

**STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
DIVISION OF PUBLIC UTILITIES AND CARRIERS**

IN RE: REVIEW OF THE NARRAGANSETT ELECTRIC :
COMPANY, D/B/A NATIONAL GRID'S :
PREPAREDNESS AND RESTORATION EFFORTS : DOCKET NO. D-17-45
RELATED TO THE OCTOBER 29-30, 2017 STORM :

REPORT AND ORDER

1. Introduction

On November 24, 2017, the Rhode Island Division of Public Utilities and Carriers (“Division”) published a notice in the Providence Journal informing the public that the Division was conducting a regulatory review of the preparedness and restoration efforts by the Narragansett Electric Company, d/b/a National Grid (“National Grid” or “Company”) related to damages Rhode Island sustained from a storm on October 29-30, 2017 (the “Storm”). The Division announced that it was undertaking the review in accordance with regulatory authority conferred under Sections 39-4-10, 39-4-11 and 39-4-13 of the Rhode Island General Laws.

In its notice, the Division explained that the initial phase of its review would be to provide a forum to afford all interested electric customers and local governmental officials an opportunity to offer public comment on the issues of National Grid’s storm-season preparedness and post-storm efforts to restore electric services to those customers who lost service. In furtherance of this outreach effort, the Division conducted an evening (4:00 p.m.) public comment

session on December 12, 2017 at the Division's Hearing Room in Warwick. The Division conducted a second public hearing in this docket on December 17, 2018, *infra*.

The November 24, 2017 public notice contained the following explanation for the Division's review and the procedural path that the Division planned to adhere to in this docket:

The purpose of this review is to fully understand the reasons for the scope and duration of the outage that affected over 140,000 customers and to apply any and all lessons learned to future emergencies. In addition to this public comment session, the Division will also be questioning National Grid for information related to their pre-storm and post-storm activities. At the conclusion of this process, the matter may be presented to a Division hearing officer in order to review the record and issue findings and recommendations to the Division's Administrator.

In addition to conducting a public comment session, the Division also retained an engineering consultant on November 16, 2017, Power Services and Consulting, Inc., 1616 East Millbrook Road, Suite 210, Raleigh, North Carolina ("PowerServices") to evaluate the preparedness of National Grid to deal with the outages and damage associated with the Storm and the effectiveness of the efforts of National Grid to restore power to its Rhode Island customers. PowerServices' engineers and management staff have extensive utility experience, including leading storm restoration responses to major storm events and hurricanes on the East Coast. The lead engineer on this consulting project was Mr. Gregory L. Booth

PE, PLS. The Division specifically asked PowerServices to make recommendations for improvements, as may be needed, to National Grid's preparedness and storm response.

In furtherance of its task, PowerServices' team conducted a review of events and an assessment of National Grid's storm preparedness and restoration efforts, including pre-storm planning and staging, public communications, mobilization and restoration, and conformance with the Company's Electric Emergency Plan. PowerServices additionally assessed the Company's performance as compared to area utilities also impacted by the Storm; and analyzed the potential benefits of Advanced Metering Infrastructure ("AMI") in storm restoration efforts.

PowerServices completed its review and submitted its findings and recommendations to the Division on March 14, 2018 (the "PowerServices Report" or "Report").¹ National Grid was also provided with a copy of the Report. PowerServices declares that its recommendations are intended to enhance National Grid's storm preparedness, and restoration response, infra.

National Grid subsequently proffered its response and comments to the PowerServices Report through two submittals filed with the Division on March 26 and November 5, 2018, infra.

¹ Advocacy Section Exhibit 1.

2. December 12, 2017 Public Comment Session

On December 12, 2017, the Division offered National Grid's customers and local government officials an opportunity, at a public forum, to offer comments on the issues of National Grid's storm-season preparedness and the Company's restoration efforts following the October 29-30, 2017 Storm. The hearing started at 4:00 PM to better accommodate those wishing to offer comments. The Division also provided notice that those individuals not able to attend the hearing could alternatively mail or email their written comments to the Division.

The following counsel entered appearances at the December 12, 2017 comment session:

For National Grid:	Robert Humm, Esq., and Celia O'Brien, Esq.
For the Division's Advocacy Section:	Christy Hetherington, Esq. Spec. Asst. Attorney General

Fourteen (14) individuals offered verbal comments at the public hearing.² Forty-nine (49) individuals proffered written comments.³ The comments received

² These individuals were identified as: Edward and Eve Pearl; Chief James McLaughlin (Warwick Fire Dept.); Kevin Kugel (Director, Providence Emergency Management Agency); Gary Ezovski (Town Administrator, Town of North Smithfield); Jon Schock (Public Works Director, Town of South Kingstown); State Representative Aaron Regunberg (District 4); Gina Murray, Johnston, RI; Jeffrey Feldman, Providence, RI; Robert Clarkin (Public Works Director, Town of Foster); E. Stephen Coutoulakis (Emergency Management Director, Town of Exeter); Dawn Lewis (Hospital Association of Rhode Island); Todd Manni (Emergency Management Director, Town of Smithfield); and Kat French.

³ These individuals were identified as: Tom and Claudia Gorman, Kevin McBride, Peter Ruggiero, Edward Pearl, Denise Arrighi, John King (Director, Portsmouth Emergency Management Agency), Marc Titchenell, Michael Picard, sondra618@cox.net, Simon Micaelian, Greg Maurer, Lorna Wigren, Chip Hallstrom, Alfred Masciarelli, James Insana, Sherry Deldeo, Jos-Lin@cox.net, Pamela Hood, Catherine Vieira-Baker, raziel2323@hotmail.com, Jay Trussell, Judy Foust, Kim D'Agnillo, Lauren Weinstock, Skye Pechie, Denise Williams, Patricia Haggerty, Nancy Riffe, Jamie Iasimone, Stephen Ganz, Rebecca Ellis, John Belgarde, Marilyn Bellesheim, Michael Silve, Linda Jacobson, aws8385@hotmail.com, Mark Stankiewicz, Margaret Nolan, Gary Lapierre, Bruce Balemian, Gina Murray, Jennifer Kreft, Stephen Simo, Ronald

can be generally characterized as favorable and unfavorable to National Grid's preparation and restoration efforts. A summary of these comments is contained below:

Favorable:

- Several Town officials complimented National Grid for keeping their Town representatives apprised, through liaisons, of the extent of the outages and the Company's schedule and plans to effectuate restoration.
- The Hospital Association of Rhode Island thought that National Grid was "very responsive to our needs."
- Some customers thought that National Grid did a reasonable job restoring power under these statewide outage circumstances.
- Some thought it is unfair for customers to complain about the duration of the outage when these same customers are unwilling to have their trees trimmed by National Grid.
- Some customers praised the work that was performed by the linemen and linewomen doing the restoration work.

Unfavorable:

- Most customers were upset that the restoration work took so long.
- Some customers argued that National Grid must work quicker to remove fallen trees that block roads, especially on dead end roads.

- That a pole damaged (burned) during the Storm was ignored by National Grid, which later caused power fluctuations inside the home. The problem was not resolved until December 5. Other customers also complained of power fluctuations in their homes.
- The Rhode Island Emergency Management Agency should have been involved in the restoration efforts.
- Some Town officials requested that National Grid do a better job working (and drilling) with public works departments to augment restoration efforts.
- Many customers believe that National Grid has failed to properly maintain its power system. Some opine that the rate increases are not being properly used to maintain the power grid.
- Some think that National Grid should hire more repair crews instead of relying on personnel to only stand/sit at downed lines for the limited purpose of keeping the public away.
- Many customers contend that National Grid must do a better job of communicating with its customers about the specific cause of their individual outage and the actual time required/expected to complete the restoration.
- Some thought National Grid should work quicker to restore service to the elderly and those with serious medical conditions.

- One customer said that National Grid should bury its power lines to avoid wind damage.
- One customer who lost power was confused why his neighbors' power remained on.
- Some thought that outages are lasting longer than has been historically usual.
- One customer opined that National Grid should have sent their customers email notifications before the Storm hit along with information on how the Company was preparing for the Storm.
- Some were upset that food stored in their freezers spoiled.
- Some said that National Grid was not clear in explaining whose responsibility it is to reconnect a downed service line to their homes. Some thought that National Grid should be responsible for repairing damaged house wiring.
- Some remain concerned that untrimmed tree branches still threaten power lines.

3. The PowerServices Report – Conclusions and Recommendations

The PowerServices Report contained many recommendations designed to improve upon the current storm preparedness and restoration procedures contained in National Grid's Emergency Response Plan ("ERP"). The 85-page Report provided much detail in support of these recommendations. In the interest of brevity, however, the following summary is instructive:

If the Company is planning for a low impact storm, it must categorize the response within a very narrow tolerance level which will likely miss the mark. Conversely, if the Company underestimates impacts for more severe events, such as the case in this Storm, significant adjustments are required for a single step change in event classification. Unless the Company incorporates a method for more rapid adjustment within the ERP, the only way to fully prepare is to over-estimate storms to ensure that necessary resources are onboard, which will often result in excessive and unnecessary costs. Although there will always be a balance between restoration duration speed and cost which can be second guessed, in storms such as the October 2017 storm, clear deficiencies in actions and many inactions by the Company which should have been avoided are identified. The following is a summary of the recommendations which are dispersed throughout our report, noting key findings and explaining the facts which support the key findings and recommendations.

