The Commonwealth of Massachusetts

DEPARTMENT OF PUBLIC UTILITIES

D.P.U. 18-02-A January 22, 2019

Investigation by the Department of Public Utilities on its own Motion into the Preparation and Response of Massachusetts Electric Company and Nantucket Electric Company each d/b/a National Grid to the October 29, 2017 Wind Storm.

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TABLE OF CONTENTS

I. INTRODUCTION

On January 19, 2018, the Department of Public Utilities ("Department"), pursuant to G.L. c. 164, §§ 1J, 85B, 76, 1K, and 220 CMR 19.00 et seq., issued an order opening an investigation ("Order Opening Investigation") into the efforts of Massachusetts Electric Company and Nantucket Electric Company d/b/a National Grid ("National Grid" or "Companies") to prepare for and restore power following a wind storm on October 29, 2017 ("October 29 Event"). The Department docketed this investigation at D.P.U. 18-02.

In the Order Opening Investigation, the Department announced that it would review the Companies' compliance with the Department's performance standards regarding emergency preparation and restoration of service by evaluating the Companies' preparation for the October 29 Event and the Companies' implementation of its emergency response plan ("ERP"). Order Opening Investigation at 2-3. The Department stated that its inquiry would focus on National Grid's (1) preparation for and management of the restoration efforts, including safe and reasonably prompt restoration; (2) public safety, including response to downed wires; (3) allocation of resources to affected municipalities; (4) timely and accurate communications with state, municipal, and public safety officials and with the Department; (5) dissemination of timely information to the public; and (6) identification of restoration practices that require improvement, if any. Order Opening Investigation at 3.

II. PROCEDURAL HISTORY

On January 19, 2018, the Department issued a notice of public hearings, request for comments, and request for petitions of intervention regarding the October 29 Event. The Department conducted two public hearings regarding the storm: in North Andover,

Massachusetts on February 13, 2018; and, in Chelmsford, Massachusetts on February 15, 2018. The Attorney General of the Commonwealth ("Attorney General") intervened pursuant to G.L. c. 12, § 11E. On March 5, 2018, the Department conducted a procedural conference. At the procedural conference, the Department granted NSTAR Electric Company d/b/a Eversource Energy ("NSTAR Electric") limited participant status.

On April 5, 2018, National Grid submitted to the Department the pre-filed testimony of the following National Grid personnel: Daniel E. Bunszell and Michael McCallan, vice president, electric operations New England electric and vice president of emergency planning, business resilience and operations support, respectively; Danielle M. Williamson, director of corporate communications in Massachusetts; and, Nancy M. Concemi, executive advisor to the chief customer office.[1] The Department conducted an evidentiary hearing on June 11, 2018. On July 9, 2018, National Grid filed its initial brief and the Attorney General submitted comments in lieu of a brief. On July 16, 2018, National Grid filed its reply brief. The Attorney General did not file a reply brief or further comments. The evidentiary record consists of 123 exhibits and ten responses to record requests.

III. BACKGROUND

A. October 29 Event

National Grid is an electric distribution company that provides electric service to approximately 1,300,000 customers in 172 municipalities in Massachusetts (Exh. NG-2, Att. B).

[1] On June 1, 2018, National Grid submitted a motion for recognition of witness substitution. On June 6, 2018, the hearing officer granted the Companies' motion. Stamp Granted Motion for Recognition of Witness Substitution, June 6, 2018. Diana Rivera appeared at the evidentiary hearing in place of Ms. Concemi, who was unavailable.

On October 29, 2017, a low-pressure weather system resulted in a long duration of strong wind gusts, significant rain, and thunderstorms (Exh. NG-2, at 5). The Companies reported wind gusts of 40-70 miles per hour during two separate periods: (1) between October 29 at 8:00 p.m. and October 30 at 8:00 a.m.; and (2) between 9:00 a.m. and 6:00 p.m. on October 30 (Exh. NG-2, at 5). Due to the extreme wind gusts, many whole trees fell onto National Grid equipment; this was the leading cause of outages (Exh. NG-2, at 5).

The first customer outages resulting from the October 29 Event occurred on Sunday, October 29, 2017, at approximately 10:00 p.m. (Exh. NG-2, at 12). A total of 222,768 customers were without power at the peak of the October 29 Event, which was on Monday, October 30 at approximately 4:30 a.m. (Exh. NG-2, at 10). Over the course of the October 29 Event, a total of 330,610 customers in 166 of 172 communities in National Grid's service territory lost power (Exh. NG-2, at 4).

The Companies restored 95 percent of their customers by 12:00 a.m. on Wednesday, November 2 (RR-DPU-2, Att.). The Companies restored 98 percent of their customers by approximately 11:00 p.m. on Wednesday, November 2 (RR-DPU-2, Att.). In total, the October 29 Event (1) caused a peak of over 3,398 trouble spots; (2) affected 584 distribution circuits; and (3) affected ten transmission lines (RR-DPU-2, Att.).

B. Regulatory Framework

We begin by laying out the regulatory framework under which the Department conducts this investigation. Pursuant to G.L. c. 164, §§ 1J and 85B, the Department promulgated regulations to establish the following: (1) standards for acceptable performance for emergency preparation and restoration of service for electric and gas companies; (2) minimal requirements

for ERPs based on G.L. c. 164, § 85B; and (3) procedures for Department investigations, imposition of penalties, and recovery of service restoration costs. Emergency Preparation and Restoration of Service Regulations, D.P.U. 10-01-A (2010). The Department subsequently amended these regulations to include additional requirements established in An Act Relative to Emergency Service Response of Public Utility Companies, St. 2012, c. 216, which amended §§ 1J, 85B, and added § 1K.[2] Revised Emergency Preparation and Restoration of Service Regulations, D.P.U. 16-29 (2017).

