Wegwerth

CURRENT CONDITIONS: Skies are mostly clear. Winds are generally calm with a few stations reporting west southwesterly winds at 4-10 mph.

SYNOPSIS: High pressure will continue to bring dry and quiet conditions today and tonight.

WIND IMPACT: None.

THUNDERSTORM IMPACT: Thunderstorms Thursday afternoon and into the overnight will bring threats for wind gusts up to 40-60 mph with strongest winds to the south and weaker winds to the north, moderate amounts of lightning, hail, and heavy rain. Thursday night, the thunderstorm impacts will weaken and will be confined to eastern Massachusetts and Rhode Island with the main impacts being wind gusts up to 35 mph, low to medium amounts of lightning, and moderate rainfall amounts.

PRECIPITATION IMPACT: None.

TEMPERATURE IMPACT: None.

SNOW IMPACT: None.

ICE IMPACT: None.

FLOOD IMPACT: None.

TODAY: Skies will be clear to partly cloudy with dry conditions. Winds will be out of the south at 10-18 mph with gusts up to 25 mph possible mainly over coastal locales.

TONIGHT: Skies will be partly cloudy with mostly dry conditions. Winds will be out of the south at 8-15 mph.

THURSDAY: A cold front will spread showers and thunderstorms across the region through much of the day. A few isolated showers may drift into western portions of the region during the morning hours. However, more organized showers and thunderstorm activity won't enter the region until around noon. Showers and thunderstorms will continue to spread southeastward

Attachment 6 The Narragansett Electric Company d/b/a National Grid Report on Tropical Storm Irene Preparedness, Damage Assessment and Service Restoration Efforts Page 2 of 32

through the day with areas drying out from west to east during the evening and overnight hours. The main threats with these storms will be wind gusts up to 40-55 mph with strongest winds to the southwest and weaker winds to the northeast, moderate amounts of lightning, hail, and pockets of heavy rain. Rainfall amounts will range from 0.25-0.75 inches with isolated higher amount possible in stronger storms. Winds will be out of the south at 10-20 mph with gusts up to 28 mph over coastal locales.

THURSDAY NIGHT: Showers and thunderstorms will continue to impact Rhode Island and eastern Massachusetts into the overnight hours with western Massachusetts and New Hampshire seeing mostly dry conditions. By the late overnight hours, only the Cape Cod area will be impacted by showers and storms. Storms overnight will weaken as instability weakens. The main threats with storms overnight will be wind gusts up to 35-40 mph and low to medium amounts of lightning. Rainfall amounts will range from 0.15-0.50 inches with isolated higher amounts possible. Winds will be out of the west-northwest at 5-12 mph.

DAYS 3-5: Friday, a few showers may linger or pop up across the Cape Cod and Ocean State divisions through the day with the best chances early on and overnight. Otherwise dry conditions are expected. Saturday, rain and winds will be on the increase as the impacts of Hurricane Irene begin to be felt across the region. Saturday night, heavy rains and strong winds will move into the region as the outer bands of Hurricane Irene move in. Strong winds and heavy rain will continue through Sunday. Sunday night, southern areas will begin to see dry conditions while northern areas continue to see moderate to heavy rain, but the strong winds will continue. Saturday night and Sunday coastal areas may see hurricane force winds, with at least tropical storm force winds anticipated for most areas Saturday night and into Sunday night. Rainfall amounts will be heavy with many areas seeing rainfall amounts up to 5-10 inches with current guidance bringing the heaviest bands of rain directly overhead.

Attachment 6 The Narragansett Electric Company d/b/a National Grid Report on Tropical Storm Irene Preparedness, Damage Assessment and Service Restoration Efforts Page 3 of 32

From: Sent: To: Subject:

WeatherDelivery@telventdtn.com Wednesday, August 24, 2011 1:02 PM DivOpsNE_Forecast National Grid New England Forecast

Forecast For New England from Telvent For National Grid

Date: August 24, 2011 Time: 1:00 PM EDT Forecaster: J Murphy

CURRENT CONDITIONS: Skies are partly cloudy. Winds are southwest at 10-20 mph with a few areas seeing gusts to 25 mph.

SYNOPSIS: High pressure will continue to bring dry and quiet conditions this afternoon and tonight. A cold front will be approaching the area

WIND IMPACT: None.

THUNDERSTORM IMPACT: Isolated thunderstorms will become possible by late Thursday morning over Bay State West and in the afternoon over the rest of the area. The thunderstorms will diminish during the evening with all storms ending by midnight-2am. The storms may cause heavy rain, wind gusts of 40-55 mph and moderate amounts of light.

PRECIPITATION IMPACT: None.

TEMPERATURE IMPACT: None.

SNOW IMPACT: None.

ICE IMPACT: None.

FLOOD IMPACT: None.

THIS AFTERNOON: Skies will be partly cloudy with dry conditions. Winds will be out of the south at 12-20 mph with gusts up to 25 mph.

TONIGHT: Skies will be partly cloudy with mostly dry conditions. Winds will be out of the south at 8-15 mph.

THURSDAY: Clouds will increase with with showers and thunderstorms developing by late morning west and in the afternoon elsewhere. Some of the storms could be strong to strong to severe with gusts winds, heavy rain and moderate amounts of lightning. Rainfall amounts of .50-1.00 inches will be possible. Winds will be southerly at 10-20 mph outside of convection.

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THURSDAY NIGHT: Showers and thunderstorms will diminish through the evening and mostly end by midnight-2am with a few showers possibly lingering over Cape Cod and Nantucket. Rainfall amounts will range from 0.25-0.50 inches. Winds will be southwest at 10-15 mph becoming northwest after midnight at 5-12 mph.

DAYS 3-5: Friday, a few showers may linger or pop up across the Cape Cod and Ocean State divisions through the day with the best chances early on and overnight. Otherwise dry conditions are expected. Saturday, rain and winds will be on the increase as the impacts of Hurricane Irene begin to be felt across the region. Saturday night, heavy rains and strong winds will move into the region as the outer bands of Hurricane Irene move in. Strong winds and heavy rain will continue through Sunday. Sunday night, southern areas will begin to see dry conditions while northern areas continue to see moderate to heavy rain, but the strong winds will continue. Saturday night and Sunday coastal areas may see hurricane force winds, with at least tropical storm force winds anticipated for most areas Saturday night and into Sunday night. Rainfall amounts will be heavy with many areas seeing rainfall amounts up to 5-10 inches with current guidance bringing the heaviest bands of rain directly overhead.

Attachment 6 The Narragansett Electric Company d/b/a National Grid Report on Tropical Storm Irene Preparedness, Damage Assessment and Service Restoration Efforts Page 5 of 32

From: Sent: To: Subject:

WeatherDelivery@telventdtn.com Wednesday, August 24, 2011 7:31 PM DivOpsNE_Forecast National Grid New England Forecast

Forecast For New England from Telvent For National Grid

Date: August 24, 2011 Time: 7:30 PM EDT Forecaster: J Murphy

CURRENT CONDITIONS: Skies are partly cloudy. Winds are south/southwest at 10-18 mph with a few areas seeing gusts to 25 mph.

SYNOPSIS: High pressure will continue to bring dry weather to the area tonight. A cold front will be approaching the area from the west on Thursday.

WIND IMPACT: None.

THUNDERSTORM IMPACT: Isolated thunderstorms will become possible by late Thursday morning over Bay State West and in the afternoon over the rest of the area. The thunderstorms will diminish during the evening with all storms ending by midnight-2am. The storms may cause heavy rain, wind gusts of 40-55 mph and moderate amounts of light.

PRECIPITATION IMPACT: None.

TEMPERATURE IMPACT: None.

SNOW IMPACT: None.

ICE IMPACT: None.

FLOOD IMPACT: None.

TONIGHT: Skies will be partly cloudy with mostly dry conditions. Winds will be out of the south at 8-15 mph.

THURSDAY: Clouds will increase with with showers and thunderstorms developing by late morning west and in the afternoon elsewhere. Some of the storms could be strong to strong to severe with gusty winds, heavy rain and moderate amounts of lightning. Rainfall amounts of .50-1.00 inches will be possible. Winds will be southerly at 10-20 mph outside of convection.

THURSDAY NIGHT: Showers and thunderstorms will diminish through the evening and mostly end by midnight-2am with a few showers possibly lingering over Cape Cod and Nantucket. Rainfall amounts will range from 0.25-0.50 inches. Winds will be southwest at 10-15 mph becoming

Attachment 6 The Narragansett Electric Company d/b/a National Grid Report on Tropical Storm Irene Preparedness, Damage Assessment and Service Restoration Efforts Page 6 of 32

northwest after midnight at 5-12 mph.

DAYS 3-5: Friday, a few showers may pop up across the Cape Cod and Ocean State divisions at night with mostly dry conditions elsewhere. Saturday, a few showers and storms will be possible as moisture from Hurricane Irene begin to move into the area. Saturday night, rain will increase, especially after midnight with winds also beginning to increase. Strong winds and heavy rain will occur on Sunday as Hurricane Irene is forecast to move right through central MA Sunday night and into NH by Monday morning. Sunday into early Monday coastal areas and all of Bay State South, Metro Boston and Bay State north may see hurricane force winds, with at least tropical storm force winds anticipated for other areas. Rainfall amounts will be heavy with many areas seeing rainfall amounts up to 5-10 inches with current guidance bringing the heaviest bands of rain directly overhead.

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From: Sent: To: Subject:

WeatherDelivery@telventdtn.com Thursday, August 25, 2011 6:02 AM DivOpsNE_Forecast National Grid New England Forecast

Forecast For New England from Telvent For National Grid

Date:August 25, 2011Time:6:00 AM EDTForecaster:G Loulis

CURRENT CONDITIONS: Skies are clear to partly cloudy with winds out of the south and southwest at 5-10 mph.

SYNOPSIS: A cold front will bring thunderstorms to the region today, with some strong to severe storms possible. Activity winds down tonight. Attention then turns to Hurricane Irene's impacts Sunday into early Monday.

WIND IMPACT: Strong to severe thunderstorms will be capable of producing wind gusts of 40-60 mph this afternoon.

THUNDERSTORM IMPACT: Today, thunderstorms are likely, starting in western MA around 11AM and across NH around 1PM. Activity will start in RI and eastern MA around 3-4PM. Severe thunderstorms are possible in the Bay State West region between 2PM and 7PM, with the main threats being high amounts of lightning, wind gusts up to 60 mph, and hail up to 1" in diameter. Strong storms are possible across NH, RI, and eastern MA, with the main threats being wind gusts of 40-50 mph, medium amounts of lightning, and small hail. Time periods for strong storms are from 2PM-7PM in NH and 4PM-8PM in RI and eastern MA. The storms will likely come in the form of a line, so each individual area should only be exposed to severe storms for an hour or two at a time before the line moves on. Tonight, Scattered showers and isolated thunderstorms are possible through about 9PM in NH, through 10PM in the Bay State West region, and through 11PM or 12AM across RI and eastern MA. Storms could produce low to medium amounts of lightning and wind gusts up to 30 mph.

PRECIPITATION IMPACT: None.

TEMPERATURE IMPACT: None.

SNOW IMPACT: None.

ICE IMPACT: None.

FLOOD IMPACT: None.

TODAY: Thunderstorms are likely, starting in western MA around 11AM and across NH around 1PM.

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Activity will start in RI and eastern MA around 3-4PM. Severe thunderstorms are possible in the Bay State West region between 2PM and 7PM, with the main threats being high amounts of lightning, wind gusts up to 60 mph, and hail up to 1" in diameter. Strong storms are possible across NH, RI, and eastern MA, with the main threats being wind gusts of 40-50 mph, medium amounts of lightning, and small hail. Time periods for strong storms are from 2PM-7PM in NH and 4PM-8PM in RI and eastern MA. The storms will likely come in the form of a line, so each individual area should only be exposed to severe storms for an hour or two at a time before the line moves on. Rainfall totals will be in the 0.25-0.75" range. Outside of thunderstorms, winds will be out of the south at 10-15 mph, with gusts up to 25 mph.

TONIGHT: Scattered showers and isolated thunderstorms are possible through about 9PM in NH, through 10PM in the Bay State West region, and through 11PM or 12AM across RI and eastern MA. Storms could produce low to medium amounts of lightning and wind gusts up to 30 mph. Additional rainfall will be 0.20" or less. Outside of storms, winds will be out of the west at 5-10 mph.

FRIDAY: Partly cloudy and dry. Winds will be variable at 5-8 mph.

FRIDAY NIGHT: Variably cloudy and dry. Winds will be out of the east at 5-10 mph.

DAYS 3-5: Saturday will be dry, but effects from Hurricane Irene will start to be realized during the pre-dawn hours Sunday morning. The center of Irene is forecast to pass northward across central MA Sunday afternoon or evening and then through NH early Monday morning. Sunday into early Monday, coastal areas and all of Bay State South, Metro Boston and Bay State north may see hurricane force winds as high as 75 mph sustained with gusts up to 85 mph. All other areas are expected to receive tropical storm force winds, sustained in the 35-55 mph range with gusts as high as 65 mph. Rainfall amounts will be heavy with many areas seeing rainfall amounts up to 5-10 inches. Nearly all of that rain will occur during the daylight hours on Sunday, with flash flooding likely. Coastal flooding will pose a threat to coastal sections of RI and MA late Saturday into Sunday. There will also be a threat for tornadoes during the day Sunday in southern NH, central and eastern MA, and RI on the east side of Irene. By daybreak Monday, the effects of Irene should be over with for the most part. However, some tropical storm force wind gusts could linger in southern NH through mid-morning. Monday afternoon and evening will be dry with light winds.

Attachment 6 The Narragansett Electric Company d/b/a National Grid Report on Tropical Storm Irene Preparedness, Damage Assessment and Service Restoration Efforts Page 9 of 32

From: Sent: To: Subject: WeatherDelivery@telventdtn.com Thursday, August 25, 2011 1:02 PM DivOpsNE_Forecast National Grid New England Forecast

Forecast For New England from Telvent For National Grid

Date: August 25, 2011 Time: 1:00 PM EDT Forecaster: J Chrzanowski

CURRENT CONDITIONS: Skies are partly cloudy to mostly cloudy. Showers and an isolated thunderstorm or two are being reported in portions of western to central Massachusetts and into New Hampshire. Winds are out of the south and southwest at 6-13 mph.

SYNOPSIS: A cold front will bring thunderstorms to the region today, with some strong to severe storms possible. Activity winds down tonight. Attention then turns to Hurricane Irene's impacts Sunday into early Monday.

WIND IMPACT: Strong to severe thunderstorms will be capable of producing wind gusts of 40-60 mph this afternoon.

THUNDERSTORM IMPACT: Thunderstorms are likely this afternoon into this evening, starting in western MA shortly and across NH around 1PM. Activity will start in RI and eastern MA around 3-4PM. Severe thunderstorms are possible in the Bay State West region between 2PM and 7PM, with the main threats being high amounts of lightning, wind gusts up to 60 mph, and hail up to 1" in diameter. Strong storms are possible across NH, RI, and eastern MA, with the main threats being wind gusts of 40-50 mph, medium amounts of lightning, and small hail. Time periods for strong storms are from 2PM-7PM in NH and 4PM-8PM in RI and eastern MA. The storms will likely come in the form of a line, so each individual area should only be exposed to severe storms for an hour or two at a time before the line moves on. Tonight, Scattered showers and isolated thunderstorms are possible through about 9PM in NH, through 10PM in the Bay State West region, and through 11PM or 12AM across RI and eastern MA. Storms could produce low to medium amounts of lightning and wind gusts up to 30 mph.