1. The Company should supplement its weather forecasting service with additional tools. The Company should provide the Division with a comprehensive update on the Damage Prediction Modeling tool that was to be implemented in Massachusetts in 2013, and subsequently scheduled for Rhode Island. The update should contain a detailed description of the software performance, expected benefits, rationale for delayed implementation, and all development and implementation costs incurred or forecasted.

2. The Company should develop a mechanism and communications process within its ERP that outlines a means to rapidly adjust the ERP incident classification based on actual system impacts resulting from quickly changing weather patterns that increase in severity. The adjustments should foster a proactive program of rapidly identifying and communicating, both internally and externally, the escalation of event Type. Failure to escalate the severity and event Type classification is one of the most serious deficiencies identified in this storm assessment process. National Grid appears to lack a free flowing and nimble communications system, and protocol which permits and encourages identification, communications, and action steps being implemented when it

is clearly known within the operational ranks of the Company that a storm has become far more severe than the classification and plans have indicated. Absent a clear path to make adjustments within the ERP, the Company is prone to inadequate communications to the public, delays in securing mutual assistance, and an overall lower level of urgency that results in subpar restoration.

3. The Company should review incident classifications and adjust the ranges of expected outages used to determine an event Type. The current classification system makes a very large outage level change in the last two classifications, which may be contributing to the slow reaching and buildup of needed resources when a storm's severity escalates and the internal classification and communication mechanisms are not in place to take timely action. In addition, the Company should define and utilize specific outage metrics, such as lines impacted and regions affected, in assigning incident levels rather than relying on global attributes. The ERP revisions should also incorporate a matrix of planned resources, both internal and external, required for restoration and describe whether multiple staging areas will be utilized. PowerServices recommends that the Company obtain ERPs from at least six (6) New England and New York utilities to review the structure and event classification criteria (examples provided in Appendix D). The Division and the Company should work together to further adjust and enhance National Grid Rhode Island's ERP to ultimately derive a detailed storm restoration matrix. Specifically, PowerServices suggests the outage levels in Table 8 as a basis for the Company's discussions with the Division, with an objective that the Company complete a comprehensive template with components similar to those within the *New England Utility 4* example in Appendix D.

Table 8: Recommended Outage Levels

Event Type	Customer Interruptions
Type 6	0-5%
Type 5	5-15%
Type 4	15-25%
Type 3	25-45%
Type 2	45-75%
Type 1	Over 75%

4. The Company should perform a root cause analysis to determine the breakdown in internal communications and processes that resulted in ETR mismanagement, including severe underestimation of restoration times, inadvertent uploading of incorrect ETRs, and multiple revisions to ETRs that only served to confuse and frustrate customers. Concurrently, the Company should incorporate a process to develop initial ETRs based on actual field assessments, rather than rely on default values generated by predictions. The Company should develop an enhanced process of flowing accurate changes in the Estimated Time of Restoration ("ETR") through public communications channels to mitigate the customer frustrations and lack of confidence in the Company's outage restoration process and estimates. The Company should improve external communications by leveraging all forms of social media throughout a storm event, including YouTube videos which may be prerecorded or live stream. The Company should report the results of this ETR management root cause analysis and proposed ERP improvements to the Division.

5. The Company should incorporate results of the ETR management root cause analysis and other storm lessons learned, including dispatching deficiencies into the AMI pilot and implementation process. An AMI system in this storm would have eliminated or significantly reduced the nearly 600 instances of crews being dispatched to locations for which power had already been restored. Additionally, AMI will nearly always provide for early outage detection and a far superior indication of outage severity and areas of greatest impact over the current OMS system, which relies on customer notifications. This will often result in improved incident level classification, reduced restoration time, and greater focus on the areas with highest impact first. Section II F. outlines five (5) distinct benefits AMI creates for the storm restoration process.

6. Although no vegetation management program will mitigate all tree related power outages, National Grid may consider enhancements to protect the system during severe storms with high winds, including "ground-to-sky" clearing on all circuits, increasing side clearances, and aggressive removal of all hazard trees. In PowerServices' opinion, however, the benefits may not outweigh the cost and public relations impacts. Furthermore,

the adverse reaction by property owners and communities which encourage tree preservation and protection would be expected. The Company should begin a community outreach program in order to develop a level of community cooperation for a broader vegetation management clearing area. This is best accomplished immediately after a storm when the impacts of extended outage durations is fresh on the customer and communities mind, and they may be more receptive to increased areas of “ground-to-sky” clearing that removes all overhead branches, regardless of tree condition, and creates wider clearing zones on either side of the circuit.

7. National Grid should provide evidence of LSC contact requirements. The Company should improve the consistency and content of its social media outreach to offset customer complaints and situations where customers share incorrect information. National Grid would have been well served by preparing pre-drafted template messages to address the common issues that customers question, allowing for quick and accurate responses.

8. The Company must accelerate and expand its storm report to encompass a much broader set of factual information and how its report reflects on the actual facts and timelines, including detailed information on the timing of mutual aid additions and the allocation methodology between National Grid’s jurisdictions. The report should also be coordinated with the dissemination of other information shared with the Division and other outside parties in order to eliminate obvious discrepancies. The current requirement to deliver a report within ninety (90) days is well beyond the time that comparable utilities filed storm reports with their respective Commissions. (Table-10). PowerServices recommends that the filing requirement for National Grid Rhode Island be reduced to forty-five (45) days.

Table 10: Comparable Utility Storm Report Filing Response Times

State	Utility	Storm Report Date (for October 29-30, 2017 Event)
Connecticut	Eversource	11/16/2017
Massachusetts	Eversource	12/4/2017
Massachusetts	National Grid	12/4/2017

Maine	Central Maine Power	1/18/2018
Maine	Emera Maine	1/18/2018
Rhode Island	National Grid	2/1/2018

Additionally, the Company's current storm report outline, provided in Appendix E, includes recommendations for enhanced components and data that should be included in each filed report. The Division and Company should collaborate to improve the storm report in a way that meaningful information is provided to all interest groups.

9. The Company needs to implement a data collection and processing method which is much more efficient and timely. The excessive delays in responding to the Division's data requests is inexcusable, particularly when placed in the context that a regional utility is able to collect data and delivers a comprehensive storm report within two weeks of storm restoration. PowerServices recommends that going forward, the Company should respond to the Division's data requests within ten (10) business days since most of the information is available, unless otherwise agreed by the Division.

10. The Company should quickly implement multiple staging areas in any storm with widespread outages impacting a large area. The ancillary staging areas should be opened much earlier in the process to assure better restoration coordination with local teams. The branch location methods used in Massachusetts should be implemented in Rhode Island.

11. The Division should institute a separate evaluation of the Mutual Aid process and NAMAG to determine if Rhode Island is consistently being provided resources in an appropriate priority scheme and at proportional levels to requests from other regional utilities. Additionally, it should be determined if National Grid in Rhode Island has created the appropriate contractor priority system within its ongoing construction and maintenance contracts with both its tree clearing contract crews and construction contract crews. The Company should require any crews which are embedded at a utility are subject to be held by that utility until released to other utilities. This assures those crews are immediately available for the Company as its own crews.

In its concluding observations, the PowerServices Report conceded that “there is no dispute” that the Storm dramatically changed over time, and the weather predictions initially underestimated the severity of the Storm, “thus there was a higher level of resulting damage, which could be expected.” The Report concludes that the responsiveness of the impacted utilities and ability to restore power in a timely manner were directly related to how rapidly each company recognized the Storm’s strengthening and the overall effect it would have on the electric system. “National Grid unfortunately, failed to recognize the expanded impact of the storm in a reasonably timely manner that would allow it to have adequate resources in place at the time they were most needed. This resulted in an extended restoration duration of as much as 36 hours.” The Report bases this 36-hour delay on the following Company actions and inactions, which the Report characterizes as deficiencies:

1. The Company failed to have redundant weather analysis processes that recognized the increased intensity of the storm and the outage impact it would have.
2. The Company failed to make rapid adjustments within the ERP to assure the needed resources were onboard.
3. The Company **never** identified and communicated internally or externally the maximum Incident Level classification.
4. The Company’s failure to properly classify the type of storm and outage event resulted in communications of overly optimistic restoration times, both internally and to the public.

5. The Company's slow reaction to the changing events and storm magnitude allowed other utilities in New England, such as Eversource, to secure regional mutual aid resources for storm restoration first, leaving National Grid with securing more of its resources from greater distances. Thus, the Company did not have maximum resources on the system within a reasonable time after reaching the peak outage level.

6. The Company's inactions in adjusting storm classification and internal communications concerning storm and outage severity was the main cause for the significant delay in acquiring resources, which resulted in as much as a 36 hour delay in the full restoration of power.

7. Even at this time the Company, based on its Summary Report, apparently believes its full restoration occurred earlier than the factual data supports. There were crews working on power restoration after the time the Company represents is the final restoration date and time. This type of disconnect between the facts and the Company's belief is a further indication of a flawed and broken communication and data processing system.