PRECIPITATION IMPACT: None.

TEMPERATURE IMPACT: None.

SNOW IMPACT: None.

ICE IMPACT: None.

FLOOD IMPACT: None.

Attachment 6 The Narragansett Electric Company d/b/a National Grid Report on Tropical Storm Irene Preparedness, Damage Assessment and Service Restoration Efforts Page 10 of 32

THIS AFTERNOON: Showers and thunderstorms are likely across the entire service area. Showers are now being reported in western/central MA and into parts of NH. Activity will start in RI and eastern MA around 3-4PM. Severe thunderstorms are possible in the Bay State West region between 2PM and 7PM, with the main threats being high amounts of lightning, wind gusts up to 60 mph, and hail up to 1" in diameter. Strong storms are possible across NH, RI, and eastern MA, with the main threats being wind gusts of 40-50 mph, medium amounts of lightning, and small hail. Time periods for strong storms are from 2PM-7PM in NH and 4PM-8PM in RI and eastern MA. The storms will likely come in the form of a line, so each individual area should only be exposed to severe storms for an hour or two at a time before the line moves on. Rainfall totals will be in the 0.25-0.75" range. Outside of thunderstorms, winds will be out of the south to southwest at 10-15 mph, with gusts up to 25 mph.

TONIGHT: Scattered showers and isolated thunderstorms are possible through about 9PM in NH, through 10PM in the Bay State West region, and through 11PM or 12AM across RI and eastern MA. Storms could produce low to medium amounts of lightning and wind gusts up to 30 mph. Additional rainfall will be 0.20" or less. Outside of storms, winds will be out of the west at 5-10 mph.

FRIDAY: Partly cloudy and dry. Winds will be variable at 5-8 mph.

FRIDAY NIGHT: Variably cloudy and dry. Winds will be out of the east at 5-10 mph.

DAYS 3-5: The focus will be on Hurricane Irene. Saturday will be dry, but effects from Hurricane Irene will start to be realized during the pre-dawn hours Sunday morning with rain and thunderstorms increasing from south to north across the entire area. The center of Irene is forecast to pass northward across central MA Sunday afternoon or evening and then through NH early Monday morning. Sunday into early Monday, coastal areas and all of Bay State South, Metro Boston and Bay State north may see hurricane force winds as high as 75 mph sustained with gusts up to 85 mph. All other areas are expected to receive tropical storm force winds, sustained in the 40-55 mph range with gusts as high as 65-75 mph. Rainfall amounts will be heavy with many areas seeing rainfall amounts up to 5 to 10 inches. Nearly all of the rain/thunderstorms will occur during the daylight hours on Sunday and into Sunday night, with flash flooding likely. Coastal flooding will pose a significant threat to coastal sections of RI and MA late Saturday into Sunday and perhaps again on Sunday night. There will also be a threat for tornadoes during the day Sunday in southern NH, central and eastern MA, and RI on the east side of Irene. By daybreak Monday, the effects of Irene will be diminishing. However, some tropical storm force wind gusts could linger in southern NH through mid-morning. Monday afternoon and evening will be dry with lighter winds.

Attachment 6 The Narragansett Electric Company d/b/a National Grid Report on Tropical Storm Irene Preparedness, Damage Assessment and Service Restoration Efforts Page 11 of 32

From: Sent: To: Subject:

WeatherDelivery@telventdtn.com Thursday, August 25, 2011 7:31 PM DivOpsNE_Forecast National Grid New England Forecast

Forecast For New England from Telvent For National Grid

Date:August 25, 2011Time:7:30 PM EDTForecaster:J Chrzanowski/B Nelson

CURRENT CONDITIONS: Skies are partly cloudy to mostly cloudy. Showers and an isolated thunderstorm or two are being reported in portions of western to central Massachusetts and into New Hampshire. Winds are out of the south and southwest at 6-13 mph.

SYNOPSIS: A cold front will bring showers and a few thunderstorms to the region this evening. The chance for severe storms has ended. Activity winds down tonight. No significant weather issues are indicated for Friday. Attention then turns to Hurricane Irene's impacts Sunday into early Monday. During the last 12 hours or so the forecast track of Hurricane Irene has shifted a bit more to the west. It must be noted that additional adjustments to the track forecast can be expected during the next 12 to 24 hours. Hurricane Irene is a large and strong storm and the flooding rain and high winds will cover a large area. The coastal flooding will be made worse at the times of high tide on Saturday night and Sunday night. A storm surge of at least 2-4 feet is likely at Narragansett Bay, Buzzards Bay and Vineyard Sound. Isolated storm surge of 6 feet will be possible in favored locations.

WIND IMPACT: The threat for strong to severe thunderstorms has ended. Isolated wind gusts of 30 mph will be possible early this evening.

THUNDERSTORM IMPACT: Thunderstorms are likely into this evening. The chance for severe storms has ended but a few stronger storms may produce a few wind gusts to 40 mph. Low to moderate amounts and brief heavy downpours will also occur. The threat for any stronger storms will end by 9PM.

PRECIPITATION IMPACT: None.

TEMPERATURE IMPACT: None.

SNOW IMPACT: None.

ICE IMPACT: None.

FLOOD IMPACT: Several inches of rain will be likely on Saturday night and Sunday, likely in excess of 6 inches in many areas.

Attachment 6 The Narragansett Electric Company d/b/a National Grid Report on Tropical Storm Irene Preparedness, Damage Assessment and Service Restoration Efforts Page 12 of 32

TONIGHT: Scattered showers and isolated thunderstorms are possible through about 9PM in NH, through 10PM in the Bay State West region, and through 11PM or 12AM across RI and eastern MA. Storms could produce low amounts of lightning and wind gusts up to 30 mph. Additional rainfall will be 0.20" or less. Outside of storms, winds will be out of the west at 5-10 mph.

FRIDAY: Partly cloudy and dry. Winds will be variable at 5-8 mph.

FRIDAY NIGHT: Variably cloudy and dry. Winds will be out of the east at 5-10 mph.

DAYS 3-5: The focus will be on Hurricane Irene. Saturday will be dry, but effects from Hurricane Irene will start to be realized during the pre-dawn hours Sunday morning with rain and thunderstorms increasing from south to north across the entire area. The center of Irene is forecast to pass northward across central MA Sunday afternoon or evening and then through NH early Monday morning. Sunday into early Monday, coastal areas and all of Bay State South, Metro Boston and Bay State north may see hurricane force winds as high as 65-75 mph sustained with gusts up to 85 mph. All other areas are expected to receive tropical storm force winds, sustained in the 40-55 mph range with gusts as high as 65-75 mph. Rainfall amounts will be heavy with many areas seeing rainfall amounts of 6 to 10 inches. Nearly all of the rain/thunderstorms will occur during the daylight hours on Sunday and into Sunday night, with flash flooding likely. Coastal flooding will pose a significant threat to coastal sections of RI and MA late Saturday into Sunday and perhaps again on Sunday night and this condition will be made worse at the time of high tides. A storm surge of at least 2-4 feet will be likely at locations such as Narragansett Bay, Buzzards Bay and Vineyard Sound. Isolated storm surge of 6 feet will be possible in favored locations. There will also be a threat for tornadoes during the day Sunday in southern NH, central and eastern MA, and RI on the east side of Irene. By daybreak Monday, the effects of Irene will be diminishing. However, some tropical storm force wind gusts could linger in southern NH through mid-morning. Monday afternoon and evening will be dry with lighter winds.

Attachment 6 The Narragansett Electric Company d/b/a National Grid Report on Tropical Storm Irene Preparedness, Damage Assessment and Service Restoration Efforts Page 13 of 32

From: Sent: To: Subject:

WeatherDelivery@telventdtn.com Friday, August 26, 2011 6:02 AM DivOpsNE_Forecast National Grid New England Forecast

Forecast For New England from Telvent For National Grid

Date:August 26, 2011Time:6:00 AM EDTForecaster:J Wegwerth

CURRENT CONDITIONS: Skies are mostly clear to partly cloudy with patchy areas of fog over western Massachusetts and New Hampshire. Winds are calm or out of the west-southwest at 4-12 mph.

SYNOPSIS: Today looks to be mostly sunny with mostly dry conditions expected. There is a low probability for a few isolated showers to develop this afternoon over Rhode Island, but these chances are low. More of the same can be expected tonight with isolated showers and possibly a few isolated rumbles of thunder over southern Rhode Island, but these chances are low as well. Tomorrow, scattered showers and thunderstorms will spread northward through the day. Saturday night, the out bands of Irene will begin to impact southern areas and will spread northward throughout the night bringing heavy rains and strong winds. Sunday will be the worst day with tropical storm force winds likely with hurricane force winds possible over southern coastal locales. Around 4-10 inches of rain will be possible with high tides of 2-6 feet possible.

WIND IMPACT: Winds will increase Saturday night and through Sunday with sustained winds of 35-60 mph with gusts of 60-85 mph possible to likely. The strongest winds will be over the southern coastal areas.

THUNDERSTORM IMPACT: There is low potential for a few isolated thunderstorms tonight over southern areas with no significant impacts expected. Irene will bring low amounts of lightning with wind gusts of 35-55 Saturday night and 60-85 mph Sunday; strongest winds over coastal locales.

PRECIPITATION IMPACT: Saturday night through Sunday, all locations may see rainfall amounts of 4-9 inches with isolated higher amounts possible.

TEMPERATURE IMPACT: None.

SNOW IMPACT: None.

ICE IMPACT: None.

FLOOD IMPACT: Saturday night through Sunday 4-9 inches of rain are possible across all areas.

Attachment 6 The Narragansett Electric Company d/b/a National Grid Report on Tropical Storm Irene Preparedness, Damage Assessment and Service Restoration Efforts Page 14 of 32

Storm surges may reach as high as 2-6 feet with the highest surge over southern coastal areas.

TODAY: Skies will be mostly sunny to partly cloudy with mostly dry conditions expected. There is a low chance for an isolated shower over southern Rhode Island this afternoon. Rainfall amounts with anything that does manage to develop will range between a trace and 0.10 of an inch. Winds will be out of the south-southeast around 3-8 mph.

TONIGHT: Skies will be mostly clear to partly cloudy with increasing clouds over southern areas. A few isolated showers may move into far southern reaches with a slight chance for an isolated rumble of thunder. No significant impacts are expected with thunderstorms. Rainfall amounts tonight will range from a trace to 0.10 of an inch. Winds will be light and variable.

SATURDAY: Scattered showers and thunderstorms will increase Saturday from south to north with chances across all areas by Saturday afternoon. Rainfall amounts will range between 0.05-0.25 of an inch with isolated higher amounts up to 0.30 of an inch possible. Winds will be out of the south at 6-12 mph.

SATURDAY NIGHT: Skies will be cloudy as rains and winds increase with hurricane Irene approaching and the outer bands beginning to move in. Rainfall will quickly increase and become heavy with rainfall amounts of 1-3 inches possible over southern areas and up to 1 inch possible over northern areas. Winds will turn to become out of the northeast at 25-35 mph with gusts of 35-45 mph possible, especially across southern areas.

DAYS 3-5: Sunday will be the worst day as Irene makes land fall over New England. The effects of Irene will continue through Sunday. Rainfall amounts of 3-7 inches will be possible across all areas Sunday with totals of 4-9 inches likely and isolated higher amounts possible. Winds will be a major issue as well with tropical storm force winds likely across the entire region and hurricane force winds possible over far southern areas. Sustained winds of 35-60 mph are anticipated with gusts of 60-85 mph possible. Coastal locations look to see some significant flooding issues as well with 2-6 feet of storm surge expected; highest over southern coastal areas. Strong winds will last through Sunday night before finally beginning to taper off Monday. Rainfall will finally begin to taper off late Sunday night and Monday as Irene tracks off to the north. Monday will see significantly improving conditions with skies clearing and winds weakening as high pressure moves in. Tuesday looks to be a nice day as well as high pressure holds on bringing dry, clear, and quiet conditions.

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From: Sent: To: Subject: WeatherDelivery@telventdtn.com Friday, August 26, 2011 1:02 PM DivOpsNE_Forecast National Grid New England Forecast

Forecast For New England from Telvent For National Grid

Date:August 26, 2011Time:1:00 PM EDTForecaster:J Chrzanowski

CURRENT CONDITIONS: Skies are partly cloudy across the area. Winds are rather variable at 4-8 mph.

SYNOPSIS: Partly cloudy skies are expected this afternoon. There is a low probability for an isolated shower across Rhode Island, but these chances are low. More of the same can be expected tonight with isolated showers and possibly a few isolated rumbles of thunder over southern Rhode Island, but these chances are low as well. Tomorrow, scattered showers and thunderstorms will spread northward through the day. Saturday night, the outer bands of Irene will begin to impact southern areas and will spread northward throughout the night bringing widespread heavy rain and strong winds. Sunday will be the worst time frame with tropical storm force winds likely with hurricane force winds possible over southern coastal locales. Around 4-10 inches of rain will be possible with high tides of 3-6 feet possible. Narragansett Bay, Buzzards Bay and Vineyard Sound are likely to experience the greatest storm surge.

WIND IMPACT: Winds will increase Saturday night and through Sunday with sustained winds of 35-60 mph with gusts of 60-85 mph possible to likely. The strongest winds will be over the southern coastal areas.

THUNDERSTORM IMPACT: There is low potential for a few isolated thunderstorms tonight over southern areas with no significant impacts expected. Irene will bring low amounts of lightning with wind gusts of 35-55 Saturday night and 60-85 mph Sunday; strongest winds over coastal locales.

PRECIPITATION IMPACT: Saturday night through Sunday, all locations may experience rainfall amounts of 4 to 9 inches with isolated higher amounts possible.

TEMPERATURE IMPACT: None.

SNOW IMPACT: None.

ICE IMPACT: None.

FLOOD IMPACT: Saturday night through Sunday 4-9 inches of rain are possible across all areas.

Storm surges may reach as high as 3-6 feet with the highest surge over southern coastal areas including Narragansett Bay, Buzzards Bay and Vineyard Sound.

THIS AFTERNOON: Skies will be partly cloudy. There is a low chance for an isolated shower over southern Rhode Island this afternoon. Rainfall amounts with anything that does manage to develop will range between a trace and 0.10 of an inch. Winds will become more southeasterly at 5-10 mph.

TONIGHT: Skies will be mostly clear to partly cloudy with increasing clouds over southern areas. A few isolated showers may move into far southern reaches with a slight chance for an isolated rumble of thunder. No significant impacts are expected with thunderstorms. Rainfall amounts tonight will range from a trace to 0.10 of an inch. Winds will be light and variable.

SATURDAY: Scattered showers and thunderstorms will increase Saturday from south to north with chances across all areas by Saturday afternoon. Rainfall amounts will range between 0.05-0.25 of an inch with isolated higher amounts up to 0.30 of an inch possible. Winds will be out of the southeast at 6-12 mph.

SATURDAY NIGHT: Skies will be cloudy as rain and wind increases with Hurricane Irene approaching and the outer bands beginning to move in. Rainfall will quickly increase and become heavy with rainfall amounts of 1-3 inches possible over southern areas and up to 1 inch possible over northern areas. Winds will turn to become out of the northeast at 25-35 mph with gusts of 35-45 mph likely, especially across southern areas.