8. The Company's February 1, 2018 report barely meets the minimum requirements of what we consider an adequate storm assessment summary. The Company is provided ninety (90) days to produce the report, which is excessive considering that comparable utilities produce robust reports in as little as two weeks. The Company must accelerate and enhance its storm reporting, which should be delivered within forty-five (45) days following a major event.

9. Absent changes by the Company in numerous areas as recommended, our opinion is that Rhode Island electric customers will continue to have delayed outage restoration as compared to other regional utility customers, combined with unnecessary inaccuracy in estimated restoration times being communicated.

10. The Company must put forth a plan which documents how it will make adjustments to avoid future storm event classification errors, and incorporate a process in the ERP to categorize events and rapidly recognize and adjust to changing

storm and outage circumstances while not being the last utility to successfully acquire needed mutual aid resources. Lastly, National Grid must specifically describe how the Company implemented each of the Division's Directives, resulting from the November 20, 2012 Report and Order related to Tropical Storm Irene, to include a current update for each Directive as opposed to the report provided by the Company that was prepared nearly five years ago.

4. National Grid's March 26, 2018 Response to the PowerServices Report

National Grid filed responses to the PowerServices Report on March 26 and November 2, 2018. In its March 26 response, National Grid maintained that although it agrees with the positive acknowledgments and several recommendations, it respectfully disagrees with a number of the findings and conclusions in the Report. As an introduction to its response, the Company offered the following statement:

The Storm was a major wind and rain event that severely impacted the Company's infrastructure throughout its service territory and brought strong, hazardous wind gusts that affected the majority of the Northeast during the night on Sunday, October 29 through Monday, October 30, 2017. The Storm impacted a total of approximately 176,247 customers in the Company's Rhode Island service territory, with approximately 144,144 customers impacted at the Storm's peak. The Company experienced interruptions in all 38 communities it serves, with more than 200 distribution feeders affected. The Storm impacted more customers than Hurricane Sandy in 2012 and produced more physical damage to the Company's poles than Tropical Storm Irene in 2011.

The Company next divided its response into identifying the “positive” aspects of the PowerServices Report and those findings in the Report that the Company disagrees with.

The Company described the Report’s positive findings as those that demonstrate the Company’s significant improvements in storm preparedness, response, and restoration efforts since PowerServices’ 2012 review of the Company’s preparedness, response, and restoration efforts relating to Tropical Storm Irene. National Grid further divided its response to the Report’s positive findings into five categories: (1) Pre-Storm, (2) Storm Onset, (3) Post-Storm, (4) Field Evaluation, and (5) Communication and AMI.

1. Pre-Storm: Weather Predictions, Storm Classification, and Pre-Planning

On this category, National Grid relates that the Report recognizes that the Company appropriately followed its ERP guidelines in its pre-planning efforts, which include weather monitoring, branch emergency staff activation, briefing calls, distribution of public information, and crew levels and assignments for a Type 4 event based on weather predictions for this Storm. The Company agrees that its actions and assignments in the Operations pre-staging meetings held Friday, October 27, 2017 through Sunday, October 29, 2017 were appropriate for a Type 4 event in accordance with the Company’s ERP. The Company emphasized that its ERP already includes procedures to adjust the ERP classification quickly based on actual impacts to the distribution system from

weather patterns that rapidly change and increase in severity, consistent with one of the recommendations contained in the Report.

National Grid notes that one of the Report’s key findings is that the weather forecasting services used not only by National Grid, but also by every other utility PowerServices examined that was impacted by the Storm, underestimated the Storm’s severity as compared to the actual event. National Grid contends that based on these inaccurate forecasts, the Company and many other Northeast utilities “anticipated a less severe storm and planned on less damage, fewer outages and shorter restoration times than actually occurred.” As a positive, the Company notes that the Report acknowledged that inaccurate weather predictions for this storm were prevalent and these inaccurate forecasts greatly contributed to inadequate pre-event planning activities by the Company and other Northeast utilities.⁴

2. Storm Onset: Storm Impacts and Classification Adjustments

The Company relates that its current ERP is consistent with the Report’s recommendation to include methods to adjust the event classification quickly based on actual storm impact. The Company explained: “like other utilities in the Northeast, once presented with a storm of “unexpected severity”, the Company quickly adjusted its planning activities, revised the Storm event’s classification, and contacted North Atlantic Mutual Assistance Group (“NAMAG”) to initiate

⁴ National Grid Exhibit 2.

requests for external crews.” National Grid points out that the Report reflects that the Company took “swift action in reclassifying the storm event and mobilizing additional crews once actual outages escalated.” The Company notes that the Report acknowledged “storm classifications have an element of judgement (sic), and [event classification] thresholds are not exact indicators” and the Company’s ERP “takes into account many factors, including the complexity of the storm.” The Company maintains that “it was confident in its ability to meet a three-day restoration target when it revised the storm classification to a Type 3 event and, in fact, successfully restored service to 90 percent of its peak customers impacted within the first two and one-half days in a safe and expeditious manner.”⁵

3. Post-Storm: Mutual Assistance, Damage Assessment, and Restoration

National Grid agrees with the Report’s conclusion that “[i]t is the last 20% of restoration that is more time consuming and requires targeted efforts and more crews.” The Company states that it sequenced the work and prioritized its workforce to focus first on live wires and other public safety hazards, and then on the overall goal of maximizing customer restoration when lines are energized. National Grid adds: “[t]he Report appropriately recognizes that, ‘[i]n fact, the Company seems to have done an excellent job of this in that they would utilize metering technicians to stand watch over downed lines until they could be

⁵ Id., p. 2.

cleared by qualified personnel.” National Grid lauds the Report’s recognition that “[t]he combination of increasing crew numbers and a strategy to prioritize largest areas without power led to significant restoration through November 1, 2017.”

National Grid observes that overall, the Report concludes that the Company “did a good job in restoration efforts once crews were on-boarded and mobilized” and “prioritized safety and reported no injuries during the Storm restoration.” The Company stresses that the Report acknowledges the “challenging and dangerous” nature of the work that was performed in a safe manner, and that the Report “commends National Grid’s personnel and contractor resources on their valiant, tireless, and relentless efforts to restore service to the Company’s customers, which ‘was attested by many of their grateful customers verbally and tangibly through various forms, including social media.’”

4. Field Evaluation: Vegetation Management, Rights-of-Way, and Asset Condition

National Grid next observed that the Report recognizes that the Company conducts a “robust and effective” vegetation management program for blue sky days that is designed to protect the electric distribution system during normal weather conditions. As noted in the Report, “in the event of a severe storm with high winds, all of the system is susceptible to downed trees and branches regardless of the year of most recent vegetation management.” The Company notes that most of the outages caused by this Storm resulted from tree damage, which cannot be mitigated absent complete clear cutting. The Company also notes

that the PowerServices Report concluded that right-of-way conditions were “acceptable” and vegetation managed in accordance with National Grid’s standards, which PowerServices reviews annually as part of the Company’s electric Infrastructure, Safety, and Reliability (“ISR”) Plan. The Company observes that according to the Report, the Company has a prudent strategy to maintain the close to 300,000 distribution poles in the state and its systematic approach to inspecting, maintaining, and replacing its infrastructure over the past six years has improved the reliability and resiliency of the system. The Company contends that its annual ISR Plan inspection and maintenance and asset replacement programs, which PowerServices reviews annually, are sufficient to manage proactively asset condition-based issues.

5. Communication and AMI: ERP Communication Practices, ETRs, and AMI

National Grid points out that the Report concluded that the Company “did a good job sharing information for the safety of their customers” and, “[t]hroughout the event, National Grid provided information about high winds, downed power lines and general safety tips.” The Company adds that Power Services observed that the Company adhered to the communications guidelines set forth in the ERP and generally updated sites with accurate information. National Grid relates that it contacted its life support customers to inform them of the extent of the service interruption and estimated service restoration time and assigned Community Liaisons to each municipality to expedite the flow of

information, an action praised by several municipal authorities. Although the Company admits that it faced significant challenges in communicating with all of the municipalities it serves the extent of the service interruption and estimated restoration times (“ETRs”), the Report recognizes that the Company “effectively managed receipt of the 120,326 outages reported digitally via National Grid’s website, mobile website, or mobile application, along with the 58,055 outages reported by phone.”⁶

The Company also observes that the Report states that PowerServices analyzed the benefits of AMI in storm restoration efforts as part of its evaluation of the Company’s response efforts relating to the Storm and indicates Power Services “is an advocate when the benefits to customers exceed the cost of implementation.” Although not noted in the Report, the Company states that it included an advanced metering functionality proposal in Commission Docket No. 4780.⁷

National Grid next moved on to responding to the “challenges” that were presented by the Storm and the Report’s findings and recommendations, and the reasons why it disagrees with some of those finds and recommendations.

As an introduction, National Grid emphasizes that the Report acknowledges that the Storm was not a “traditional slow-moving tropical storm or

⁶ Id., p. 4.

⁷ Id., p. 4.

hurricane that tracks the East Coast and develops over a period of weeks.” Instead, it was a “low-pressure system moving in from the Great Lakes region that drew moisture from the remnants of Tropical Storm Philippe”, the result of which was a “rapidly intensifying event described as a ‘weather bomb’, or an event which atmospheric pressure drops quickly causing extremely high winds.” The Company asserts that nature of this Storm presented several challenges to the Company.

As its first major challenge, National Grid underscored that its weather forecasting service underestimated the Storm’s severity and, as a result, the Company and many other New England utilities “anticipated a less severe storm and planned on less damage, fewer outages and shorter restoration times than actually occurred.”

The Company took exception to a criticism contained in the Report that the Company did not change the event classification from Type 3 to Type 2. The Company argues that it would not have had to take any additional actions had it declared the event a Type 2 event. The Company contends that it secured the appropriate level of resources to respond to the damage to the system and restore service to customers, which commences once the weather event is over and public safety hazards are addressed.

The Company next disapproved of the Report’s recommendation that the Company’s ERP should be “nimble and free-flowing” when classifying an event.

The Company questioned the reasonableness of this recommendation when, at the same time, much of the feedback in the Report would have the ERP become more rigid and firm. As an example, the Company observes that while the Report recommends that the Company “define outage metrics for each incident level” and “incorporate a detailed matrix of planned resources, both internal and external, required for restoration.” National Grid argues that “PowerServices fails to recognize that the event level classification charts set forth in the ERP are guidelines. The ERP restoration time for any event type is stated in terms of restoration activities being generally accomplished within a certain number of hours, rather than all restoration being completed within that timeframe, as there is no certainty with any weather event as to when restoration of all service interruptions will be complete.”⁸

National Grid also disagrees with the Report’s claim that the Company’s ability to provide timely and accurate ETR (Estimated Times of Restoration) information is the most significant area needing improvement. In response, the Company states that it does not agree that full restoration activities took 36 hours longer than they should have and the facts demonstrate to the contrary.

National Grid contends that although it recognizes that each major weather event presents an opportunity to evaluate what went well and what could be improved, it identified numerous inaccuracies contained throughout the Report

⁸ Id., p. 5.

and disagrees with many of the Report’s findings and recommendations, “which seem to be primarily unsupported, opinion-based comments.” Most notably, according to the Company, “is the false statement that, without implementing the changes recommended in the Report, the Company’s electric customers will ‘continue to have delayed outage restoration as compared to other regional utility customers, combined with unnecessary inaccuracy in estimated restoration times being communicated.’”⁹

5. National Grid’s November 2, 2018 Supplemental Response to the PowerServices Report

National Grid’s filed a supplemental response to the PowerServices Report to specifically respond to the eleven (11) recommendations identified in the Report, *supra*, along with the timeline implementation dates for those recommendations. The supplemental response additionally addresses “the inaccuracies contained in the Report and the Company’s disagreement with many of the Report’s findings, which seem to be primarily unsupported opinion-based comments.”¹⁰

National Grid’s Responses to the PowerServices Report’s Eleven Recommendations

The Division will rely on the summary of the PowerServices Report’s eleven recommendations as previously described in this Report and Order, *supra*, for purposes contextualizing National Grid’s responses. Those recommendations will

⁹ Id., p. 6.

¹⁰ National Grid Exhibit 3, p. 1.

not be repeated here; only National Grid's corresponding responses will be summarized.

National Grid response to recommendation #1

Weather Forecasting Services:

The Company currently uses multiple sources for weather forecasting. The Company presently supplements its primary weather forecasting service, DTN, with regular reports from the National Weather Service/NOAA, multiple web-based weather sources, mobile apps, local television, and radio weather forecasts.

Update on National Grid's Predictive Outage Model:

All of the necessary data for Rhode Island has been loaded into the database, including weather logs, landcover mappings, and altitudes. After the data-related tasks were completed, National Grid completed altering the code base to integrate the Rhode Island-specific model into the framework of the existing Massachusetts-specific model. The Rhode Island Predictive Outage Model was made operational on June 1, 2018.

Timeline: No changes to the Emergency Response Plan ("ERP") are required. By November 16, 2018, the Company will provide the Division with a comprehensive update on the Predictive Outage Model for Rhode Island.

National Grid response to recommendation #2

Incident Classification Level Adjustments and Communications Process:

The path to make adjustments to incident classification level is already included in the Chapter 4 of the ERP. The Company considers numerous factors in its incident classification severity and complexity analysis and **does not focus simply on number of customers impacted**. The ERP already provides for procedures for effective internal and external communications. The Company, however, agrees to add a simplified classification table to the ERP.

Timeline: By November 16, 2018, the Company will develop a simplified classification table to be added to the ERP for the Division's review and comment.

National Grid response to recommendation #3

Incident Classification Matrix:

The Company will work together with the Division to derive a detailed storm restoration matrix and review the ranges and classification. Note, however, that storms can be dynamic and sometimes are difficult to tie to a single chart or matrix, so an element of judgment is necessary.

Timeline: By November 16, 2018, the Company will meet with the Division to discuss adjustments and enhancements to the ERP with the objective of developing a detailed storm restoration matrix by December 31, 2018.

National Grid response to recommendation #4

Estimated Time of Restoration:

The Company agrees to perform the actions described above in the Division's Recommendation No. 4. The Company will perform a root cause analysis to determine the breakdown in internal communications and processes that resulted during the Storm, including underestimation of restoration times, inadvertent uploading of incorrect ETRs, and multiple revisions to ETRs that may have served to confuse and frustrate customers. Concurrently, the Company will incorporate a process to develop initial ETRs based on actual field assessments, rather than rely on default values generated by predictions. The Company will develop an enhanced process of flowing accurate changes in the ETRs through public communications channels to mitigate potential customer frustrations and potential lack of confidence in the Company's outage restoration process and estimates.

With regard to external communications, including the use of social media, the ERP already includes processes and activities the Company follows to provide coordinated and effective public information to external stakeholders. The ERP already provides for making YouTube videos available to customers on the

Company's website. The Company shall continue to leverage all forms of social media throughout a storm event, including further use of YouTube videos which may be prerecorded or live stream.

Timeline: By November 16, 2018, the Company will complete the actions described above and provide an update to the Division on these efforts.

National Grid response to recommendation #5

Advanced Metering Infrastructure:

The Company agrees with the Division's recommendation and that Advanced Metering infrastructure ("AMI") will provide significant customer and grid side benefits, including enhanced outage management.² It is important to note, however, the challenge of quantifying the benefits of AMI with respect to storm events as compared to the overall/other benefits of AMI. Please also note that, at its March 20, 2018 Open Meeting, the Public Utilities Commission (PUC) voted unanimously to reject the Company's proposed AMI pilot in Docket No. 4783. The Amended Settlement Agreement in the Company's most recent general rate case (Docket Nos. 4770/4780), which was approved by the PUC at its August 24, 2018 Open Meeting, includes a requirement for the Company to refine and update its advanced metering functionality (AMF) business case for the Company's proposed AMF investments for Rhode Island.

Timeline: TBD. The Amended Settlement Agreement in Docket Nos. 4770/4780 requires the Company to file the updated AMF business case with the PUC no later than February 1, 2019.

National Grid response to recommendation #6

Vegetation Management:

As discussed in the Company's Initial Response to the Report, the Company conducts a "robust and effective" vegetation management program for blue sky days that is designed to protect the electric distribution system during normal weather conditions. The Company, however, agrees to review its current vegetation management program for potential enhancements, which would be reviewed by the Division and PowerServices

annually as part of the Company's electric Infrastructure, Safety, and Reliability Plan. The Company has previously looked into legislation related to vegetation management, and will continue to do so; however, there was insufficient time in this year's legislative session to effectively propose a bill intended to enhance the Company's vegetation management program. The Company expects that any proposed enhancements, through legislation or otherwise, will be controversial, including higher costs, potentially negative customer reactions, and potentially negative reactions among environmental advocates.

Timeline: See above.

National Grid response to recommendation #7

Life Support Customers:

As noted in the Company's Initial Response, the Company contacted life support customers to inform them of the extent of the service interruption and estimated service restoration time. The Company also assigned Community Liaisons to each municipality to expedite the flow of information, which was praised by several municipal authorities.

Social Media Outreach:

With respect to social media outreach, the Company recognizes that communicating with customers "necessitates the use of all available media, including popular media and/or technology." The Company already uses pre-drafted template messages to address common issues that customers question quickly and accurately. The Company, however, has taken steps to improve the consistency and content of its social media outreach to offset customer complaints and situations where customers share incorrect information. For example, the Company successfully utilized improvements in its messaging during the March 2018 storm events.

Timeline: Not applicable.

National Grid response to recommendation #8

Storm Summary Report:

The Company agrees to review its storm summary report format in light of the proposed enhancements recommended by PowerServices and present a new format to the Division for its review. Once the Company and the Division agree on the revised report format, the Company will use that format for subsequent major storm events. With respect to the timeframe in which to file the storm summary report, the Company does not agree to accelerate the current 90-day time frame in which to file its storm summary reports. As set forth in the settlement between the Company and the Division that was approved by the PUC on April 27, 2018, the 90-day time frame remained unchanged. In addition, National Grid's internal staff responsible for storm reporting provide a significant amount of information to multiple jurisdictions at the same time. As a result, at times, there is a challenge to provide information for these reports when there are multiple storms that impact both Rhode Island and Massachusetts, so additional time to prepare and file the reports will be required in those instances. For example, where the Company responds to multiple storms in a short timeframe, such as the multiple storms in early-March 2018, the Company will need extra time to provide all of the required information for the reports.