DAYS 3-5: Sunday will be the worst day as Irene makes landfall over New England. The impacts from Irene will increase through Sunday. Rainfall amounts of 3-7 inches will be possible across all areas Sunday with totals of 4-9 inches likely and isolated higher amounts possible. Winds will be a major issue as well with tropical storm force winds likely across the entire region and hurricane force winds possible over far southern areas. Sustained winds of 35-60 mph are anticipated with gusts of 60-85 mph possible. Coastal locations look to see some significant flooding issues as well with 2-6 feet of storm surge expected; highest over southern coastal areas. Strong winds will last through Sunday night before finally beginning to taper off Monday. Rainfall will finally begin to taper off late Sunday night and Monday as Irene tracks off to the north. Monday will see significantly improving conditions with skies clearing and winds weakening as high pressure moves in. Tuesday looks to be a nice day as well as high pressure holds on bringing dry, clear, and quiet conditions.

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From: Sent: To: Subject:

WeatherDelivery@telventdtn.com Friday, August 26, 2011 7:31 PM DivOpsNE_Forecast National Grid New England Forecast

Forecast For New England from Telvent For National Grid

Date:August 26, 2011Time:7:30 PM EDTForecaster:J Chrzanowski

CURRENT CONDITIONS: Skies are partly cloudy across the area. Winds are variable at 4-8 mph.

SYNOPSIS: Isolated showers and possibly a few rumbles of thunder may occur across portions of southern Rhode Island later tonight, but these chances are low as well. Tomorrow, scattered showers and thunderstorms will spread northward through the day. Saturday night, the outer bands of Irene will begin to impact southern areas and will spread northward throughout the night bringing widespread heavy rain and strong winds. Sunday will be the worst time frame with tropical storm force winds likely with hurricane force winds possible over southern coastal locales. Around 4-10 inches of rain will be possible with high tides of 3-6 feet possible. Narragansett Bay, Buzzards Bay and Vineyard Sound are likely to experience the greatest storm surge. In general, the strong winds will tend to occur on the east side of the storm with the heaviest rain on the west side.

WIND IMPACT: Winds will increase Saturday night and through Sunday with sustained winds of 35-55 mph with gusts of 60-85 mph possible to likely. The strongest winds will be over the southern coastal areas.

THUNDERSTORM IMPACT: There is low chance for isolated thunderstorms tonight over southern areas with no significant impacts expected. Irene will bring low amounts of lightning with wind gusts of 35-55 mph Saturday night and 60-85 mph Sunday. The strongest winds will tend to occur across eastern Massachusetts, Rhode Island and southeastern New Hampshire.

PRECIPITATION IMPACT: Saturday night through Sunday, all locations may experience rainfall amounts of 4 to 9 inches with isolated higher amounts possible.

TEMPERATURE IMPACT: None.

SNOW IMPACT: None.

ICE IMPACT: None.

FLOOD IMPACT: Saturday night through Sunday 4-9 inches of rain are possible across all areas. Storm surges may reach as high as 3-6 feet with the highest surge over southern coastal areas including Narragansett Bay, Buzzards Bay and Vineyard Sound.

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TONIGHT: Partly cloudy skies this evening will give way to increasing clouds later in the night. A few isolated showers may move into far southern portions. Rainfall amounts will range up to 0.10 of an inch. Winds will be light and variable.

SATURDAY: Showers and scattered thunderstorms will increase Saturday from south to north with the coverage increasing during the afternoon. Rainfall amounts will range between 0.10-0.30 of an inch with isolated higher amounts up to 0.50 of an inch possible in the vicinity of Cape Cod. Winds will be out of the southeast at 6-12 mph.

SATURDAY NIGHT: Rain and wind will increase with Hurricane Irene approaching and the outer bands beginning to move in. Rainfall will quickly increase and become heavy with rainfall amounts of 1-3 inches likely over southern areas and up to 1 inch possible over northern areas. Winds will turn out of the northeast at 30-35 mph with gusts of 45-55 mph likely late, especially across southern and eastern portions.

DAYS 3-5: Sunday will be the worst time period as Irene moves across New England. The impacts from Irene will increase through Sunday. Rainfall amounts of 3-7 inches will be possible across all areas Sunday with totals of 4-9 inches likely and isolated higher amounts possible. Winds will be a major issue as well with tropical storm force winds likely across the entire region and hurricane force winds possible over far southern areas. Sustained winds of 35-55 mph are anticipated with gusts of 60-85 mph possible. The highest winds will tend to occur across the eastern half of Massachusetts, Rhode Island and southeastern New Hampshire. Coastal locations look to see some significant flooding issues as well with 2-6 feet of storm surge expected; highest over southern coastal areas. Strong winds will last through Sunday night before finally beginning to taper off Monday. Rainfall will finally begin to taper off late Sunday night and Monday as Irene tracks off to the north. Monday will see significantly improving conditions with skies clearing and winds weakening as high pressure moves in. Tuesday looks to be a nice day as well as high pressure holds on bringing dry, clear, and quiet conditions.

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From: Sent: To: Subject:

WeatherDelivery@telventdtn.com Saturday, August 27, 2011 6:01 AM DivOpsNE_Forecast National Grid New England Forecast

Forecast For New England from Telvent For National Grid

Date:August 27, 2011Time:6:00 AM EDTForecaster:K Faltin

CURRENT CONDITIONS: Increasing clouds with otherwise dry conditions in place. Winds are mostly light and variable.

SYNOPSIS: The leading edge of Irene's moisture may spark isolated showers and thunderstorms this morning, more likely this afternoon into this evening. Shower coverage will increase tonight, along with increasing winds and the storm surge near the southeastern MA coast.

WIND IMPACT: Winds will increase tonight and be strongest through roughly mid Sunday afternoon with sustained winds of 35-55 mph with gusts of 55-70 mph possible to likely. The strongest winds will be over the southern coastal locations, from daybreak Sunday through early Sunday afternoon. Winds will be diminishing by Sunday evening.

THUNDERSTORM IMPACT: There is low chance for isolated thunderstorms today, though no significant impacts other than a localized 1 inch total possible by 8pm over southeastern MA. Irene will bring low amounts of lightning with wind gusts of 35-55 mph possible through most of tonight, increasing to 55-70 mph potential near or just past daybreak. The strongest winds will tend to occur across eastern Massachusetts, Rhode Island and southeastern New Hampshire.

PRECIPITATION IMPACT: Saturday night through Sunday, all locations may experience rainfall amounts of 4 to 9 inches with isolated higher amounts possible.

TEMPERATURE IMPACT: None.

SNOW IMPACT: None.

ICE IMPACT: None.

FLOOD IMPACT: Saturday night through Sunday 4-9 inches of rain are possible across all areas. Storm surges may reach as high as 3-8 feet with the highest surge over southern coastal areas including Narragansett Bay, Buzzards Bay and Vineyard Sound.

TODAY: Increasing clouds with isolated showers and thunderstorms; increasing in coverage from south to north this afternoon. Rainfall amounts between 0.25-0.75 inches possible. Winds will be southeast at 7-15 mph.

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TONIGHT: Rain and wind will increase with Hurricane Irene approaching and the outer bands beginning to move in. Rainfall will quickly increase and become heavy with rainfall amounts of 1-3 inches likely over southern areas and up to 1 inch possible over northern areas. Winds will turn out of the northeast at 30-35 mph with gusts of 45-55 mph likely late, possibly approaching 55-70 mph gusts near or past 6am.

SUNDAY: Rainfall amounts of 3-7 inches will be possible across all areas Sunday with totals of 4-9 inches likely and isolated higher amounts possible. Winds will be a major issue as well with tropical storm force winds likely across the entire region and hurricane force winds possible over far southern areas. Sustained winds of 35-55 mph are anticipated with gusts of 55-70 mph possible. The highest winds will tend to occur across the eastern half of Massachusetts, Rhode Island and southeastern New Hampshire. Coastal locations look to see some significant flooding issues as well with 2-6 feet of storm surge expected; highest over southern coastal areas.

SUNDAY NIGHT: Decreasing winds and rain showers. Most locations likely dry after 3-4am. Winds will turn northwest at 15-25 mph, gusts of 25-40 mph overnight. Additional rainfall amounts of up to 1 inch may occur before tapering off, mostly across Granite and North.

DAYS 3-5: Monday through Wednesday, expect a broad region of high pressure to take over bringing a period of partly cloudy skies and dry conditions. Temperatures will tend to average near normal through the period.

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From: Sent: To: Subject:

WeatherDelivery@telventdtn.com Saturday, August 27, 2011 1:01 PM DivOpsNE_Forecast National Grid New England Forecast

Forecast For New England from Telvent For National Grid

Date:August 27, 2011Time:1:00 PM EDTForecaster:G Benedict

CURRENT CONDITIONS: Skies are becoming increasing cloudy. Showers and a few isolated thunderstorms have been developing, mainly over Rhode Island and southeastern parts of Massachusetts. Winds are out of the south to southeast at 5-10 mph.

SYNOPSIS: The leading edge of Irene's moisture will continue to cause showers and isolated thunderstorms this afternoon into this evening. The coverage of rain and isolated thunderstorms will continue to ramp up tonight and continue well into the day Sunday. Winds will also increase during this time frame and the storm surge will be increasing near the southeastern Massachusetts. Weather conditions will begin to improve on Sunday night with a return to fair weather on Monday.

WIND IMPACT: Winds will increase tonight and be strongest through roughly mid Sunday afternoon with sustained winds of 35-55 mph with gusts of 55-70 mph likely. The strongest winds will be over the southern coastal locations, from daybreak Sunday through early Sunday afternoon. Winds will be diminish by Sunday evening with further weakening during the night.

THUNDERSTORM IMPACT: There is low chance for isolated thunderstorms for the remainder of today, though no significant impacts other than a localized .50-1.00 inch amount will be possible by 8 PM over southeastern MA. Irene will bring low amounts of lightning with wind gusts of 35-55 mph possible through most of tonight, increasing to 55-70 mph potential near or just past daybreak. The strongest winds will tend to occur across eastern Massachusetts, Rhode Island and southeastern New Hampshire.

PRECIPITATION IMPACT: Tonight through Sunday, all locations may experience rainfall amounts of 4 to 9 inches with isolated higher amounts possible.

TEMPERATURE IMPACT: None.

SNOW IMPACT: None.

ICE IMPACT: None.

FLOOD IMPACT: Saturday night through Sunday, 4-9 inches of rain are possible across all areas. Storm surges may reach as high as 3-8 feet with the highest surge over southern coastal areas

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including Narragansett Bay, Buzzards Bay and Vineyard Sound.

THIS AFTERNOON: Increasing clouds with showers and perhaps a few isolated thunderstorms; gradually increasing in coverage from south to north. It may take until mid late afternoon for showers reach New Hampshire. Rainfall amounts between .20-.50 inches possible. Winds will be from the south to southeast at 6-14 mph.

TONIGHT: Rain and wind will increase with Hurricane Irene approaching as the outer bands begin to move in. Rainfall will quickly increase and become heavy with 1-3 inches likely over southern areas and up to 1 inch possible over northern areas. Winds will turn out of the northeast at 30-35 mph with gusts of 45-55 mph likely late, possibly approaching 55-65 mph gusts near or past 6 PM.

SUNDAY: Rainfall amounts of 3-7 inches will be possible across all areas Sunday with totals of 4-9 inches likely and isolated higher amounts possible. Winds will be a major issue as well with tropical storm force winds likely across the entire region and hurricane force winds possible over far southern areas. Sustained winds of 35-50 mph are anticipated with gusts of 55-65 mph possible. The highest winds will tend to occur across the eastern half of Massachusetts, Rhode Island and southeastern New Hampshire. Coastal locations look to see some significant flooding issues as well with 2-6 feet of storm surge expected; highest over southern coastal areas.

SUNDAY NIGHT: Decreasing winds and rain showers, with most locations likely dry after 2 AM. Winds will turn northwest at 15-25 mph, gusts of 25-40 mph overnight. Additional rainfall amounts of up to 1 inch may occur before tapering off, mostly across Granite and North.

DAYS 3-5: Monday through Wednesday, expect a broad region of high pressure to take over bringing a period of partly cloudy skies and dry conditions. Temperatures will tend to average near normal through the period.

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From: Sent: To: Subject:

WeatherDelivery@telventdtn.com Saturday, August 27, 2011 7:31 PM DivOpsNE_Forecast National Grid New England Forecast

Forecast For New England from Telvent For National Grid

Date:August 27, 2011Time:7:30 PM EDTForecaster:G Benedict

CURRENT CONDITIONS: Skies are cloudy with widespread showers and a few isolated thunderstorms. Winds are out of the east to southeast at 5-10 mph.

SYNOPSIS: The leading edge of Irene's moisture will continue to cause showers and isolated thunderstorms into this evening. The coverage of rain and isolated thunderstorms will continue to ramp up tonight and continue well into the day Sunday. Winds will also increase during this time frame and the storm surge will be increasing near southeastern Massachusetts. Weather conditions will begin to improve on Sunday night with a return to fair weather on Monday.

WIND IMPACT: Winds will increase tonight and be strongest through roughly mid Sunday afternoon with sustained winds of 35-55 mph with gusts of 55-70 mph likely. The strongest winds will be over the southern coastal locations, from daybreak Sunday through early Sunday afternoon. Winds will diminish by Sunday evening with further weakening during the night.

THUNDERSTORM IMPACT: There is low chance for isolated thunderstorms for the remainder of tonight. Irene will bring wind gusts of 35-55 mph, increasing to 55-70 mph near or just past daybreak. The strongest winds will tend to occur across eastern Massachusetts, Rhode Island and southeastern New Hampshire.

PRECIPITATION IMPACT: Tonight through Sunday, all locations may experience rainfall amounts of 4 to 9 inches with isolated higher amounts possible.

TEMPERATURE IMPACT: None.

SNOW IMPACT: None.

ICE IMPACT: None.

FLOOD IMPACT: Saturday night through Sunday, 4-9 inches of rain are possible across all areas. Storm surges may reach as high as 3-8 feet with the highest surge over southern coastal areas including Narragansett Bay, Buzzards Bay and Vineyard Sound.

TONIGHT: Rain and wind will increase with Hurricane Irene approaching as the outer bands begin

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to move in. Rainfall will quickly increase and become heavy with 1-3 inches likely over southern areas and up to 1 inch possible over northern areas. Winds will turn out of the northeast at 30-35 mph with gusts of 45-55 mph likely late, possibly approaching 55-65 mph gusts near or past 6 AM.

SUNDAY: Rainfall amounts of 3-7 inches will be possible across all areas Sunday with totals of 4-9 inches likely and isolated higher amounts possible. Winds will be a major issue as well with tropical storm force winds likely across the entire region and hurricane force winds possible over far southern areas. Sustained winds of 35-50 mph are anticipated with gusts of 55-65 mph possible. The highest winds will tend to occur across the eastern half of Massachusetts, Rhode Island and southeastern New Hampshire. Coastal locations look to see some significant flooding issues as well with 2-6 feet of storm surge expected; highest over southern coastal areas.

SUNDAY NIGHT: Decreasing winds and rain showers, with most locations likely dry after 2 AM. Winds will turn northwest at 15-25 mph, gusts of 25-40 mph overnight. Additional rainfall amounts of up to 1 inch may occur before tapering off, mostly across Granite and North.

DAYS 3-5: Monday through Wednesday, expect a broad region of high pressure to take over bringing a period of partly cloudy skies and dry conditions. Temperatures will tend to average near normal through the period.

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From: Sent: To: Subject:

WeatherDelivery@telventdtn.com Sunday, August 28, 2011 6:01 AM DivOpsNE_Forecast National Grid New England Forecast

Forecast For New England from Telvent For National Grid

Date:August 28, 2011Time:6:00 AM EDTForecaster:K Faltin

CURRENT CONDITIONS: Overcast with scattered rain showers in place. Winds are southeast to northeast between 10-25 mph, gust some 30-35 mph gusts creeping into coastal southeastern MA.

SYNOPSIS: Irene has managed to hold onto hurricane status this morning, and may remain as such through 8am or so as it draws very close to western Long Island. Irene will weaken to a tropical storm through the course of late morning into this afternoon and pick up speed, with the center likely sitting over central New Hampshire by late afternoon, and it will continue to blast off to the northeast tonight. Irene's effects will include strong winds throughout this morning into this afternoon, with a dangerous storm surge over coastal RI and MA.

WIND IMPACT: Winds will continue to be on the rise this morning. The strongest period will be roughly 9am-6pm overall, but with a few exceptions. The Nantucket, Cape Cod, Bay State South, and Ocean State will experience their strongest winds between 10am-4pm. For these areas, winds will be as follows: sustained 45-55 mph, with gusts of 60-70 mph during this time. The strongest winds are likely right at the coast off the open waters. Further north and west, winds will be as follows: 30-40 mph sustained; gusts in the 50-60 mph range. The winds will turn to the southwest to the west then eventually northwest as the storm center works into New Hampshire later this afternoon, possible lull winds once this occurs, with a secondary max in winds mid to late afternoon into this evening. Winds will start weakening by 8pm, further diminishing by Midnight, with gusts likely dropping below 35 mph for most by 2-3am, though portions of Granite and North may hold onto 35 mph gusts to near daybreak. The winds will oscillate up and down as squalls from the storm push through, so while we have a long impact period, the maximum potential will not be observed all of those hours.

THUNDERSTORM IMPACT: Thunderstorms will be possible through this morning into early this afternoon. These may contain low amounts of lightning, a very slim chance for isolated tornadoes, and wind gusts between 50-60 mph.

PRECIPITATION IMPACT: Rainfall amounts look to be as follows: 1 inch or less over Cape Cod and Nantucket; 1-3 inches from Ocean State up to Boston and Bay State North; 3-7 inches over Bay State West up across Granite and North. The brunt of this looks to have mostly fallen by 4pm.

TEMPERATURE IMPACT: None.

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SNOW IMPACT: None.

ICE IMPACT: None.

FLOOD IMPACT: With rainfall amounts in the 3-7 inch range, flooding is likely. Storm surge looks to be highest from Ocean State to Cape Cod and potentially Nantucket, 4-8 feet. Storm surge further north up to Boston looks to hover in the 3-6 feet range.

TODAY: Scattered rain showers, isolated thunderstorms, strong winds will all be ongoing this morning through this afternoon. Highest rainfall totals will be over central/western MA up into NH where 3-7 inches is likely, with lesser totals further east. Winds will be strongest over RI and southeastern MA where gusts in the 60-70 mph range are possible this morning into this afternoon, with gusts in the 50-60 mph range elsewhere. Winds may undergo a lull near the center of Irene early to mid-afternoon when the transition from easterly winds turns to westerly, with a secondary peak late afternoon into this evening. Wide spread flooding is possible inland, but even the coasts may be hit hard with a storm surge ranging from 3-8 feet possible, highest from RI to south Cape Cod.

TONIGHT: Decreasing winds, with rainfall most likely done just past sunset. Wind gusts of up to 35 mph out of the west-northwest may linger as late as 2-3am, but should diminish after that for all areas.

MONDAY: Partly cloudy and dry. Winds will be west-southwest at 7-15 mph, gusts to 25 mph possible at times morning hours into early afternoon.

MONDAY NIGHT: Clear to partly cloudy with potential areas of fog. Winds will be west-northwest at 3-8 mph.

DAYS 3-5: Tuesday and Wednesday, expect high pressure to keep all areas partly cloudy and dry. The next chance for rain showers arrives Thursday and Thursday evening with a weak disturbance pushing through. Temperatures will average about near normal through the period.

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From: Sent: To: Subject:

WeatherDelivery@telventdtn.com Sunday, August 28, 2011 1:01 PM DivOpsNE_Forecast National Grid New England Forecast

Forecast For New England from Telvent For National Grid

Date:August 28, 2011Time:1:00 PM EDTForecaster:J Murphy

CURRENT CONDITIONS: Overcast with areas of heavy rain much of the area. Winds are southeast to northeast between 15-25 mph, gust some 30-35 mph gusts over Bay State West, Granite and North and southeast at 30-40 mph with gusts 45-55 mph elsewhere.

SYNOPSIS: Tropical storm Irene is now over western CT and will be moving into northern New England tonight. Irene's effects will include strong winds throughout this afternoon and areas of heavy rainfall, with a dangerous storm surge over coastal RI and MA.

WIND IMPACT: Winds will remain out of the southeast this afternoon at 30-40 mph with gusts of 45-55 mph with a few gusts to 65 mph over Cape Cod, Nantucket and Ocean state. The wind will likely remain more in the 20-30 mph range with gusts to 40-45 mph parts of the Bay State West and into Granite and North. The wind will diminish to 20-30 mph with gusts to 40 mph by 8-10pm and to 15-25 mph after midnight.

THUNDERSTORM IMPACT: None.

PRECIPITATION IMPACT: Additional rainfall amounts look to be as follows: .50" or less over Cape Cod, Bay State South, Ocean State and Nantucket; .50-1.50" Bay State west and Bay State North; 2-4" Granite and North.

TEMPERATURE IMPACT: None.

SNOW IMPACT: None.

ICE IMPACT: None.

FLOOD IMPACT: With total rainfall amounts in the 3-7 inch range, flooding is likely. Storm surge looks to be highest from Ocean State to Cape Cod and potentially Nantucket, 4-8 feet. Storm surge further north up to Boston looks to hover in the 3-6 feet range.

THIS AFTERNOON: Heavy rain over western/northern areas will diminish by late afternoon with just scatered rain showers over southeast areas. Winds will remain strong and gusty this afternoon. Highest rainfall totals will be over western/northern MA up into NH where storm totals of 3-7 inches is likely, with lesser totals further southeast. Winds will be strongest

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over RI and southeastern MA where gusts in the 55-65 mph are possible this afternoon, with gusts in the 45-55 mph range elsewhere. Winds may undergo a lull near the center of Irene early to mid-afternoon over western/northern areas when the transition from easterly winds turns to westerly, with a secondary peak late afternoon into this evening. Wide spread flooding is possible inland, but even the coasts may be hit hard with a storm surge ranging from 3-8 feet possible, highest from RI to south Cape Cod.

TONIGHT: Decreasing winds, with rainfall most likely done just past sunset. Wind gusts of up to 35 mph out of the west-northwest may linger as late as midnight-1am, but should diminish after that for all areas.

MONDAY: Partly cloudy and dry. Winds will be west-southwest at 7-15 mph, gusts to 25 mph possible at times morning hours into early afternoon.

MONDAY NIGHT: Clear to partly cloudy with potential areas of fog. Winds will be west-northwest at 3-8 mph.

DAYS 3-5: Tuesday and Wednesday, expect high pressure to keep all areas partly cloudy and dry. The next chance for rain showers arrives Thursday and Thursday evening with a weak disturbance pushing through. Temperatures will average about near normal through the period.

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From: Sent: To: Subject:

WeatherDelivery@telventdtn.com Sunday, August 28, 2011 7:31 PM DivOpsNE_Forecast National Grid New England Forecast

Forecast For New England from Telvent For National Grid

Date:August 28, 2011Time:1:00 PM EDTForecaster:J Murphy

CURRENT CONDITIONS: Overcast with a few light rain showers across the area. Winds are southwest over most areas at 20-30 mph with gusts 40-48 mph over Bay State north, Bay state south and Metro Boston and gusting 45-55 mph Cape Cod and Nantucket. Far western parts of MA have northwest winds at 15-25 mph.

SYNOPSIS: Tropical storm Irene is now over southern VT and will be moving into northern New England or southern Quebec tonight. Strong winds from Irene will diminish by late evening with a dangerous storm surge over coastal RI and Cape Cod.

WIND IMPACT: Winds will remain out of the southwest at 25-35 mph with gusts of 45-55 mph over Cape Cod and Nantucket for a few more hours and at 20-30 mph with gusts 40-45 mph over Ocean State, Metro Boston and Bay State south. The wind should diminish to 15-25 mph with gusts to 30-35 mph by midnight across all of these regions. Elsewhere winds should be around 15-25 mph with gusts to 35 mph through midnight and then decease to 15-25 mph after midnight.

THUNDERSTORM IMPACT: None.

PRECIPITATION IMPACT: None.

TEMPERATURE IMPACT: None.

SNOW IMPACT: None.

ICE IMPACT: None.

FLOOD IMPACT: With total rainfall amounts in the 3-7 inch range, flooding is likely, in some cases record flooding is occurring over Bay state West. Storm surge looks to be highest from Ocean State to Cape Cod and potentially Nantucket with mostly 1.5-3 feet but up to 4-5 feet in some of the bays over Ocean State and Cape Cod.

TONIGHT: Decreasing winds, with rainfall most likely over by 9-11pm. Winds will gradually diminish to 20-30 mph with gusts to 35 mph by midnight eastern area while western/northern areas see 15-25 mph winds gusting to 35 mph decreasing to just 15-25 mph by midnight. The winds will continue to diminish through the late night hours.

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MONDAY: Partly cloudy and dry. Winds will be west-southwest at 7-15 mph, gusts to 25 mph possible at times morning hours into early afternoon.

MONDAY NIGHT: Clear to partly cloudy with potential areas of fog. Winds will be west-northwest at 3-8 mph.

DAYS 3-5: Tuesday and Wednesday, expect high pressure to keep all areas partly cloudy and dry. The next chance for rain showers arrives Thursday and Thursday evening with a weak disturbance pushing through. Temperatures will average about near normal through the period.

Attachment 6 The Narragansett Electric Company d/b/a National Grid Report on Tropical Storm Irene Preparedness, Damage Assessment and Service Restoration Efforts Page 31 of 32

From: Sent: To: Subject:

WeatherDelivery@telventdtn.com Monday, August 29, 2011 6:02 AM DivOpsNE_Forecast National Grid New England Forecast

Forecast For New England from Telvent For National Grid

Date:August 29, 2011Time:6:00 AM EDTForecaster:K Faltin

CURRENT CONDITIONS: Mostly clear with winds out of the west to southwest at 8-18 mph, gusting 20-25 mph.

SYNOPSIS: High pressure will follow in the wake of Irene bringing fair and dry conditions today through tomorrow.

WIND IMPACT: None.

THUNDERSTORM IMPACT: None.

PRECIPITATION IMPACT: None.

TEMPERATURE IMPACT: None.

SNOW IMPACT: None.

ICE IMPACT: None.

FLOOD IMPACT: Due to the excessive rainfall from Irene yesterday, flooding of the major lakes and rivers of which the many tributaries feed into will continue today into early tomorrow.

TODAY: Fair to partly cloudy and dry. Winds will be west-southwest at 7-15 mph, gusts to 25 mph possible at times morning hours into early afternoon.

TONIGHT: Clear to partly cloudy with potential areas of fog. Winds will be west-northwest at 3-8 mph.

TUESDAY: Mostly sunny with dry conditions in place. Winds will be west to southwest at 6-12 mph with gusts to 20 mph possible.

TUESDAY NIGHT: Partly cloudy and dry, with potential fog overnight. Winds will be west-northwest at 3-8 mph.

DAYS 3-5: Wednesday, expect another day of partly cloudy skies and dry conditions, which will
Attachment 6 The Narragansett Electric Company d/b/a National Grid Report on Tropical Storm Irene Preparedness, Damage Assessment and Service Restoration Efforts Page 32 of 32

persist through Wednesday night. A weak disturbance will bring a slim chance for isolated rain showers, perhaps a rumble of thunder, on Thursday. Best chances look to be over Bay State West. Mostly dry conditions return for Friday. Temperatures will pop above normal Wednesday, with more seasonal readings expected for Thursday and Friday.

Please do not respond to this email address

Attachment 7

Attachment 7 The Narragansett Electric Company d/b/a National Grid Report on Tropical Storm Irene Preparedness, Damage Assessment and Service Restoration Efforts Page 1 of 4



Attachment 7 The Narragansett Electric Company d/b/a National Grid Report on Tropical Storm Irene Preparedness, Damage Assessment and Service Restoration Efforts Page 2 of 4



Attachment 7 The Narragansett Electric Company d/b/a National Grid Report on Tropical Storm Irene Preparedness, Damage Assessment and Service Restoration Efforts Page 3 of 4

	National Grid	
RI Branch EOC: Providence	ESRP Organization Chart	Hurricane Irene



Attachment 7 The Narragansett Electric Company d/b/a National Grid Report on Tropical Storm Irene Preparedness, Damage Assessment and Service Restoration Efforts Page 4 of 4







Damage Assessment ALLaBarre (Day) Ryan Constable (Night)

Attachment 8

Attachment 8 The Narragansett Electric Company d/b/a National Grid Report on Tropical Storm Irene Preparedness, Damage Assessment and Service Restoration Efforts Page 1 of 3

Poles Replaced

Jurisdiction	Town	Pole #	Street	Quantity	Size	Class
RI	Ashaway	7	Maxson Hill Rd	1	40'	3
RI	Ashaway	12	Maxson Hill Rd	1	40'	3
RI	Barrington	44	Old County Rd	1	50'	3
RI	Bristol	11	Cole St	1	40'	3
RI	Bristol	38 - 43	Hope St	5	40'	3
RI	Charlestown	5	South Niantic	1	40'	3
RI	Charlestown	56,57	Post Rd	1	40'	2
RI	Cranston	8	Kneeland	1	40'	3
RI	Cranston	13	Grand Ave	1	40'	3
RI	Cranston	14	Grand Ave	1	40'	3
RI	Cranston	15	Grand Ave	1	40'	3
RI	Cranston	24	Gansett Ave	1	40'	3
RI	Cranston	3-1	Kneeland St	1	35'	4
RI	Cranston	39, 41	Meshanticut Valley Pkwy	2	45'	3
RI	Cranston	448-50	Plainfield Pike	1	35'	3
RI	Cumberland	3	Rhode Island Ave	1	40'	3
RI	Cumberland	4	Rhode Island Ave	1	40'	3
RI	Cumberland	5	Rhode Island Ave	1	40'	3
RI	Cumberland	32	Abbey	1	40'	3
RI	Cumberland	73	Nate Whipple	1	45'	3
RI	East Providence	1-2	Upyonda Way	1	40'	3
RI	Glocester	27	Reynolds Rd	1	45'	3
RI	Glocester	28	Reynolds Rd	1	45'	3
RI	Glocester	28 & 1/2	Reynolds Rd	1	45'	3
RI	N Kingstown	?	Essex Rd	1	45'	3
RI	N Kingstown - Quonset	6	Dillbar St	1	45'	2
RI	North Smithfield	9	Cynthia Dr	1	35'	3
RI	North Smithfield	23	Mechanic St	1	40'	3

Attachment 8 The Narragansett Electric Company d/b/a National Grid Report on Tropical Storm Irene Preparedness, Damage Assessment and Service Restoration Efforts Page 2 of 3