Timeline: By November 16, 2018, the Company will provide a draft of its revised storm summary report format for the Division's review.

National Grid response to recommendation #9

Data Collection and Processing:

The Company understands the Division's interest in receiving data related to a storm event as quickly as possible; however, it is important that the data is accurate to avoid communicating misinformation to customers and other stakeholders, which creates frustration and dissatisfaction. The Company recommends that any data that the Division requests go through the Company's validation process to remove incorrect data before it is provided to the Division or

PowerServices. It is important to note that the information the Company would have available to provide to the Division shortly after a storm occurrence will be unvalidated and, therefore, not accurate. To accommodate the Division's strong interest in obtaining data regarding a storm event as soon as the data becomes available, however, the Company agrees to provide the unvalidated data to the Division, ***with the Division's express understanding that such data will be unvalidated and not be accurate*** and the Company will provide the Division with the validated data as soon as it is available.

With respect to the time in which the Company must file responses to Division data requests in a storm review or investigation, the Company agrees to comply with the Division's Rules of Practice and Procedure (815-RICR-00-00-1), particularly Rule 1.21.C.2.

Timeline: Not applicable.

National Grid response to recommendation #10

Staging Sites:

No action is required because the Company already does this. There is no need to implement the branch location methods used in Massachusetts. The Company's storm room at its Melrose Street office in Providence, which was renovated completely in 2016, is capable of handling storm response activity coordination for the State of Rhode Island and successfully did so during the March 2018 Nor'easters.

Timeline: Not applicable.

National Grid response to recommendation #11

Mutual Assistance and Contractor Acquisition:

The Company agrees to provide a review of the mutual assistance and contractor acquisition process to the Division.

Timing: By December 31, 2018, the Company will meet with the Division to present and discuss the results of the Company's

review of the mutual assistance and contractor acquisition process.

National Grid’s Professed Inaccuracies and Disagreements with the Report’s Findings

National Grid provided a list of “some of the more egregious of the numerous inaccuracies contained throughout the... Report and the Company’s disagreement with many of the Report’s findings.” See the particulars below (citations to the Report omitted):

A. Pre-Storm

1. Weather Predictions

PowerServices Report: “The forecast from DTN on Sunday, October 29, 2017 at 2:40 p.m. continued to reflect previous information, but that some gusts may increase by 5 mph and reach 70 mph *on the coast.*”

Facts: “Based on what we see at this time, we may increase a few gusts by 5 mph or so, but that should be about it. That being said, the strongest winds of all will occur *off the coast and out into the ocean, where gusts could reach or exceed 70 mph.*”

2. Storm Classification and Pre-Planning

PowerServices Report: “In reviewing this chart, *we note a very granular distinction between a Type 5, Type 4, and Type 3 event*, or expected outages of less than 45,000 customers. . . . Essentially, the maximum customer interruptions *from Type 3 through Type 1* events triple in each step.”

Facts: There could be deemed a “granular distinction” between a Type 5 and Type 4 event. There is a 15% jump in customer interruptions from a Type 5 event (approx. 9,839 customers) to a Type 4 event (approx. 14,759 customers); however, the maximum customer interruptions *from Type 4 through Type 1* events triple in each step. For example, the number of

customer interruptions for a Type 4 event (approx. 14,759 customers) triples for a Type 3 event (approx. 44,276 customers). Customer interruptions then triple again for a Type 2 event (approx. 147,587 customers), and triple again for a Type 1 event (approx. 491,958 customers).

B. Storm Onset

1. Storm Impacts

PowerServices Report: “The *first outages in Rhode Island were recorded between 1:00-2:00 a.m. on October 29, 2017*, which were feeder-specific and cleared by 4:00 a.m. . . Several smaller outages, impacting less than 300 customers at any given time, began occurring by 8:00 a.m. . . .”

Facts: The Storm began around 8:00 p.m. on October 29, 2017. Thus, *the Storm had not yet hit as of 1:00-2:00 a.m. on October 29*, so the cited outages were unrelated to the impact of the Storm.

PowerServices Report: “Utilities across the Northeast generally report that planning adjustments and storm classification revisions were initiated at the Storm’s onset, or October 30, 2017, once the unexpected severity was presented.”

Compare with

PowerServices Report: “The Company monitored the impacts of the Storm, *but it was not until Monday, October 30, 2017 at approximately 1:00 a.m.* that the State Incident Commander elevated the response to a National Grid Type 3 event.”

Facts: These two statements are inconsistent. The latter statement is written to indicate that the Company did not act quickly enough (1:00 a.m. on October 30), while other utilities across the Northeast made planning adjustments and storm classification revisions initiated “at the Storm’s onset, or October 30, 2017”.

2. Storm Classification Adjustments

PowerServices Report: “. . . their decision to change to a Type 3 response is inconsistent with the parameters of the ERP. Based on customer interruption thresholds, the Storm should have been classified as a Type 2 event, and in actuality it nearly reached the lower threshold of a Type 1 event.”

And

PowerServices Report: Table 2: Forecasted to Actual Incident Outages Summary, shows only range of customer interruptions; does not show expected restoration period.

Facts: “A Type 3 event is classified as one where restoration activities are generally accomplished within a 72 hour period **and** typically results in up to 9% of customers interrupted.” Response to R-I-1 at p. 5. A Type 2 event is classified as one where restoration activities are generally accomplished with assistance from other states within a one week period **and** typically results in up to 30% of customers interrupted.

Both elements of (1) 30% customers interrupted **and** (2) restoration generally accomplished in one week need to be expected or met to reach a Type 2 event. The report focuses only on the number of customers, and not the expected period of restoration. Here, the Company restored power to 90% of its peak customers impacted in 2.5 days (60 hours, see the Company’s Storm Summary Report dated February 1, 2018 (“Storm Report”) at 1), which is within the parameters of a Type 3 event (restoration generally accomplished within 72 hours).

Also, the Report acknowledges: **“PowerServices acknowledges that storm classifications have an element of judgment, and these thresholds are not exact indicators. We also acknowledge that the Company’s ERP takes into account many factors, including the complexity of the storm.”**

PowerServices Report: “[A] Type 3 event has an expected restoration time of less than 72 hours, or three days. A Type 2 event has an expected restoration of less than seven days. **It is conceivable that National Grid had a high level of**

confidence in meeting a three-day restoration target when revising to a Type 3 event instead of a Type 2 event, but the outage data made available as the Storm progressed supported a more difficult and complex restoration effort.”

Facts: See above – **data indicates the Company restored power to 90% of its peak customers impacted in 60 hours**, which is within the parameters of a Type 3 event.

PowerServices Report: “Complete restoration was not achieved in three days; in fact, it required five days.”

Facts: Correct; but a Type 3 event is “restoration **generally** accomplished” within 72 hours, **not** “complete restoration achieved” within 72 hours. With 90% of customers restored in 60 hours, it is reasonable to anticipate restoration would be generally accomplished within 72 hours.

C. Post Storm

1. Mutual Aid

PowerServices Report: “In preparation for the Storm, the Company had planned to prestage 58.5 crews and 267 FTE **by 5:00 p.m. October 30, 2017.**”

Facts: The referenced information is planning **for October 30, 2017 at 07:00 (not 17:00, or 5:00 p.m.)**.

and

Facts: In preparation for the Storm, the Company had pre-staged 59.5 internal OH crews (including doubled up troubleshooters), 29 forestry crews, and 290 FTEs (69 of which were Wires Down FTEs in the field).

PowerServices Report: Table 3: Comparison of Planned vs. Actual Field Crews (October 30th) includes wrong “Planned” time (10/30/17 @ **17:00**) and wrong “Planned” crew counts (omits several categories).

Facts: “Planned” time should be October 30, 2017 at **07:00**, not 17:00. Crew counts do not take into account several categories. See Attachment R-I-20. This could have been explained to PowerServices easily with a call before preparing their Report, and the Company offered a call on several occasions, but PowerServices never requested a call to go over any of the materials or ask any questions.

PowerServices Report: “In addition to attempts to secure external contractors, National Grid notified NAMAG with a request for resources **at approximately 4:30 a.m.** on October 30, 2017.”

Facts: “[B]y **4:00 a.m.** [on Monday, October 30], he [the State Incident Commander] initiated a mutual assistance request”

PowerServices Report: “National Grid’s request for mutual assistance **at 4:30 a.m.** on Monday appears to have resulted in the first crews arriving on Wednesday, November 1, 2017.”

Facts: National Grid’s request for mutual assistance was made **by 4:00 a.m.** on Monday, October 30.

PowerServices Report: “Although the level of overhead and tree crews reached adequate numbers, **it was unrealistic for the Company to complete restoration within 72 hours, in accordance with a Type 3 event**, when crews were arriving 48 hours after the event.”

Facts: As noted above, with **90% of customers restored in 60 hours**, it is reasonable to anticipate restoration generally accomplished within 72 hours.

PowerServices Report: “Eversource released a comprehensive storm report and supporting information on November 16, 2017, only 2 weeks after the storm.”

Facts: The Company does not have access to Eversource’s information. PowerServices’ Report does not give any context as to whether Eversource’s information is comprised of actual numbers or just estimates. The Company informed the Division

and PowerServices at the outset of the investigation that it would provide actual information as soon as it became available.