Poles Replaced

Jurisdiction	Town	Pole #	Street	Quantity	Size	Class
RI	Pawtucket	7	Paul	1	40'	3
RI	Pawtucket	30	Hasbro Way	1	45'	3
RI	Pawtucket	31	Hasbro Way	1	50'	
RI	Pawtucket	80	Pawtucket Ave	1	40'	3
RI	Portsmouth	50	Hunder Ave	1	40'	
RI	Providence	1	Seaview Dr	1	45'	2
RI	Providence	2	Seaview Dr	1	45'	2
RI	Providence	10	Fields Point Dr	1	55'	2
RI	Providence	11	Rochambeau Ave	1	45'	3
RI	Richmond	26	Shannock Hill Rd	1	40'	3
RI	Richmond	16-3	Woodville Rd	1	40'	3
RI	S Kingstown	3-1	Tucker Lane	1	35'	3
RI	S Kingstown	3-2	Tucker Lane	1	35'	3
RI	S Kingstown	63	MoorseField Rd	1	45'	3
RI	Scituate	4	Wilkinson Rd	1	40'	3
RI	Scituate	57	Central Pike	1	35'	4
RI	Scituate	80	Central Pike	1	45'	3
RI	Scituate	122-1	Chopmist Hill Rd	1	40'	3
RI	Warren	57	Barton Ave	1	40'	3
RI	Warren	17-1	Child St	1	40'	3
RI	Warwick	3	Cole Farms Rd	1	45'	2
RI	Warwick	4	Beachwood Dr	1	40'	3
RI	Warwick	4	George Arden St	1	45'	2
RI	Warwick	4	Louiston	1	35'	4
RI	Warwick	6	Balcom	1	45'	3
RI	Warwick	6	Newton @ Balcom	4	45'	3
RI	Warwick	9	Benedict Ave	1	40'	3
RI	Warwick	9	Myrtle Ave	1	40'	3

Attachment 8 The Narragansett Electric Company d/b/a National Grid Report on Tropical Storm Irene Preparedness, Damage Assessment and Service Restoration Efforts Page 3 of 3

Poles Replaced

Jurisdiction	Town	Pole #	Street	Quantity	Size	Class
RI	Warwick	12	Spring Green Rd	1	45'	3
RI	Warwick	23	Narragansett Bay Ave	1	45'	3
RI	Warwick	40.5	Warwick Neck Ave	1	35'	
RI	Warwick	50	Ives Rd	1	40'	4
RI	Warwick	76	Tollgate Rd	1	35'	
RI	Warwick	76	Tollgate Rd	1	45'	3
RI	Warwick	1-1	Sales	1	40'	3
RI	Warwick	7-3	Posnegansett Ave	1	35'	3
RI	Warwick	250-2, P50-	Tollgate Rd	2	40'	3
RI	West Warwick	9	Pontiac Ave	1	45'	3
RI	West Warwick	36	Cowesett Ave	1	45'	3
RI	West Warwick	P-36	Cowesett Ave	1	55'	
RI	Westerly	3	Fairview Ave	1	40'	3
RI	Westerly	176-26	Misquamicut	1	35'	4
RI	Westerly	176-27	Misquamicut Hills	1	35'	4
RI	Woonsocket	1-32	Cumberland Hill	1	35'	3

Attachment 9

Attachment 9 The Narragansett Electric Company d/b/a National Grid Report on Tropical Storm Irene Preparedness, Damage Assessment and Service Restoration Efforts Page 1 of 2

Transformers Replaced

	Толия	Dele #	Ctroot	0	C :=-
Jurisdiction	Iown	Pole #	Street	Quantity	Size
RI	Barrington	3	Samosett Ave	1	50 KVA
RI	Barrington	10	Lantern Ln	1	25 KVA
RI	Charlestown	5	South Niantic	1	25KVA
RI	Charlestown	66	South County Trail	1	25KVA
RI	Coventry	1	East Shore Dr	1	25 KVA
RI	Coventry	3	Stony Hill Circle	1	25 KVA
RI	Coventry	55	Town Farm Rd	1	25 KVA
RI	Cranston	15	Grand Ave	1	50KVA
RI	Cumberland	3	Abigail	1	25KVA
RI	Cumberland	1-5	Ursa Ln	1	10 KVA
RI	Cumberland	166-38	Mendon Rd	3	100 KVA
RI	East Greenwich	1	Hickory Dr	1	25 KVA
RI	Glocester	28	Reynolds Rd	1	10KVA
RI	Hopkinton	90	Woodville Rd	1	25 KVA
RI	Hopkinton	15-4	40 Maxson Hill Rd	1	25 KVA
RI	Johnston	3	Colony St	1	50 KVA
RI	Johnston	3	Winsor Ln	1	25 KVA
RI	Johnston	4	Winsor Ln	1	25 KVA
RI	Johnston	12	Killian Rd	1	25 KVA
RI	Johnston	21	Roger Williams	1	25 KVA
RI	Lincoln	8	Courmier St	1	50 KVA
RI	Little Compton	419	Sakonaet Point Rd	1	25 KVA
RI	N Kingstown	2	N Quidnessett Rd	1	25 KVA
RI	Newport	41	Rhode Island	1	25 KVA
RI	Portsmouth	5	Lawrence Court	1	25 KVA

Attachment 9 The Narragansett Electric Company d/b/a National Grid Report on Tropical Storm Irene Preparedness, Damage Assessment and Service Restoration Efforts Page 2 of 2

Transformers Replaced

luriadiation	Тошир	Dolo #	Street	Quantity	Size
Jurisdiction	TOWN	Pole #	Street	Quantity	Size
RI	Portsmouth	?	Hunder Ave	1	25 KVA
RI	Providence	1	Seaview Dr	2	50KVA
RI	Providence	6	East Transit St	3	25 KVA
RI	Providence	7	East Transit St	1	50 KVA
RI	Providence	34	Woodward Rd	1	25 KVA
RI	Richmond	26	Shannock Hill Rd	1	15 KVA
RI	Scituate	80	Central Pike	1	50 KVA
RI	Smithfield	44	Mann School Rd	1	50 KVA
RI	Warwick	4	Beachwood Dr	1	25 KVA
RI	Warwick	4	George Arden St	1	25KVA
RI	Warwick	9	Myrtle Ave	1	50 KVA
RI	Warwick	76	Tollgate Rd	1	
RI	Westerly	3	Fairview Ave	1	25KVA
RI	Woonsocket	2	Berard Ave	1	25 KVA
RI	Woonsocket	14	Cass Ave	1	25 KVA
RI	Woonsocket	14-30	Winthrop St	1	167 KVA

Attachment 10

Attachment 10 The Narragansett Electric Company d/b/a National Grid Report on Tropical Storm Irene Preparedness, Damage Assessment and Service Restoration Efforts Page 1 of 4

Jurisdiction	Town	Street	# of Feet
RI	Ashaway	Maxson Hill Rd, pole 1 to 2	200
RI	Barrington	Middle Hwy, Pole 99 to house #450	200
RI	Barrington	Elton St, pole 1 to house 77	125
RI	Bristol	209 Bayview Ave	70
RI	Bristol	Cole St, pole 10 to 11	200
RI	Cranston	Grand Ave, pole 15 to house # 208	50
RI	Cranston	Grand Ave, pole 14 to house # 198,200	120
RI	Cranston	Grand Ave, pole 13 to house # 194	60
RI	Cranston	Gansett Ave, pole 23 to 24	130
RI	Cranston	Cranston St, pole 202 to house #1044	50
RI	Cranston	38 Leslie St, pole 4 to house #38	80
RI	Cranston	31 Caporal Dr, pole 12 to house #31	75
RI	Cranston	Oaklawn Ave, pole 47 to 47-1	150
RI	Cranston	141 Orchard St, pole 12 to house #141	80
RI	Cranston	Eastland Foods, pole 7-5 to bldg	60
RI	Cumberland	Diamond Hill Rd, pole 147 to 148	
RI	East Providence	Upyonda Way, pole 1 to 3	700
RI	East Providence	Arnold St, pole 18 to house #158	80
RI	Glocester	Reynolds Rd, pole 29 to 28 & 1/2	300
RI	Glocester	Reynolds Rd, pole 28 & 1/2 to 28	300
RI	Jamestown	Whittier Rd, pole 8 to #44	60
RI	Jamestown	951 Fort Getty Rd, pole 8-53 to house	70
RI	Johnston	15 Winsor Ave	100
RI	Johnston	33 Flanders from pole ? To ?	70
RI	Johnston	24 Oak Tree	70
RI	Johnston	Brown Ave, pole 105 to house	125

Attachment 10 The Narragansett Electric Company d/b/a National Grid Report on Tropical Storm Irene Preparedness, Damage Assessment and Service Restoration Efforts Page 2 of 4

Jurisdiction	Town	Street	# of Feet
RI	Lincoln	Dean Ave , pole 9642 to 9643	300
RI	Lincoln	Dean Ave? Pole 9635	100
RI	Lincoln	Dean Ave? Pole 9636	20
RI	Lincoln	Indian Run	200
RI	Lincoln	Lakeview Ave, pole 6 to 8	
RI	Lincoln	Old River Rd, pole 123 to 123-1	200
RI	N Kingstown	Northbriar Dr, pole 6 to house #89	
RI	N Kingstown	Arrow Ln, between pole 6 + 7 to house	
RI	N Kingstown	Forge Rd, pole 21 to house	
RI	N Kingstown	Arrow Ln, pole 3 to house	
RI	N Providence	Balston St, pole 4 to house	40
RI	N. Kingstown	Stony Ln	20
RI	Narragansett	Pt Judith Rd	30
RI	Newport	Coggeshell Ave, pole 25 to 25A	
RI	Newport	Coggeshell Ave, pole 24 to 26	
RI	Newport	Ledge Rd, pole 9-30 to 9-50	
RI	Pawtucket	Slater Park Ave, pole 3 to 4	
RI	Pawtucket	Paul St, pole 7 to house	
RI	Providence	Woodward Rd, pole 33 to 34	
RI	Providence	Sisson St, pole 19 to house #191	
RI	Providence	Karen Ct, pole 1 to 2	120
RI	Providence	Admiral St, pole 9093 to 9025 Huxley	900
RI	Providence	East Transit St, pole 8 to house 63,65,67	120
RI	Providence	East Transit St, pole 6 to house 46	80
RI	Providence	Rochambeau Ave, pole 1375 to 377	

Attachment 10 The Narragansett Electric Company d/b/a National Grid Report on Tropical Storm Irene Preparedness, Damage Assessment and Service Restoration Efforts Page 3 of 4

Jurisdiction	Town	Street	# of Feet
RI	Providence	Rome Ave from pole 3 To 5	600
RI	Providence	Rochambeau Ave, pole 14 to 16	900
RI	Providence	Academy, pole to houses	300
RI	Providence	East Dr, pole 2 to 3	
RI	Providence	25 Weymouth St, pole 4 to house 25	125
RI	Providence	Parkside Circle, pole 14 to house	123
RI	Richmond	Sandy Pond Rd, pole 11-9 to 15	1,600
RI	Richmond	Sandy Pond Rd, pole 11-9 to 15	1,600
RI	Smithfield	George Wash Hwy, pole 86 to 87	100
RI	Warwick	Leroy St, pff Warwick Neck Rd	400
RI	Warwick	Cole Farms Rd, pole 3 to ?	
RI	Warwick	Cole Farms Rd, pole 15 to house	
RI	Warwick	George Arden St, pole 4 To pole ?	200
RI	Warwick	George Arden St, pole 4 To pole ?	200
RI	Warwick	Irving, pole 19 to 20	
RI	Warwick	Tollgate Rd	200
RI	Warwick	Craig Rd	100
RI	Warwick	47 Bailey St	100
RI	Warwick	82 Hillard	100
RI	Warwick	103 Thrush Rd	100
RI	Warwick	Ives @ Tahena, pole 2 to house	100
RI	Warwick	Ives Rd, pole 11-2 to 11-4	200
RI	Warwick	Benedict Ave, pole 9 to 2	150
RI	West Warwick	Pontiac Ave, pole 2 to 9	2,400
RI	Westerly	7 Grove Ave, Pole ? To house	100
RI	Westerly	21George St, Pole 12 to house	60

Attachment 10 The Narragansett Electric Company d/b/a National Grid Report on Tropical Storm Irene Preparedness, Damage Assessment and Service Restoration Efforts Page 4 of 4

Jurisdiction	Town	Street	# of Feet
RI	Westerly	55 ? Springs, Pole 2 to house #55	100
RI	Westerly	41 Shore Rd, Pole ? To House #41	70
RI	Westerly	Mary Lou, Pole 73 to pole 1	150
RI	Westerly	46 Langworthy Rd, pole 15-1 to house	200
RI	Westerly	Misquamicut, pole 176-25 to 176-27	250

Attachment 11

Attachment 11 The Narragansett Electric Company d/b/a National Grid Report on Tropical Storm Irene Preparedness, Damage Assessment and Service Restoration Efforts Page 1 of 7

	Date	Time		
	2011 08	29		
Data	600	1200	1800	2400
Number of Company Line Crews		61	57	56
Number of Company Tree Crews		-	-	-
Number of Company Wire Down Personnel		83	116	59
Number of Company Damage Appraiser Personnel		65	65	15
Number of Company Substation/Transmission Personnel		51	51	-
Total Company	-	260	289	130
Number of Contractor Line Crews		80	48	-
Number of Contractor Tree Crews		143	143	-
Number of Contractor Wire Down Personnel		-	15	15
Number of Contractor Damage Appraiser Personnel		-	-	-
Number of Contractor Substation/Transmission Personnel		141	141	-
Total Contractor	-	364	347	15
Number of In-State Mutual Aid Line Crews		-	-	-
Number of In-State Mutual Aid Tree Crews		-	-	-
Number of In-State Mutual Aid Wire Down Personnel		-	-	-
Number of In-State Mutual Aid Damage Appraiser Personnel		-	-	-
In-State Mutual Aid Substation/Transmission Personnel		-	-	-
Total In-State Mutual Aid	-	-	-	-
Number of Out-of-State Mutual Aid Line Crews		-	-	-
Number of Out-of-State Mutual Aid Tree Crews		-	-	-
Number of Out-of-State Mutual Aid Wire Down Personnel		-	-	-
Number of Out-of-State Mutual Aid Damage Appraiser Personnel		-	-	-
Out-of- State Mutual Aid Substation/Transmission Personnel		-	-	-
Total Out-of-State Mutual Aid	-	-	-	-
Total # of Crews and Personnel Working		624	636	145
Sum of Number of Company Support Personnel Used		95	118	54

Attachment 11 The Narragansett Electric Company d/b/a National Grid Report on Tropical Storm Irene Preparedness, Damage Assessment and Service Restoration Efforts Page 2 of 7

	Date	Time		
	2011 08	30		
Data	600	1200	1800	2400
Number of Company Line Crews	65	71	64	19
Number of Company Tree Crews	-	-	-	-
Number of Company Wire Down Personnel	113	157	162	78
Number of Company Damage Appraiser Personnel	114	97	48	25
Number of Company Substation/Transmission Personnel	51	99	99	-
Total Company	343	424	373	122
Number of Contractor Line Crews	83	81	81	-
Number of Contractor Tree Crews	143	160	177	7
Number of Contractor Wire Down Personnel	15	13	26	10
Number of Contractor Damage Appraiser Personnel	-	-	49	-
Number of Contractor Substation/Transmission Personnel	141	219	219	-
Total Contractor	382	473	552	17
Number of In-State Mutual Aid Line Crews	-	-	-	-
Number of In-State Mutual Aid Tree Crews	-	-	-	-
Number of In-State Mutual Aid Wire Down Personnel	-	-	-	-
Number of In-State Mutual Aid Damage Appraiser Personnel	-	-	-	-
In-State Mutual Aid Substation/Transmission Personnel	-	-	-	-
Total In-State Mutual Aid	-	-	-	-
Number of Out-of-State Mutual Aid Line Crews	-	-	-	-
Number of Out-of-State Mutual Aid Tree Crews	-	-	-	-
Number of Out-of-State Mutual Aid Wire Down Personnel	-	-	-	-
Number of Out-of-State Mutual Aid Damage Appraiser Personnel	-	-	-	-
Out-of- State Mutual Aid Substation/Transmission Personnel	-	-	-	-
Total Out-of-State Mutual Aid	-	-	-	-
Total # of Crews and Personnel Working	725	897	925	139
Sum of Number of Company Support Personnel Used	118	124	126	60

Attachment 11 The Narragansett Electric Company d/b/a National Grid Report on Tropical Storm Irene Preparedness, Damage Assessment and Service Restoration Efforts Page 3 of 7

	Date Time				
	2011 08 31				
Data	600	900	1200	1800	2400
Number of Company Line Crews	61	61	62	73	21
Number of Company Tree Crews	-	-	-	-	-
Number of Company Wire Down Personnel	142	145	160	298	160
Number of Company Damage Appraiser Personnel	48	46	47	52	25
Number of Company Substation/Transmission Personnel	99	95	95	95	-
Total Company	350	347	364	518	206
Number of Contractor Line Crews	81	76	149	149	-
Number of Contractor Tree Crews	177	176	176	175	-
Number of Contractor Wire Down Personnel	26	26	34	34	36
Number of Contractor Damage Appraiser Personnel	49	75	75	45	-
Number of Contractor Substation/Transmission Personnel	219	204	204	213	-
Total Contractor	552	557	638	616	36
Number of In-State Mutual Aid Line Crews	-	-	-	-	-
Number of In-State Mutual Aid Tree Crews		-	-	-	-
Number of In-State Mutual Aid Wire Down Personnel		-	-	-	-
Number of In-State Mutual Aid Damage Appraiser Personnel		-	-	-	-
In-State Mutual Aid Substation/Transmission Personnel		-	-	-	-
Total In-State Mutual Aid	-	-	-	-	-
Number of Out-of-State Mutual Aid Line Crews	-	7	7	7	-
Number of Out-of-State Mutual Aid Tree Crews	-	-	-	-	-
Number of Out-of-State Mutual Aid Wire Down Personnel	-	-	-	-	-
Number of Out-of-State Mutual Aid Damage Appraiser Personnel	-	-	-	-	-
Out-of- State Mutual Aid Substation/Transmission Personnel	-	-	-	-	-
Total Out-of-State Mutual Aid	-	7	7	7	-
Total # of Crews and Personnel Working	902	911	1,009	1,141	242
Sum of Number of Company Support Personnel Used	126	129	127	132	60

Attachment 11 The Narragansett Electric Company d/b/a National Grid Report on Tropical Storm Irene Preparedness, Damage Assessment and Service Restoration Efforts Page 4 of 7

	Date Time				
	2011 09 01				
Data	600	900	1200	1800	2400
Number of Company Line Crews	75	77	75	83	21
Number of Company Tree Crews	-	-	-	-	-
Number of Company Wire Down Personnel	217	217	352	352	171
Number of Company Damage Appraiser Personnel	51	52	54	66	25
Number of Company Substation/Transmission Personnel	55	55	55	68	-
Total Company	398	401	536	569	217
Number of Contractor Line Crews	182	200	182	174	-
Number of Contractor Tree Crews	175	182	182	173	-
Number of Contractor Wire Down Personnel	62	62	86	86	36
Number of Contractor Damage Appraiser Personnel	34	34	20	8	-
Number of Contractor Substation/Transmission Personnel	228	38	38	40	-
Total Contractor	681	516	508	481	36
Number of In-State Mutual Aid Line Crews	-	-	-	-	-
Number of In-State Mutual Aid Tree Crews		-	-	-	-
Number of In-State Mutual Aid Wire Down Personnel		-	-	-	-
Number of In-State Mutual Aid Damage Appraiser Personnel		-	-	-	-
In-State Mutual Aid Substation/Transmission Personnel	-	-	-	-	-
Total In-State Mutual Aid	-	-	-	-	-
Number of Out-of-State Mutual Aid Line Crews	18	18	18	18	-
Number of Out-of-State Mutual Aid Tree Crews	-	-	-	-	-
Number of Out-of-State Mutual Aid Wire Down Personnel	-	-	-	-	-
Number of Out-of-State Mutual Aid Damage Appraiser Personnel	-	-	-	-	-
Out-of- State Mutual Aid Substation/Transmission Personnel	-	-	-	-	-
Total Out-of-State Mutual Aid	18	18	18	18	-
Total # of Crews and Personnel Working	1,097	935	1,062	1,068	253
Sum of Number of Company Support Personnel Used	132	132	145	146	60

Attachment 11 The Narragansett Electric Company d/b/a National Grid Report on Tropical Storm Irene Preparedness, Damage Assessment and Service Restoration Efforts Page 5 of 7

Date Time					
	2011 09 02				
Data	600	900	1200	1800	2400
Number of Company Line Crews	88	88	89	79	21
Number of Company Tree Crews	-	-	-	-	-
Number of Company Wire Down Personnel	294	299	299	312	98
Number of Company Damage Appraiser Personnel	66	66	65	65	7
Number of Company Substation/Transmission Personnel	68	68	68	68	-
Total Company	516	521	521	524	126
Number of Contractor Line Crews	174	174	175	175	-
Number of Contractor Tree Crews	173	173	173	173	-
Number of Contractor Wire Down Personnel	86	86	86	86	-
Number of Contractor Damage Appraiser Personnel	8	8	8	8	-
Number of Contractor Substation/Transmission Personnel	40	40	40	40	-
Total Contractor		481	482	482	-
Number of In-State Mutual Aid Line Crews	-	-	-	-	-
Number of In-State Mutual Aid Tree Crews		-	-	-	-
Number of In-State Mutual Aid Wire Down Personnel		-	-	-	-
Number of In-State Mutual Aid Damage Appraiser Personnel	-	-	-	-	-
In-State Mutual Aid Substation/Transmission Personnel	-	-	-	-	-
Total In-State Mutual Aid	-	-	-	-	-
Number of Out-of-State Mutual Aid Line Crews	18	18	18	18	-
Number of Out-of-State Mutual Aid Tree Crews		-	-	-	-
Number of Out-of-State Mutual Aid Wire Down Personnel		-	-	-	-
Number of Out-of-State Mutual Aid Damage Appraiser Personnel	-	-	-	-	-
Out-of- State Mutual Aid Substation/Transmission Personnel	-	-	-	-	-
Total Out-of-State Mutual Aid	18	18	18	18	-
Total # of Crews and Personnel Working	1,015	1,020	1,021	1,024	126
Sum of Number of Company Support Personnel Used	146	150	150	150	60

Attachment 11 The Narragansett Electric Company d/b/a National Grid Report on Tropical Storm Irene Preparedness, Damage Assessment and Service Restoration Efforts Page 6 of 7

Date Time					
	2011 09 03				
Data	600	900	1200	1800	2400
Number of Company Line Crews	81	81	92	92	21
Number of Company Tree Crews	-	-	-	-	-
Number of Company Wire Down Personnel	155	111	111	111	-
Number of Company Damage Appraiser Personnel	50	50	53	53	7
Number of Company Substation/Transmission Personnel	68	68	68	68	-
Total Company	354	310	324	324	28
Number of Contractor Line Crews	230	186	201	152	-
Number of Contractor Tree Crews	173	81	81	69	-
Number of Contractor Wire Down Personnel	24	24	24	24	-
Number of Contractor Damage Appraiser Personnel	-	-	-	-	-
Number of Contractor Substation/Transmission Personnel	40	-	-	-	-
Total Contractor		291	306	245	-
Number of In-State Mutual Aid Line Crews	-	-	-	-	-
Number of In-State Mutual Aid Tree Crews		-	-	-	-
Number of In-State Mutual Aid Wire Down Personnel		-	-	-	-
Number of In-State Mutual Aid Damage Appraiser Personnel		-	-	-	-
In-State Mutual Aid Substation/Transmission Personnel		-	-	-	-
Total In-State Mutual Aid	-	-	-	-	-
Number of Out-of-State Mutual Aid Line Crews	18	62	95	95	-
Number of Out-of-State Mutual Aid Tree Crews		-	-	-	-
Number of Out-of-State Mutual Aid Wire Down Personnel		-	-	-	-
Number of Out-of-State Mutual Aid Damage Appraiser Personnel	-	-	-	-	-
Out-of- State Mutual Aid Substation/Transmission Personnel	-	-	-	-	-
Total Out-of-State Mutual Aid	18	62	95	95	-
Total # of Crews and Personnel Working	839	663	725	664	28
Sum of Number of Company Support Personnel Used	138	137	122	121	41

Attachment 11 The Narragansett Electric Company d/b/a National Grid Report on Tropical Storm Irene Preparedness, Damage Assessment and Service Restoration Efforts Page 7 of 7

	Date	Time			
	2011 09	04			
Data	600	900	1200	1800	2400
Number of Company Line Crews	92	90	98	18	18
Number of Company Tree Crews	-	-	-	-	-
Number of Company Wire Down Personnel	50	-	-	-	-
Number of Company Damage Appraiser Personnel	53	-	-	-	-
Number of Company Substation/Transmission Personnel	-	-	-	-	-
Total Company	195	90	98	18	18
Number of Contractor Line Crews	152	242	242	20	-
Number of Contractor Tree Crews	69	37	37	-	-
Number of Contractor Wire Down Personnel	-	-	-	-	-
Number of Contractor Damage Appraiser Personnel	-	-	-	-	-
Number of Contractor Substation/Transmission Personnel	-	-	-	-	-
Total Contractor	221	279	279	20	-
Number of In-State Mutual Aid Line Crews	-	-	-	-	-
Number of In-State Mutual Aid Tree Crews	-	-	-	-	-
Number of In-State Mutual Aid Wire Down Personnel		-	-	-	-
Number of In-State Mutual Aid Damage Appraiser Personnel		-	-	-	-
In-State Mutual Aid Substation/Transmission Personnel	-	-	-	-	-
Total In-State Mutual Aid	-	-	-	-	-
Number of Out-of-State Mutual Aid Line Crews	95	95	95	-	-
Number of Out-of-State Mutual Aid Tree Crews	-	-	-	-	-
Number of Out-of-State Mutual Aid Wire Down Personnel	-	-	-	-	-
Number of Out-of-State Mutual Aid Damage Appraiser Personnel	-	-	-	-	-
Out-of- State Mutual Aid Substation/Transmission Personnel	-	-	-	-	-
Total Out-of-State Mutual Aid	95	95	95	-	-
Total # of Crews and Personnel Working	511	464	472	38	18
Sum of Number of Company Support Personnel Used	69	61	53	10	4

Attachment 12

Attachment 12 The Narragansett Electric Company d/b/a National Grid Report on Tropical Storm Irene Preparedness, Damage Assessment and Service Restoration Efforts Page 1 of 20





Daily Storm Briefing

Safety, Health and Environmental I Hurricane Irene I National Grid SHE

August 28, 2011

Safety Incidents

Date	Location	Incident Description
		None to Report

High Wind Guidelines for your Safety

A great deal of judgment is required when assessing when it is too windy to continue working in an elevated bucket. Bucket truck manufacturers provide an operator's manual with each vehicle. It states that it is the operator's responsibility to ensure a safe working environment. Remember, depending on the height of the unit and whether it is equipped with outriggers both affect working conditions.

A proper risk assessment must be conducted to determine the hazards and the controls to be used. Keep in mind that rain, wind, loose gravel, soft ground, and slope, etc., change the operating capabilities of your bucket truck.

Wind conditions must be monitored and communicated between the crew members in order to understand and control the risks.

Some of the issues to consider when faced with windy weather conditions are:

Wind speed Guide not to exceed. **Note:** Wind speed generally increases with height. <u>Winds exceeding 40 miles per hour, or 30 miles per hour if material handling is involved, are considered "High", and all aerial work is prohibited.</u>

Winds are considered to be "high" if they are of such velocity that*:

- Employees would be exposed to being blown from elevated locations
- That an employee or material handling equipment could lose control of material being handled.
- That the winds would expose employees to other hazards such as winds strong enough to move energized conductors far enough to violate the minimum approach distance.

* OSHA compliance guideline

Attachment 12 The Narragansett Electric Company d/b/a National Grid Report on Tropical Storm Irene Preparedness, Damage Assessment and Service Restoration Efforts Page 2 of 20





• Operating a bucket between structures

Operating a bucket between buildings or other equipment under windy conditions can be hazardous due to the "wind tunnel" effect. As air blows around obstructions, there can be local areas of increased velocity that may exceed the safe lifting limit even though the general wind speed is not a problem.

Vehicle Positioning

In addition to the wind forces on the elevated bucket, the vehicle itself will experience forces which can contribute to instability. When possible, position the work vehicle to reduce the side forces from the wind.

Wind driven debris

Air borne debris can be a significant hazard while working in the elevated position in windy conditions. Assess the surrounding area, especially trees or structures, for damaged or loose material that may become a hazard when airborne.

Overhead hazards

The wind can cause tree damage at anytime, so assess the work area before proceeding to the task for hazards that could fall on you. This could be hanging tree limbs or full trees in poor condition, which could break while you are in a working position. Chin straps should be used on hard hats to prevent them from being blown from your head and exposing others on the ground to a falling object.

Downed Wires

Wire down situations can be one of the most dangerous situations to the general public, to emergency and rescue personnel, as well as our employees and contractors. Although in many cases, downed wires are found to be telephone or cable TV wires, we should not take this for granted.

In your storm assignment, you will often be the first one to arrive to the location of a trouble call; BEFORE PROCEEDING INTO AN AREA, STOP AND VISUALLY SURVEY THE AREA FOR HAZARDS – ROUGH TERRAIN, WIRES UNDER TREES, ETC. – determine what you are dealing with – primary, secondary, CATV, telephone, etc. **Don't be in a rush.**

Metal and trees can conduct electricity if in contact with wires. Fences if contacted with a downed wire can be energized. Cars with conductors on them should not be touched for the same reason.

Equipment failures can result in unpredictable situations. If the equipment contains oil, it can leak or spray hot oil; if pole attachment devices are broken, equipment may fall. Unexpected arcing of equipment can also result in fire.

Broken or downed poles can result in unsecured conductors as well as other falling materials such as street/flood lights. Stay clear until area has been visually surveyed.

Many times generators are improperly hooked up. This can cause back feed of electricity into downed conductors. Tip: If there's no power in the area and a loud engine or small motor sound is heard, use caution.

No matter what assignment you have, under no circumstance do you go within 10 feet of any piece of equipment or conductor unless you have been trained to do so.

Attachment 12 The Narragansett Electric Company d/b/a National Grid Report on Tropical Storm Irene Preparedness, Damage Assessment and Service Restoration Efforts Page 3 of 20





Environmental Considerations

Please remember the following important environmental considerations during storm restoration activities.