PowerServices Report: “*Eversource’s* preparedness briefings provide a timeline of mutual aid assistance ***starting with the first efforts to actively secure additional resources on Monday, October 30, 2017.***”

Facts: National Grid first secured additional resources ***by 1:00 a.m. on Monday, October 30, 2017.***

PowerServices Report: “Our overarching conclusion is that National Grid secured adequate external resources, and, once on site, their efforts assisted in restoration of customer outages. However, ***there were significant delays in acquiring resources,*** and by the time external crews were mobilized the Company had restored power to a majority of customers. This does not imply that external crews were not necessary; but it is our observation that had the external crews been available earlier, the Company could have accelerated restoration, particularly for the multiple individual outages that lingered for days. In our estimate, the Company could have achieved a complete restoration at least 1 to 1.5 days earlier.”

and

PowerServices Report: “Lastly, we ask that the Company provide details on its agreement with NAMAG, including any explanation as to why mutual aid resources were ***delayed as compared to Eversource Connecticut,*** another NAMAG member.”

and

PowerServices Report: “National Grid, unfortunately, failed to recognize the expanded impact of the storm in a reasonably timely manner and, therefore, neither classified the storm event properly nor took action in a manner that would allow it to have adequate resources in place at the time they were most needed. This resulted in an extended

restoration duration of as much as 36 hours. . . . Our report documents how we reached the conclusion that the Company’s full restoration was 36 hours beyond what it should have been.”

Facts: National Grid first secured additional resources by 1:00 a.m. on Monday, October 30, 2017. By 4:00 a.m., National Grid initiated a mutual assistance request for even more resources. The PowerServices Report compares this to Eversource starting its “first efforts to actively secure additional resources on Monday, October 30, 2017.” PowerServices Report at 31 of 85. Using Eversource’s first request for additional resources as a baseline, as PowerServices does, both National Grid and Eversource made their first request to secure additional resources on Monday, October 30. PowerServices does not provide the time Eversource made its first effort on October 30; however, National Grid made its first effort to secure additional resources at 1:00 a.m., and again at 4:00 a.m. with a mutual assistance request. A request for additional resources **at 1:00 a.m. on the same day Eversource made its first request for additional resources**, and then again at 4:00 a.m. the same morning, does not constitute a “significant delay”. There is no sound basis on which to conclude that the Company’s full restoration was 36 hours beyond what it should have been as the PowerServices Report states.

Specifically, the Company’s Storm Report states as follows: “Early in the planning process, the Company prepared for a National Grid Type 4 event in Rhode Island based on the forecasts. The Company’s plan remained consistent throughout the pre-event calls on both Saturday, October 28, 2017 and Sunday, October 29. At that time, the Company had 30.5 overhead line crews, 11 forestry crews, and 9 underground and substation resources at its disposal, with additional resources scheduled later that evening.

“At approximately 1:00 am., on Monday, October 30, the State Incident Commander elevated the response to a National Grid Type 3 event as he monitored the impacts of the Storm, and requested that additional staff be activated and ordered

additional external contractor resources. Specifically, at 1:00 a.m., the State Incident Commander 200 external contractor line crews and, by 4:00 a.m., he initiated a mutual assistance request for a total of 500 line crews and 210 forestry crews for all of National Grid's New England response to the Storm. Of this request, National Grid allocated 175 line crews and 75 forestry crews for the Rhode Island response." National Grid Storm Report at 7.

The foregoing demonstrates that there were no delays in the Company attempting to acquire additional resources. If there were delays in resources arriving in Rhode Island – and there is no evidence of any such delays – then such delays were not the result of National Grid's effort to acquire the additional resources. Also, the comparison is made to a Connecticut utility, which is between 1-3 hours south and/or west of Providence, depending on the location in Connecticut, and closer to any southern external resources.

2. Restoration

PowerServices Report: "Based on outage data, *restoration started by 6:00 p.m. October 30*, 2017 and reached residual, single digits by 6:00 p.m. November 4, 2017, requiring five (5) days for complete restoration."

Facts: Outage data shows that outages decreased by the hour from 10:00 a.m. on (with one exception of no decrease), after peak outages on October 30 at 9:20 a.m. Thus, outage data indicates that restoration started well before October 30 at 6:00 p.m. In fact, the Company dispatched crews to respond to outages out of the Providence Storm Room beginning on Sunday, October 29, 2017 at approximately 6:00 p.m. through the end of the event. Additionally, the Company followed the system of prioritization for restoration found in its Emergency Response Plan, focusing first on public safety and then on the overall goal of maximizing customer restoration when lines became energized.

PowerServices Report: "The Company did not provide a complete time of restoration. . ."

Facts: “The Company restored power to all customers by November 3, 2017 at 10:38 p.m.”

D. Field Evaluation

PowerServices Report: “The specific areas and circuits examined are not provided in this report, since *the Company failed to release the maps used during the field visit with no explanation as to why they would not provide this information.*”

Facts: The Company provided maps in response to **R-I-15** (indicating the location of all impacted transmission lines, sub-transmission lines, substations, and distribution circuits, as requested); **R-I-16** (showing path of normal transmission line paths into RI, as requested); and **R-I-29** (sectionalizing map for each circuit impacted, as requested). In addition, **on January 25, 2018, the Company overnighted to PowerServices** via overnight courier “**actual copies of maps used for the field visit** which identifies each area that PowerServices, Inc.[’s] engineers evaluated” during the week of December 11, 2017, as requested. **On February 2, 2018, the Company overnighted to Power Services** via overnight courier flash drives containing the electronic versions of “**actual copies of maps used for the field visit** which identifies each area that PowerServices, Inc.[’s] engineers evaluated” during the week of December 11, 2017, as requested. The February 2 submission included three additional maps. As the Company stated in its February 2 submission, **National Grid provided to PowerServices all maps used during the field visits.**

E. Communications and AMI

1. ERP & Communication Practices

PowerServices Report: “The ERP provides a framework for communication, but does not have specific requirements for a particular type or level of emergency.”

Facts: Sections 17 and 18 of the ERP reference communications for particular types of emergencies (i.e., Type 1, 2, or 3).

PowerServices Report: “There is *no indication in the responses from the Company that the Customer Contact Center made daily attempts to inform Life Support Customers* of the extent of the interruption and estimated restoration, and “it appears this occurred only once prior to the event.”

Facts: “*The Company continued to conduct proactive calls to its life support customers until all power was restored.*”

Additionally, PowerServices did not issue any data requests seeking information regarding the Company’s attempts to inform life support customers during the Storm or otherwise request such information.

PowerServices Report: “Our review indicates that most of the communication channels were used during the event, with the exception of YouTube. There is no indication in the Company’s responses that broadcast messaging or Interactive Voice Response (“IVR”) announcements were used to communicate information as the ERP states.” [p. 47 of 85]

Facts: PowerServices did not issue any specific data requests or otherwise seek information regarding the Company’s communications efforts.

2. Estimated Time of Restoration (ETR)

PowerServices Report: “In the early part of this Storm event, National Grid reported the OMS generated ETRs based on the incident classification, or Type 4. *This indicates* that before the OMS uses actual data in an algorithm to determine ETRs, the system assigns a default ETR based on the Company’s pre-storm assumptions.”

Facts: “In the early part of the storm event, OMS [Outage Management System] generated ETRs based on a Type 4 event, which was the level of restoration event originally forecasted for this storm.” “*During this initial period following the storm, the Company collected damage information* through surveys, customer complaints, first responder information, municipality information, and crew reports. After the Company collected the damage information and moved from assessment/safety calls to restoration, the general Estimated Restoration Times (ETRs) were provided for all outages.”

PowerServices Report: “We are not able to validate the revised ETRs posted by the Company since outages exceeded predictions, since the Company was unable to produce historical outage maps.”

Facts: The Company provided *all* maps requested in response to **R-I-15** (indicating the location of all impacted transmission lines, sub-transmission lines, substations, and distribution circuits, as requested); **R-I-16** (showing path of normal transmission line paths into RI, as requested); and **R-I-29** (sectionalizing map for each circuit impacted, as requested); as well as in response to the informal request for actual copies of maps used for the field visit which identifies each area that PowerServices, Inc.[’s] engineers evaluated. No other outage maps were requested. Thus, it is not clear what maps the Company was “unable to produce.”

F. Background

In addition to the PowerServices Report’s inaccuracies regarding the merits of the Storm and the Company’s response to the Storm, the Report includes the following inaccuracies regarding the Company’s cooperation with PowerServices during its review.

PowerServices Report: “The Division arranged a conference call with National Grid on November 30, 2017, *during which a date for PowerServices’ field visit was set as December 11-13, 2017.*”

Facts: Incorrect. During November 30 meeting among the Company, the Division, and PowerServices, the Company informed the Division and PowerServices that some of the requested information would need additional time and would not be ready by December 12, so therefore it would not make sense to have the field visit on or about December 12. ***The Company suggested maybe the parties have the field visits the week after December 12, and the Division responded that sounded “reasonable to the Division.”*** A field visit the week of December 12 was never set, and the Company never heard from the Division or PowerServices again about field visits until December 11 when PowerServices was already en route to Rhode Island. Thus, the Company had a complete lack

of notice that PowerServices would be conducting a field visit on December 12, yet was still able to accommodate PowerServices on the field visit.

PowerServices Report: “Excluded from the responses were system maps and outage data specifically requested by PowerServices in advance of the field visit.”

Facts: Correct; *as communicated and agreed* during the November 30, 2017 conference call.

PowerServices Report: On December 11, 2017, the Division contacted National Grid to confirm PowerServices’ kick-off meeting scheduled for December 12, 2017 at the Company’s Melrose office . . .”

Facts: Correct that the Division contacted National Grid on December 11, 2017; incorrect that PowerServices’ kick-off meeting was scheduled for December 12, 2017. Field visits were never set and never confirmed. Nonetheless, the Company accommodated the Division and PowerServices.

PowerServices Report: “At that time [the morning of December 12, 2017], National Grid had not released service area maps or any outage information to PowerServices that identified which circuits were impacted or visited during the field assessment. This complicated PowerServices’ documentation efforts and added time to the process.”

Facts: Correct; the Company told the Division and PowerServices on several occasions (including in writing on December 4, 2017) that it would not have such information by the week of December 12, 2017. The Division was in agreement with this.

PowerServices Report: “PowerServices was inadvertently left off of the Service List, and did not receive the responses until January 10, 2017 [sic].”

Facts: PowerServices was not listed on the Division’s formal service list used for filings, which is what the Company uses when it submits formal filings to the Division. At any time prior

to January 10, 2018, PowerServices could have obtained the Company's responses from the Division.

PowerServices Report: "On January 24-30, 2017 [sic], PowerServices reviewed the data request responses."

Facts: The Company began providing responses as early as December 8 and provided responses on a rolling basis, as agreed with the Division. The Company had no control over when PowerServices actually reviewed the materials provided.

PowerServices Report: ". . . PowerServices' repeated requests for actual copies of maps used for the December 12, 2017 field visit, which identified each area our engineers evaluated. The maps, however, did not include any references to circuits impacted by the Storm, nor did the Company indicate the areas assessed during the field evaluation."

Facts: First, the Company told the Division and PowerServices during the November 30 call that the maps contained **estimated** information and **would not be ready for a field visit by December 12**. Second, the maps during the field visits were informally requested (and provided), even though they were not part of the data requests in the docket. Third, the informal request for the maps did not request any reference to circuits impacted by the Storm. Instead, PowerServices requested "actual copies of maps used for the field visit which identifies each area that PowerServices, Inc.[s] engineers evaluated" during the week of December 11, 2017. The Company produced all such maps in its possession, custody, and control. Fourth, the system maps produced in response to the data requests included references to all circuits impacted by the storm (i.e., R-I-15). Thus, PowerServices had all of the information it requested.

PowerServices Report: "On January 31, 2017, the Company was notified of the **deficiencies** . . ."

Facts: On January 31, 2017, the Division sent a list of six follow up informal requests from PowerServices; there was no mention whatsoever of "deficiencies."

PowerServices Report: “On February 1, 2017, the Company provided one data request response in executable format and stated that for the production of subsequent responses it would be overly burdensome for National Grid to recreate the materials in the requested format.”

Facts: After production of the materials in response to the data requests, PowerServices subsequently asked that two responses be provided in executable format (one with subparts of the same type of information). On February 1, the Company provided **one of the two** responses in executable format. For the other response, the Company reported that it **does not have the requested information in executable format** and it would be overly burdensome for National Grid to recreate the materials in that format. In lieu of an Excel version, **the Company provided a searchable PDF** of the requested materials.

PowerServices Report: On February 5, 2017, PowerServices received and reviewed additional maps provided by the Company, and again concluded that National Grid was deficient in providing the requested information.”

Facts: Neither PowerServices nor the Division informed the Company that any information was “deficient.” In any event, **the Company produced all requested maps in its possession, custody, and control.**

PowerServices Report: “All maps received failed to indicate outage information or the specific areas observed during the field visit as guided by the Company’s representatives.”

Facts: PowerServices’ informal request **never asked** for the Company to indicate outage information. The Company provided the maps requested by PowerServices: “actual copies of maps used for the field visit which identifies each area that PowerServices, Inc.[’s] engineers evaluated.” Additionally, in response to R-I-15, the Company provided system maps indicating the location of all impacted transmission lines, sub-transmission lines, substations, and distribution circuits, as requested.

PowerServices Report: “. . . nor did they make an attempt to include key information that would aid in cross-referencing the field visit notes to impacted circuits.”

Facts: As discussed earlier, this *was not requested*.

PowerServices Report: “The Company specifically withheld key information, submitting data as late as February 1, 2018.”

Facts: First, characterization of “specifically withheld key information” is simply not accurate and is wholly inappropriate. Second, data submitted by the Company on February 1 was *informally requested*, and not part of the data requests in the docket. In other words, the Company produced this information as a courtesy, and the information was, in fact, produced.

PowerServices Report: “At a minimum, outage information and maps that correlated to PowerServices’ field evaluation on December 12, 2017 could have been provided at the time of the field visit.”

Facts: Incorrect; *on November 30, the Company told PowerServices and the Division it would not have actual information by December 12*. Also, the Company had only eleventh-hour notice that PowerServices would actually conduct field visits on December 12, yet quickly pulled together productive plans for the field visits to accommodate PowerServices.

PowerServices Report: “National Grid’s severe delays in producing data can only be interpreted as an effort to create barriers to the investigation. We believe the Company was delaying and impeding the process to enable the Company to complete its own report prior to the completion of the PowerServices report.”

Facts: There is no basis for this inaccurate and inappropriate opinion.

PowerServices Report: “The Company’s report on its planning and restoration activities filed on February 1, 2018 barely

meets the minimum requirements of what we would consider an adequate storm summary.”

Facts: The 90-day storm report is the Company’s PUC-ordered filing, which it also files with the Division at the same time, and was prepared using the same format that the Company has used for its 90-day storm reports for numerous weather events during the last several years. The Company complied with all of its regulatory requirements with respect to the 90-day storm report for the Storm.

PowerServices Report: This additionally contributes to our overarching concern that the Company was extremely slow to provide responses to our data requests when we believe, like most utilities, the information requested was readily available immediately after the storm.”

Facts: The information readily available immediately after the Storm was ***estimated, unvalidated*** information, and the Company informed the Division and PowerServices of this. The Company provided the ***actual*** information as soon as it became available.

6. Settlement Agreement and Hearing

Following the December 12, 2017 public comment session, *supra*, National Grid and the Division’s Advocacy Section exchanged their respective reports and responses with respect to the issues of whether National Grid was properly prepared for the Storm and whether its restoration efforts were appropriate under the circumstances, *supra*. Through this back-and-forth regulatory process, the parties were able to reach a settlement agreement, which was filed with the Division on November 5, 2018. The parties subsequently filed an amended

Settlement Agreement on December 20, 2019, which reflected some changes that were addressed and incorporated during a December 17, 2018 hearing, *infra*.¹¹

In response to the filing, the Division scheduled and conducted a duly noticed public hearing in this docket on December 17, 2018. The hearing was conducted in the Division's hearing room, located at 89 Jefferson Boulevard in Warwick. During this hearing the parties sponsored and proffered their respective documentary support for their initial positions as well as the settlement agreement now being offered to the Division for its consideration and approval. The parties also presented a detailed chronology of the travel of this case, which led to the filing of the instant settlement agreement.

The following counsel entered appearances:

For the Division's Advocacy
Section¹²:

Christy Heatherington, Esq.
Spec. Asst. Attorney General

For National Grid:

Celia O'Brien, Esq.

In addition to the documentary evidence placed on the record, each party offered one witness to briefly discuss the travel of this matter and to offer support

¹¹ Joint Exhibit 1, as amended.

¹² The Division routinely bifurcates its staff into "advocacy" (the Advocacy Section) and "hearing officer" functions. Under this arrangement, the hearing officer remains totally detached from the investigatory and prosecutorial functions performed by the Advocacy Section, who is considered an indispensable party when choosing to appear in Division dockets. The hearing officer's role, in contrast, is to manage the adjudicative process, ensure compliance with the Division's rules of practice and procedure, conduct a fair and impartial hearing, reach findings of fact and conclusions of law, and present the Administrator with a "recommended decision and findings in writing;" whereupon the Administrator may approve the hearing officer's recommended decision and findings,

for the Settlement Agreement being offered to the Division as a proposed resolution to issues in dispute. National Grid proffered Mr. Michael McCallan, the Company's Vice President of Emergency Planning, Business Resilience and Operations Support. The Advocacy Section proffered Mr. Kevin Lynch, the Division's Deputy Administrator.

The pertinent provisions of the Settlement Agreement proffered by the parties is reproduced below:

SETTLEMENT AGREEMENT

In accordance with Rule 1.27 of the Rules of Practice and Procedure of the Division of Public Utilities and Carriers, this Settlement Agreement is entered into this 5th day of November, 2018, by and between The Narragansett Electric Company d/b/a National Grid (the "Company") and the Staff Advocacy Section of the Rhode Island Division of Public Utilities and Carriers (the "Division Advocacy Section") (collectively referred to as the "Parties" and individually as a "Party") in the above-captioned docket.