- All transformer oil spills must be reported to your National Grid contact or local storm rooms. Please provide the location (pole #, street address), a description of the areas affected by the spill, and whether or not a blue "non-PCB" label is on the transformer. Apply oil pads/speedy dry, if available.
- Please **mark all transformers returned from the field** with the former location of the transformer. Mark each unit on the top with a sharpie or use yellow transformer take-down tags. Return transformers only to designated locations.
- Prior to working on Transmission ROWs or other off-road locations, find out if any sensitive environmental receptors, such as **wetlands or endangered species habitats**, are present. In these areas, best management practices (BMPs) will need to be employed.

At National Grid, we report all incidents and near misses. If there is an injury, you must call the Injury Hotline at 1-866-322-5594

and notify the local safety representative for your area.

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Daily Storm Briefing

Safety, Health and Environmental I Hurricane Irene I National Grid SHE

August 29, 2011

All incidents, injuries, near misses and road traffic collisions need to be reported to National Grid supervision and your Regional Safety and Health Officer.

All injuries must be called into the Injury Hotline, Option 1

1-866-322-5594

Safe Driving in Flood Conditions

Posted speed limits may not necessarily be the correct speed for the conditions

Storm crews and restoration personnel are reminded to use extra caution when driving in flood conditions due to unexpected hazards.

Safe Driving in Flood Conditions

- Before and as you travel, obtain a road map of the local area to note closed roads and alternate routes.
- · Follow recommended routes provided by storm guides or civil authorities.
- **DO NOT** attempt to drive over a flooded road. There could be floating manhole covers and unseen hazards. Turn around and use an alternate route.
- Night time driving: <u>Workers unfamiliar with their surroundings must be aware of potential hazards under</u> standing water. Any doubt, do not proceed.
- Obey all ROAD CLOSED or BRIDGE CLOSED signs.
- Watch for washed-out roads, earth-slides, broken water or sewer mains, loose or downed electrical wires, and falling or fallen objects.
- **NEVER** underestimate the destructive power of fast-moving water. Two feet of fast moving flood water will float a sedan. Water moving at only two miles per hour can sweep cars off a road or bridge.
- If you are in your car and water begins to rise rapidly around you, abandon the vehicle immediately.
- Make three points of contact when exiting vehicles. Hand-holds and side-boards will be wet and slippery. Avoid stepping off into standing water as it may be hiding deep holes.
- Have high visibility raingear and/or a safety vest in the vehicle in case of a break-down.
- First responders must have a heightened awareness of their surroundings as well and be fully aware of the potential for flash flooding.
- Remember, the ground is saturated with water. Positioning trucks is critical. Outrigger pads are required.

Attachment 12 The Narragansett Electric Company d/b/a National Grid Report on Tropical Storm Irene Preparedness, Damage Assessment and Service Restoration Efforts Page 5 of 20





Keep in mind that once the storm passes through, there will be many members of the public wandering around outside, surveying the damage. Because there will be public safety dangers such as downed wires and overhead hazards, do your best to keep them away from work areas.

Comprehensive Job Briefs are Critical

Communication within your crew and with other crews is critical. Comprehensive job briefs must be performed at the beginning of each job and when conditions change. When in doubt, ask questions!

Crews should discuss their exact physical location in case of an emergency. Everyone in the crew must know the street address (and the nearest cross streets if applicable) in case there is an incident that requires emergency response.

As part of your job brief and **work zone traffic control** planning, evaluate your surroundings for the uncommon or unseen hazards and risks. For your safety, the public may need extra visible devices; don't be afraid to extend your work zone. Remember to plan an escape for errant vehicles entering the work zone and use your vehicle as a barrier.

Attachment 12 The Narragansett Electric Company d/b/a National Grid Report on Tropical Storm Irene Preparedness, Damage Assessment and Service Restoration Efforts Page 6 of 20

Daily STORM Briefing

nationalgrid

Safety, Health and Environmental I Hurricane Irene I National Grid SHE

August 30, 2011

The following is a message from Kathy Lyford, VP, SHE:

Nothing is more important than your personal safety. As restoration efforts shift into high gear, crews must remember that good communication is essential to everyone's safety. When performing restoration activities such as line surveying and re-energizing, crews must maintain good communication to be sure that everyone is safely away before lines are re-energized.

Energizing Lines – When main lines need to be energized, once all repairs have been made, side taps should be patrolled or opened for patrolling at a later time.

Chain Saw Safety – Crews are reminded to wear all PPE when operating chain saws, including chaps. Never attempt to fuel a running or hot saw and be sure to use the saw's safety equipment such as the chain brake, chain guards and kickback devices. Always ensure that bystanders and co-workers are maintaining a safe distance from where tree felling and limb removal are taking place.

Grounding – All lines and equipment, regardless of voltage, will be considered energized unless such lines and equipment have been de-energized (isolated), tested for absence of normal voltage with an approved voltage tester, and grounded with approved grounding devices. Minimum approach distances must be maintained during the testing and PPE, including flame retardant clothing and class 2 rubber gloves (and sleeves where required) must be worn when testing, installing or removing personal protective grounds. Remember, the grounds on the primary circuit do not eliminate a voltage potential from a back-feed source (generator) on the secondary side of a transformer.

Tagging – No device shall be operated if it bears a Red Tag, Personal Red Tag, Hold Tag, Customer Tag, Non-Reclose Assurance Tag, or Station Control Tag. All switch points isolating the work area must be tagged and the tag shall be clearly visible, securely attached, and completely filled in with all the information called for on the tag.

All incidents, injuries, near misses and road traffic collisions need to be reported to National Grid supervision and your Regional Safety and Health Officer.

All injuries must be called into the Injury Hotline, Option 1: 1-866-322-5594

Health Staffing at 7 a.m. Tuesday Morning in the Following Locations

Malden – Jenn Patrie Worcester – Kathy Long Providence – Diane Smith Northboro – Rob Young

Please call Northboro Medical if you have any questions: 508-421-7940

Attachment 12 The Narragansett Electric Company d/b/a National Grid Report on Tropical Storm Irene Preparedness, Damage Assessment and Service Restoration Efforts Page 7 of 20

Hurricane Irene - August 29th SHE Incidents					
Incident Type	Incident Description				
Injury	Employee felt pop in back while exiting vehicle				
Injury	Branch hit employee in face, knocked off glasses and injured eye				
Injury	Piece of wire punctured employee's hand				
Injury	Employee working on ladder on tower when arm gave way and caused an approximate 5ft fall				
Near miss	Conductors in ROW became energized with workers nearby				
Public	NG vehicle struck pedestrian				
Fatality	Public contact fatality				
Environmental	70 spills to date				

Attachment 12 The Narragansett Electric Company d/b/a National Grid Report on Tropical Storm Irene Preparedness, Damage Assessment and Service Restoration Efforts Page 8 of 20

nationalgrid

Daily STORM Briefing

Safety, Health and Environmental I Hurricane Irene I National Grid SHE

August 31, 2011

The following is a message from Chad Martin, Director, Safety:

Overall restoration efforts are progressing well, but not without some challenges. Our current focus is to complete main line energization. In doing so, we must remain aware of energized conductors coming into contact with damaged or fallen conductors. Remember, treat any conductor as energized until it has been tested 'de-energized' and grounded. Stay focused on the task at hand, comply with the basic safety rules, ensure your job briefs are thorough and confirm that all crew members understand what is necessary to complete the job safely. **Keep up the good work**.

Voltage Backfeed – is the energizing of any wire or cable after we have disconnected the usual voltage source from it. Common sources of backfeed voltage are: induction, direct backfeed from transformer coils, capacitors, network protectors, fault conditions, switching errors and customer generators.

When any one or a combination of the above conditions exist, *wires and cables you think you de-energized will, in fact, become or remain energized.* The voltage they have on them is unpredictable and will vary to voltages well above primary voltage! In addition, these voltages are measurable by the various voltage measuring tools we have, and will be detected if you take a reading.

Remember, the grounds on the primary circuit do not eliminate a voltage potential from a back-feed source (generator) on the secondary side of a transformer.

Motor Vehicle Safety

- High-vis vests should be worn at all times.
- Traffic Lights Out? All Drivers Must Stop state laws require that if the traffic lights or controls are out of
 service or malfunctioning when you approach an intersection, you <u>MUST</u> come to a complete stop as you
 would for a stop sign. You must then proceed according to the rules of right of way, unless you are directed
 to proceed by a traffic officer.
- Always wear your seatbelt.

Health Reminders During Flood Response Activities

First responders should always **exercise common sense and good personal hygiene**. Hand washing with soap and clean running water and/or using alcohol-based hand gels before meal breaks and at the end of shifts is a must! If you're working in or near flooded areas, protect yourself by utilizing the proper PPE: protective eye goggles/glasses and plastic or rubber gloves. Do not place anything that has come into contact with contaminated floodwater into personal vehicles.

Are vaccinations for Hepatitis A or B necessary for personnel exposed to flood waters?

No. In published reports from the Centers for Disease Control (CDC) of surveys conducted among U.S. wastewater workers and appropriate comparison populations, no substantial or consistent increase in the prevalence of work-related outbreaks of Hepatitis A have been reported among workers exposed to sewage, and the concentration of these infectious agents in floodwaters would be significantly less than at wastewater treatment plants.

Attachment 12 The Narragansett Electric Company d/b/a National Grid Report on Tropical Storm Irene Preparedness, Damage Assessment and Service Restoration Efforts Page 9 of 20

Health Staffing at 7 a.m. Wednesday morning in the following locations:

North Andover – Jenn Patrie Providence – Diane Smith Riverhead – Tiney Ray Hicksville – Nora Fernando Albany – Julie MacDougal Worcester – Kathy Long Northboro – Rob Young Brentwood – Tulie Gay Glens Falls – Shannon Ciecko

If you have questions, please call Northboro Medical (508-421-7940), Hicksville Medical (516-545-3170), Albany Medical (518-433-3739) or Glens Falls Medical (518-761-5992).

Hurricane Irene – August 30 th SHE Incidents				
Incident Type	Incident Description			
Injury	Employee strained lower back during lifting activity			
Injury	Employee slipped on wet landing on the stairs and fell backwards hurting lower back			
Public	Contractor struck by car, no first aid needed, worker continued job			
Near miss	An unoccupied bucket truck was parked on the side of the road and a member of the public rear- ended the truck. No injuries.			
Environmental*	127 spills to date			

*Crews are encouraged not to leave transformers in the field at the side of the road. They can become theft and/or vandalism targets, resulting in more oil releases. Contact your environmental engineer as soon as possible when identifying a potential spill.

All incidents, injuries, near misses and road traffic collisions need to be reported to National Grid supervision and your Regional Safety and Health Officer.

All injuries must be called into the Injury Hotline, Option 1: 1-866-322-5594
Attachment 12 The Narragansett Electric Company d/b/a National Grid Report on Tropical Storm Irene Preparedness, Damage Assessment and Service Restoration Efforts Page 10 of 20

Daily STORM Briefing

nationalgrid

Safety, Health and Environmental I Hurricane Irene I National Grid SHE

September 1, 2011

The following is a message from Ellen Smith, Chief Operations Officer:

We appreciate your help and patience in this critical restoration effort. Your safety is our foremost concern. It is however, **imperative that everyone works together as a team** and uses established safe work practices to protect each other against inadvertent energization of equipment and other suspected risks/hazards. I encourage you to <u>immediately</u> report any significant and high potential incidents as well as near misses to your respective National Grid supervisor. Should you have any concerns about your safety, stop the job and seek guidance from supervision.

From the National Grid leadership team and our customers - thank you for working safely.

Switching and tagging – Several unplanned and not properly communicated energizations of lines with people on or near the line have occurred. Proper adherence to established switching/tagging/grounding rules and use of PPE are imperative to ensure the safety of all workers. Information coming from the field to the control center must be complete and accurate. Communication among the mix of crews (National Grid, Alliance Contractors, Mutual Aid Crews, Forestry, etc.) is critical for everyone's safety.

Worker fatigue – In light of the recent tropical storm and continuing restoration efforts, it is extremely important that our workers get proper rest and nutrition in order to stay alert and stay safe. Getting less than six hours a night can affect coordination, reaction time, and judgment as well as cause increased stress, anxiety and unnecessary risk-taking. Remember to take breaks when needed and stay hydrated. Proper rest is critical during these challenging times.

Behavioral observations – We owe it to each other to ensure safety always. Keep an eye on your colleagues to ensure no fatigue brought on by stress or drowsiness occurs throughout the work day. In order for you to get rid of the day's stress and be able to get a good night's sleep.

Attention NEW ENGLAND ONLY: All National Grid Supervision and FCCs

All significant and high potential incidents such as: flashes, dropped loads, switching and tagging incidents and noteworthy RTCs <u>MUST BE</u> communicated immediately to your area Safety Coordinator:

Michael Knott – Brockton and Hopedale: 978-490-0955 Tim Woycik – Providence and North Kingstown: 781-296-0945 Bo Maryyanek – Western, Northern, and Central NE: 508-922-3157

Attachment 12 The Narragansett Electric Company d/b/a National Grid Report on Tropical Storm Irene Preparedness, Damage Assessment and Service Restoration Efforts Page 11 of 20

Health Staffing at 7 a.m. Thursday morning in the following locations:

Malden – Jenn Patrie Providence – Diane Smith Riverhead – Tiney Ray Hicksville – Nora Fernando Albany – Shannon Ciecko Brockton – Kathy Long Northboro – Rob Young Brentwood – Tulie Gay Glens Falls –Julie MacDougal

If you have questions, please call Northboro Medical (508-421-7940), Hicksville Medical (516-545-3170), Albany Medical (518-433-3739) or Glens Falls Medical (518-761-5992).

Hurricane Irene – August 31 st SHE Incidents		
Incident Type	Incident Description	
Injury	Employee was shoveling heavy material and felt a strain in lower back.	
Injury	A drill hose became entangled on part of a vehicle causing the drill to dislodge and strike employee on the side of the head, shoulder and arm. Employee cut left index finger with an aluminum	
Injury	cover while preparing food for the Riverhead Yard.	
Injury	Employee was pulling into company lot and was rear ended by member of the public. Employee has a lumbar back strain.	
Injury	Employee was removing tape with a knife and it slipped and cut left index finger. Employee was treated with sutures.	
Illness	Employee reported severe headache/migraine.	
Near miss	Employee was driving a company vehicle when the hood opened suddenly and smashed the windshield. The employee was able to pull the vehicle over safely.	
Environmental	186 spills to date	

Injuries to Date
14 minor
1 serious (transmission tower arm collapse)

All incidents, injuries, near misses and road traffic collisions need to be reported to National Grid supervision and your Regional Safety and Health Officer.

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Daily STORM Briefing

nationalgrid

Safety, Health and Environmental I Hurricane Irene I National Grid SHE

September 2, 2011

The following is a message from John Weagraff, SHE Director, US Operations:

Remember, restoration efforts continue to move forward with the same risks and hazards as there were on day 1. Please, do not lose sight of the task at hand, because now is when communication, teamwork and workmanship may be compromised by fatigue. I want nothing more than for you to return home to your family and loved ones safe and healthy. Remember, thorough job briefs and clear communication remains a key element to achieving this objective.

Thank you all for your hard work and professionalism.

Safe Driving – A reminder to be extra vigilant while driving in foggy conditions, especially in areas where flood waters have started receding. Remember to slow down, and turn on your headlights, but not your high beams. Additionally, the holiday weekend is approaching and there will be more cars on the road; it is imperative to drive defensively.

Attention Upstate NY Crews Heading to Long Island: Everyone should know their vehicle heights; the overpasses/bridges in this region can be lower than expected. Remember, it's a new territory.

Dig Safe – Knowing where underground utility lines and facilities are buried before each digging project begins helps to prevent injury, expenses and penalties. Excavators are responsible for knowing the meaning of all markings, including those related to size and depth, color coding, center line or offset staking or marking and all other acceptable methods used to indicate the locations of underground facilities. After facilities are located and marked, respect and stay out of tolerance zones with mechanical equipment. **Call 811 before you dig**.

Pole Inspection – With the majority of the easy access poles completed, the next few days will require many poles or towers that will need to be climbed. ALL poles or structures must be checked for rot prior to climbing. If questionable, the pole must be secured with ropes or pikes in order to prevent a structure failure.

Stay Hydrated – It is very important for our crews who are working such extensive hours to stay hydrated. Although it may not be hot out, staying hydrated is important because it keeps you feeling good and allows you to remain focused on the job. Before starting work, drink about 16 ounces of water and then drink 5 to 7 ounces of fluids approximately every 20 minutes thereafter. Common signs of dehydration when working hard are dry mouth, fatigue, thirst, headache and dizziness.

Animal Safety – Animals will often seek refuge from floodwaters on higher ground and have been known to remain after water recedes. Watch out for all types of animals – wild and domesticated, including snakes. Use a stick to poke through debris. Do not corner animals or try to rescue them – call the local animal control office or wildlife resource office. Do not attempt to move an animal carcass as doing so can present serious health risks. Contact the local health department for assistance. If bitten by any animal, seek immediate medical attention.

Safety, Health and Environmental I Hurricane Irene I National Grid SHE

Attachment 12 The Narragansett Electric Company d/b/a National Grid Report on Tropical Storm Irene Preparedness, Damage Assessment and Service Restoration Efforts Page 13 of 20

Health Staffing at 7 a.m. Friday morning in the following locations:

Malden – Jenn Patrie Providence – Diane Smith Riverhead – Tiney Ray Hicksville – Nora Fernando Albany – Shannon Ciecko Brockton – Kathy Long Northboro – Rob Young Brentwood – Tulie Gay Glens Falls – Julie MacDougal

If you have questions, please call Northboro Medical (508-421-7940), Hicksville Medical (516-545-3170), Albany Medical (518-433-3739) or Glens Falls Medical (518-761-5992).

Hurricane Irene – September 1 st SHE Incidents		
Incident Type Incident Description		
Injury	Employee alleges while taking off seatbelt, right thumb was dislocated	
Injury	Employee slipped off of a 4ft wall while performing a pole inspection and injured left ankle.	
Reported	Employee was clearing brush on Tues and stumbled. Experienced back pain late last night. Seen by medical today, no treatment necessary.	
Environmental	247 spills to date	



All incidents, injuries, near misses and road traffic collisions need to be reported to National Grid supervision and your Regional Safety and Health Officer.

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nationalgrid

Daily STORM Briefing

Safety, Health and Environmental I Hurricane Irene I National Grid SHE

September 3, 2011

The following is a message from John Weagraff, SHE Director, US Operations:

We are making great progress in our restoration efforts; however we have not yet crossed a goal line. I encourage you to continue your excellent focus on protecting each other and the members of the public. Your relentless work ethic is noteworthy and appreciated. I urge you to continue making the right safety decisions each day.

Wood Pole Disposal – Do not place broken electric poles in trash dumpsters. They are a regulated waste and need to be disposed of properly. Broken poles should be placed in a designated location at the staging area or the electric service center nearby.

Ladder Safety – Remember to always use the right ladder for the job. Thoroughly inspect ladders before use. Look it over carefully to make sure there are no obvious defects. Tag and identify defective ladders. Do not stand or sit on the top step of a step ladder. Only fiberglass or non-conductive ladders shall be used near energized lines or equipment. Maintain a 4 to 1 pitch so the ladder base is one foot away from the base for every four feet the ladder rises and do not overextend yourself beyond the sides of the ladder.

Reminders About Service Entrance Meters

- Always wear appropriate PPE, which as a minimum includes approved safety glasses, FR clothing, EH footwear, hard hat, and gloves.
- When approaching a meter, if the service drop and/or the meter socket are pulled off the house, assume they are live and don't touch them!
- Watch for situations where unauthorized removal of the meter may have occurred and a backup generator has been connected into the meter socket – assume it's live!
- Remember, open wire secondary differs from location to location and the neutral position can change from one neighborhood to the next. Be sure to follow out the neutral to a location you can be sure it is not a hot leg to avoid customer damage or injury upon energization.
- If in the repairs the wires all appear the same or are not properly marked, ask for assistance and trace it out.
- Remember the neutral is the first on and the last off for your protection as well as the protection of the
 equipment and home owner.
- Test it before you touch it. Many folks have purchased generators and you may not always hear them. They might even be plugged into a neighbor who has electricity and you would never know unless tested before touching.

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Bed Bug Prevention - Bed bugs have become a widespread pest issue throughout the United States. A report of bed bugs at one hotel being used to house foreign crews has been received. We are in the process of obtaining new lodging arrangements.

- Do not bring your luggage into the room until after you inspect it. Turn back the comforter, sheets and mattress pad. Look for bed bug fecal spots, which look like little black specks of debris, and check for tiny blood spots.
- If your room is infected, report it immediately to the hotel front desk and request another room. Notify your crew guide as well.
- If no other rooms are available, contact foreign crew processing at 516-625-7826 or 7823.

The following extra precautions should be taken by all travelers:

- Don't place your suitcase on the bed or floor. Store it on the luggage rack.
- Keep your belongings in your suitcase.

Once at home, everyone should follow the below precautions:

- Leave your luggage in the garage or outside. Do NOT take it in the house!
- Remove the things in your suitcase and inspect them for bed bugs.
- If you suspect bed bugs, store clothes in the garage or outside until they can be washed and dried in a hot dryer for 20 minutes. Dry clean the things that cannot be dried at a high temperature.

Health Staffing for Saturday morning in the following locations:

Debra Martin	Riverhead	Debra Mackin	Hicksville
	6 am – 10 pm		8:30 am – 6 pm
Tulie Gay (NP)	BayShore High School 5 am – 8 am 155 Third Ave, Bay Shore - Gymnasium	Nora Fernando (NP)	Nassau Coliseum 8 pm – midnight 1255 Hempstead Tpke, Uniondale
	Suffolk College 8 pm – midnight Crooked Hill Rd, Brentwood - Athletic Center - Rm B118		
Diane Smith (NP)	Providence		

If you have questions, please call Northboro Medical (508-421-7940), Hicksville Medical (516-545-3170).

Region	Incident Type	Occurrences
NE	Injury	14
	Near Miss	12
	RTC	2
	Environmental Spills	108 to date
Upstate	Injury	4
	Near Miss	5
	RTC	1
	Environmental Spills	59 to date
Downstate	Injury	3
	Near Miss	1
	RTC	8
	Environmental Spills	116 to date

All incidents, injuries, near misses and road traffic collisions need to be reported to National Grid supervision and your Regional Safety and Health Officer.

All injuries must be called into the Injury Hotline, Option 1: 1-866-322-5594

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nationalgrid

Daily STORM Briefing

Safety, Health and Environmental I Hurricane Irene I National Grid SHE

September 4, 2011

Region	Incident Type	Occurrences
NE	Injury	14
	Near Miss	13
	RTC	2
	Environmental	129 potential spills to date
Upstate	Injury	4
	Near Miss	5
	RTC	1
	Environmental	61 spills to date
Downstate	Injury	3
	Near Miss	1
	RTC	8
	Environmental	136 potential spills to date

Driver Safety – As restoration efforts continue to progress, and because of the Labor Day holiday, there will be even more vehicles on the road. Drivers need to be aware of additional road congestion, especially in areas where there is single lane traffic. Furthermore, the added road congestion can cause driver frustration and lead to impatient drivers. Drivers need to also be aware of additional vehicle congestion in our own yards and substations while getting materials and new job assignments.

Additionally, with the threat of possible thunderstorms this weekend, crews are reminded to be extra vigilant if caught up in one – slow down, make sure your headlights are on, and if necessary, park your vehicle until the storm blows over enough for you to continue on safely.

Driver fatigue continues to be of great concern. We want everyone to return home safely, so please be sure to get enough rest, stay hydrated and take breaks when necessary. **Remember to keep an eye on your co-workers for signs of fatigue.**

General Load Securement Requirements – A commercial motor vehicle is not to be driven unless the load is properly distributed and adequately secured, and does not obscure the driver's view. Cargo must be firmly secured using vehicle structures, dunnage, shoring bars, tie-downs, or a combination of these. Cargo that is likely to roll must be restrained by chocks, wedges, a cradle, or their equivalent. **Tie-downs** include: chain, ropes, webbing, steel straps, binders, buckles, and other devices and should be clearly marked with their working load limits. Tie-downs must be in good working condition and free from defects that would reduce their working load limit. Tie-downs and securing devices must not contain knots (ropes would be an exception). If necessary, tie-downs must be removed from service if they are not free from defects.

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Tick Bite Prevention – During restoration efforts, employees will be in many different environments and one thing everyone should be prepared for is ticks. Expose as little skin as possible. Wear light-colored clothing, long sleeves and pants, and tuck shirts into pants and pant legs into boots or socks. Spray your clothes and shoes with insect repellant; consider repellant creams for exposed skin. Note: sprays containing DEET should not be used on FR clothing as DEET can degrade the FR properties. Conduct a full body inspection for ticks at least once a day.

If you are bit – Remove attached ticks immediately (use fine tipped tweezers to grab the tick as close as you can to the skin, pull up slow and steady – do not twist the tick to remove). If parts of the mouth are still attached, attempt to remove it, but if the tick is not easily removable leave it alone and seek medical attention. Do not dig to remove them; this can lead to tissue damage and secondary skin infection – it will NOT decrease transmission of tick born illness. Clean area of tick bite with soap and water, iodine or alcohol. DO NOT apply nail polish, petroleum jelly, a hot match or alcohol to kill or remove the tick.

Generator Backfeed – Be on the look-out for generator use; there are numerous generators in use throughout the region. Remember that they may cycle on and off. Take proper precautions including testing de-energized and grounding to protect from backfeed.



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Health Staffing for Sunday morning in the following locations:

Debra Martin	Riverhead 6 am – 10 pm	Debra Mackin	Hicksville 6 am – 6 pm
Tulie Gay (NP)	Nassau Coliseum 5 am – 8 am Suffolk College 8 pm – midnight	Nora Fernando (NP)	Suffolk College 5 am – 8 am Nassau Coliseum 8 pm – midnight

If you have questions, please call Northboro Medical (508-421-7940), Hicksville Medical (516-545-3170).

All incidents, injuries, near misses and road traffic collisions need to be reported to National Grid supervision and your Regional Safety and Health Officer.

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Daily STORM Briefing

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Safety, Health and Environmental I Hurricane Irene I National Grid SHE

September 5, 2011

Region	Incident Type	Occurrences
NE	Injury	14
	Near Miss	13
	RTC	2
	Environmental	109 potential spills to date
Upstate	Injury	4
	Near Miss	5
	RTC	1
	Environmental	61 spills to date
Downstate	Injury	3
	Near Miss	1
	RTC	9
	Environmental	150 potential spills to date

Be aware of your surroundings – as restoration efforts wrap up, there is still temporary work in progress. Crews need to be aware of uprooted trees and debris in work areas. Additionally, there is the potential for increased blind spots from debris, trees, vehicles and other clean-up materials staged by businesses and homeowners on streets. Remember to wear all of your PPE when removing any kind of debris; you never know what you're going to uncover.

Stay hydrated – Don't forget how important it is to stay hydrated. When focus is primarily on getting the power back on, it's easy to forget to take care of yourself. The best thing you can do is drink about 16 ounces of water before starting work and then 5 – 7 ounces of water approximately every 20 minutes thereafter. Water is your best option; sports/energy drinks sometimes contain high amounts of sugar which can cause you to lose more fluids. Don't wait until you are thirsty to drink, and take breaks in a shady area if possible. Common signs of dehydration when working hard are dry mouth, fatigue, thirst, headache and dizziness.

Medical Coverage – Starting Monday morning, the Nurse Practitioners in Long Island will be floating and available to respond if needed. Due to the Labor Day holiday, many walk-in clinics will be closed, so below is a list of hospitals in Nassau and Suffolk counties.

Tulie Gay, NP	516-491-8525
Nora Fernando, NP	646-300-3990

Denise Griffing, Health Mgr. 516-238-4465

All incidents, injuries, near misses and road traffic collisions need to be reported to National Grid supervision and your Regional Safety and Health Officer.

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Nassau County NY Hospitals

Franklin Hospital Medical Center 900 Franklin Ave., Valley Stream, NY 11580 516-256-6000

Long Beach Medical Center 455 East Bay Drive, Long Beach, NY 11561 516-897-1000

Long Island Jewish (LIJ) Medical Center 270-05 76th Avenue, New Hyde Park, NY 11040 516-470-7000

Mercy Medical Center 1000 N. Village Avenue, Rockville Centre, NY 11570 516-705-2525

Nassau University Medical Center (Regional Trauma Center Level 1; Burn Center) 2201 Hempstead Turnpike, East Meadow, NY 11554 516-572-0123

New Island Hospital 4295 Hempstead Turnpike, Bethpage, NY 11714 516-579-6000

North Shore University Hospital (NSUH) Glen Cove 101 St. Andrews Lane, Glen Cove, NY 11542 516-674-7300

North Shore University Hospital (NSUH) Manhasset (Regional Trauma Center Level 1)

300 Community Drive, Manhasset, NY 11030 516-562-0100

North Shore University Hospital (NSUH) Plainview 888 Old Country Road Plainview, NY 11803 516-719-3000

North Shore University Hospital (NSUH) Syosset 221 Jericho Turnpike, Syosset, NY 11791 516-496-6400

South Nassau Community Hospital (Area Trauma Center Level 2) 2445 Oceanside Road, Oceanside, NY 11572 516-632-3000

St. Francis Hospital 100 Port Washington Blvd., Roslyn, NY 11576 516-562-6000

Winthrop University Hospital (Regional Trauma Center Level 1) 259 First Street, Mineola, NY 11501 516-663-0333

Suffolk County NY Hospitals

Brookhaven Memorial Hospital Medical Center (Area Trauma Center Level 2) 101 Hospital Road, Patchogue, NY 11772 631-654-7100

Brunswick Hospital Center 80 Lounden Avenue, Amityville, NY 11701 631-789-7000

Eastern Long Island Hospital 201 Manor Place, Greenport, NY 11944 631-477-1000

Good Samaritan Hospital Medical Center (Area Trauma Center Level 2) 1000 Montauk Highway, West Islip, NY 11795 631-376-3000

Huntington Hospital

(Area Trauma Center Level 2) 270 Park Avenue, Huntington, NY 11743 631-351-2000

John T. Mather Memorial Hospital 75 North Country Road, Port Jefferson, NY 11777 631-473-1320

Peconic Bay Medical Center 1300 Roanoke Avenue, Riverhead, NY 11901 631-548-6000

Southampton Hospital 240 Meeting House Lane, Southampton, NY 11968

Southside Hospital (Area Trauma Center Level 2) 301 East Main Street, Bay Shore, NY 11706 631-968-3000

St. Catherine of Siena Medical Center 50 Route 25A, Smithtown, NY 11787 631-862-3000

St. Charles Hospital and Rehabilitation Center 200 Belle Terre Road, Port Jefferson, NY 11777 631-474-6000

University Hospital & Medical Center At Stony Brook (Regional Trauma Center Level 1; Burn Center) Nichols Road, East Setauket, NY 11733 631-689-8333