RECITALS:

WHEREAS, on November 1, 2017, the Division of Public Utilities and Carriers (the "Division") opened an investigatory docket to review the Company's preparation, performance, and management of the October 29-30, 2017 storm (the "Storm");

WHEREAS, the Division [sic] Advocacy Section conducted an investigation and issued a report by its consultant, Gregory L. Booth, PE, PLS of PowerServices, Inc. ("PowerServices"), entitled "Review of National Grid Storm Preparedness and Restoration Efforts" dated March 14, 2018 (the "Report");

or conduct a separate evaluation of the record and issue an independent decision on the matter in question. R.I.G.L. §39-1-15.

WHEREAS, the Company submitted its initial response to the Report on March 26, 2018 (“Initial Response”) and its supplemental response to the Report on November 2, 2018 (“Supplemental Response”);

WHEREAS, after receipt of the Company’s Initial Response, the Division [sic] Advocacy Section engaged in discussions with the Company regarding the various issues raised in the investigation. As a result of these discussions, the Company has made certain commitments to improve service, and agreed to pay for the costs of the Report that was performed as part of the investigation. In light of these commitments by the Company, the Division [sic] Advocacy Section agrees that it is appropriate to conclude the review and investigation in this docket;

WHEREAS, the Settlement Agreement was filed initially with the Division on November 5, 2018;

WHEREAS, the Division held a hearing on the Settlement Agreement on December 17, 2018, at which the Parties agreed to amend Paragraph 1 of the Settlement Agreement in certain respects; and

WHEREAS, the Parties believe this Settlement Agreement is reasonable, in the public interest, and in accordance with law and regulatory policy.

NOW, THEREFORE, in consideration of the recitals hereto, the exchange of promises and covenants hereinafter contained, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged under seal, the Parties, intending to be legally bound, hereby agree as follows:

1. Implementation Plan

The Parties agree that the Company shall implement certain improvements to its Emergency Response Plan (“ERP”) and take actions to improve its preparedness and response to future major storm events. Specifically, the Parties agree that the Company shall implement the actions set forth below:

- a. By November 16, 2018, the Company will provide the Division with a comprehensive update on the Predictive Outage Model tool for Rhode Island, which was made operational on June 1, 2018;
- b. By November 16, 2018, the Company will develop a simplified classification table to be added to its ERP for the Division's review and comment and meet with the Division to discuss adjustments and enhancements to the ERP with the objective of developing a simplified classification table by June 1, 2019;
- c. The Company will work together with the Division to derive a detailed storm restoration matrix and review the ranges and classification. By November 16, 2018, the Company will meet with the Division to discuss adjustments and enhancements to the ERP with the objective of developing a detailed storm restoration matrix by June 1, 2019;
- d. The Company shall perform a root cause analysis to determine the breakdown in internal communications and processes that resulted during the Storm, including underestimation of restoration times, inadvertent uploading of incorrect "Estimated Times of Restoration" ("ETRs"), and multiple revisions to ETRs that may have served to confuse and frustrate customers. Concurrently, the Company shall incorporate a process to develop initial ETRs based on actual field assessments, rather than rely on default values generated by predictions. The Company shall develop an enhanced process of flowing accurate changes in the ETRs through public communications channels to mitigate potential customer frustrations and potential lack of confidence in the Company's outage restoration process and estimates. The Company shall continue to leverage all forms of social media throughout a storm event, including further use of YouTube videos which may be prerecorded or live stream. By November 16, 2018, the Company will complete these actions and provide an update to the Division on these efforts;

- e. The Company shall review its storm summary report format in light of the proposed enhancements recommended by PowerServices and present a new format to the Division for its review. By November 16, 2018, the Company will provide a draft of its revised storm summary report format for the Division's review. Once the Company and the Division agree on the revised report format, the Company will use that format for subsequent major storm events that occur after June 1, 2019;
- f. To accommodate the Division's strong interest in obtaining data regarding a storm event as soon as the data becomes available, the Company agrees to provide data to the Division as soon as available, with the Division's express understanding that such data will be unvalidated and may not be accurate and the Company will provide the Division with the validated data as soon as it is available. The Company may seek confidential treatment for any unvalidated data. With respect to the time in which the Company must file responses to Division data requests in a storm review or investigation, the Company agrees to comply with the Division's Rules of Practice and Procedure (815- RICR-00-00-1), particularly Rule 1.21.C.2; and
- g. The Company agrees to provide a review of the mutual assistance and contractor acquisition process to the Division. By December 31, 2018, the Company will meet with the Division to present and discuss the results of the Company's review of the mutual assistance and contractor acquisition process.

2. Company to Pay for Cost of Report by Contribution to the Storm Fund

The Division Advocacy Section shall provide a copy of the PowerServices invoice to the Company for all the work that PowerServices performed in the investigation, including without limitation, the preparation and associated costs of the investigation. The Company shall credit the Storm Contingency Fund (the "Storm Fund") in the amount of \$85,806.26 equal to the total cost of the investigation. This credit to the Storm Fund will be recorded upon Division approval of this Settlement Agreement. Customers will benefit

from this Company credit to the Storm Fund as it will help replenish the Storm Fund, which at present has a negative fund balance.

7. Findings

At the outset of this investigation, the Division announced that “the purpose of this review is to fully understand the reasons for the scope and duration of the outage that affected over 140,000 customers and to apply any and all lessons learned to future emergencies.” From the record established through this review, and the concomitant actions taken by National Grid, the Division believes that much has been accomplished.

The Settlement Agreement evidences several commitments by National Grid to improve the Company’s Emergency Response Plan procedures. The Company also agrees to compensate the Division (and ratepayers) for the expenses associated with for the investigatory work and preparation behind the PowerServices Report (\$85,806.26). Such compensation shall come through the “recording of a reduction in the storm contingency fund balance.”

It also appears from the record, that the Advocacy Section believes that what started as an adversarial process ultimately transformed into a “collaborative effort” between the parties with an eye toward seeking improvements in the way National Grid prepares and responds to major storm events.¹³ The parties also believe that the Settlement Agreement reasonably

¹³ 12/17/18, Tr. 18.

addresses most of the concerns and complaints that were expressed by customers and public officials during the public comment session that was conducted in this docket.¹⁴ The Division finds these developments to be very encouraging.

During the hearing, this hearing officer questioned the parties on whether the instant Settlement Agreement would, if approved, in any way conflict with the terms and covenants of a settlement agreement that was previously approved and adopted by the Division in Docket No. D-11-94. This earlier settlement agreement reflecting commitments made by National Grid in 2012 in a docket entitled: “In Re: Review of Preparedness and Restoration Efforts by the State’s Electric Utility Companies Related to the Recent Damages Sustained from Tropical Storm Irene.”¹⁵ In response, the parties asserted that the instant Settlement Agreement “does not modify the terms or results of Docket D-11-94... [or] modify or conflict with the mandates and recommendations that resulted from the Tropical Storm Irene investigatory process.”¹⁶

Turning to the terms of the instant Settlement Agreement, as many of the commitments made by National Grid required action by November 16, 2018, a date prior to the December 17, 2018 hearing, this hearing officer inquired whether the Advocacy Section was satisfied that National Grid was adhering to the commitments and time requirements mandated under the Settlement

¹⁴ 12/17/18, Tr. 21-22 and 26.

¹⁵ See Report and Order No. 20814, issued on November 20, 2012.

¹⁶ See Post-Hearing Memorandum submitted by the Advocacy Section on December 21, 2018.

Agreement. The Advocacy Section responded that it had met with National Grid personnel on November 15, 2018 and “had a very comprehensive, several-hour meeting.” The Advocacy Section related that it “was satisfied with compliance of Grid at that time with the information provided.”¹⁷ Deputy Administrator Lynch echoed this opinion during his testimony.¹⁸

This hearing officer also questioned the Advocacy Section on how it will monitor National Grid’s adherence to the commitments promised under the Settlement Agreement and what it will do if it finds any future compliance deficiencies. The Advocacy Section assured the Division that it would continue to work with National Grid to ensure that “best practices have been implemented.” The Advocacy Section also stated that although it does not foresee any compliance problems, if further enforcement action is warranted, it will move to reopen this docket to pursue additional enforcement action by the Division.¹⁹

Based on a careful examination of the record, and especially the Advocacy Section’s enthusiastic support for the Settlement Agreement and its assurances that it will continue to monitor and supervise National Grid’s progress in effectuating the promises it has made to improve its Emergency Response Plan, the Division is comforted and persuaded that the proposed Settlement Agreement

¹⁷ 12/17/18, Tr. 16.

¹⁸ Id., Tr. 26-28.

¹⁹ Id., Tr. 17-18.

is just, fair, reasonable and in the public interest. The Division also finds the Settlement Agreement consistent with pertinent law and regulatory policy.

With respect to National Grid's four motions requesting confidential treatment for certain documentary evidence, filed on December 8 and 13, 2017 and January 10 and 12, 2018, and the Advocacy Section's support thereon, the Division finds the request reasonable.


Accordingly, it is

(23401) ORDERED:


1. That the Settlement Agreement proffered by the parties in this docket is hereby approved.

2. That National Grid's four motions for protective treatment of confidential information is hereby granted. The Division's Clerk is instructed to place these documents under protective seal.

Dated and Effective at Warwick, Rhode Island on January 31, 2019.



John Spirito, Jr., Esq.
Hearing Officer

APPROVED: 

Macky McCleary
Administrator