Additionally, the Department issued ERP guidelines ("ERP Guidelines") for electric companies. Final Emergency Response Plan Guidelines for Electric Companies, D.P.U. 10-02-A (2010). The purpose of the ERP Guidelines is to establish, to the extent reasonable, uniform content and formatting requirements by which each electric company shall structure its ERP, consistent with the requirements of G.L. c. 164, § 85B and 220 CMR 19.03. D.P.U. 10-02-A, Att. at Section 1. On April 28, 2015, the Department issued revised ERP Guidelines. Revised Emergency Response Plan Guidelines, D.P.U. 14-72-A (2015). The Department revised the ERP Guidelines to incorporate lessons learned from ERP implementation and previous Department storm investigations, as well as new legislative requirements. D.P.U. 14-72-A at 1. The Department annually reviews and approves ERPs submitted by gas and electric distribution companies.[3]

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[2] General Laws c. 164, §1K requires that penalties assessed for violation of the Department's standards of acceptable performance for emergency preparation and restoration be credited back to customers.

[3] The Department approved National Grid's 2017 ERP on September 22, 2017. Massachusetts Electric Company and Nantucket Electric Company, D.P.U. 17-ERP-09

While a company's implementation of its ERP is an element considered in the Department's assessment of a company's performance, the regulations explicitly state that to meet the restoration of service standard set forth in 220 CMR 19.03(3) a company must, "at a minimum," implement all applicable components of its ERP. Implementing applicable components of an ERP in and of itself does not constitute compliance with the Department's standards. D.P.U. 10-01-A at 10. Ultimately, the Company has an obligation to provide safe and reliable service, including the responsibility to restore service in a timely manner when service to a customer has been interrupted. See Massachusetts Electric Company and Nantucket Electric Company, D.P.U. 11-85-A/11-119-A (2012); Fitchburg Gas and Electric Light Company, D.P.U. 09-01-A at 6-8 (2009).

C. Penalty Authority

Pursuant to G.L c. 164, § 1J, the Department "shall levy a penalty not to exceed $250,000 for each violation for each day that the violation of the [D]epartment's standards persist; provided however, that the maximum penalty shall not exceed $20,000,000 for any related series of violations." The Department has previously penalized companies for violation of the Department's standards for preparation and performance in emergency events. Specifically, in 2011, the Department opened investigations into several electric companies' responses to two significant weather events, Tropical Storm Irene and a late October snowstorm. Order Opening Investigation into Electric Companies Response to Tropical Storm Irene, D.P.U. 11-85 (2011); Order Opening Investigation into Electric Companies Response to October Snowstorm,

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(2017). National Grid's 2018 ERP remains under review. Massachusetts Electric Company and Nantucket Electric, D.P.U. 18-ERP-09.

D.P.U. 11-119 (2011). Following the investigations, the Department issued Orders finding that National Grid, NSTAR Electric, and Western Massachusetts Electric Company ("WMECo") each failed to meet the Department's standards of performance in various areas of storm preparation and response, and the Department assessed penalties pursuant to G.L. c. 164, § 1J. D.P.U. 11-85-A/11-119-A; NSTAR Electric Company, D.P.U. 11-85-B/11-119-B (2012); Western Massachusetts Electric Company, D.P.U. 11-119-C (2012).[4]

Subsequently, National Grid, NSTAR Electric, and WMECo appealed the Department's Orders and penalties to the Supreme Judicial Court ("Court") pursuant to G.L. c. 25, § 5, claiming that the Department (1) applied the wrong standard to assess the electric companies' storm performance by applying a reasonableness standard rather than a prudence standard; (2) failed to base its findings on substantial evidence; and (3) abused its discretion by failing to make necessary subsidiary findings in calculating penalties. Massachusetts Electric Company and Nantucket Electric Company v. Department of Public Utilities, 469 Mass. 553, 555 (2014). The Court held that the Department appropriately applied a reasonableness standard in finding that the companies violated their duties to restore service in a safe and reasonably prompt manner, based its findings on substantial evidence in all but three instances, and made necessary subsidiary findings when calculating penalties. 469 Mass. 553, 555, 579.[5]

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[4] The Department imposed the following penalties: National Grid, $18,725,000; NSTAR Electric, $4,075,000; WMECo, $2,000,000. D.P.U. 11-85-A/11-119-A at 153; D.P.U. 11-85-B/11-119-B at 141; D.P.U. 11-119-C at 114.

[5] Specifically, the Court found the Department's finding that NSTAR Electric failed to timely respond to priority two and three wires-down calls was based in part on an unsubstantiated finding and that there was not substantial evidence supporting our imposition of penalties against National Grid for its damage assessment and resource acquisition and deployment on the last two days of restoration during Tropical Storm

IV. STANDARD OF REVIEW

Pursuant to G.L. c. 164, § 1J, the Department established standards for the acceptable performance for emergency preparation and restoration of service for electric and gas companies. These performance standards are set forth in 220 CMR 19.03 and include the following:

1. Emergency Preparation - Each Company shall ensure that it is adequately and sufficiently prepared to restore service to its customers in a safe and reasonably prompt manner during an emergency event. 220 CMR 19.03(2).

2. Restoration of Service - Each Company shall restore service to its customers in a safe and reasonably prompt manner during all service interruptions and outages, including, at a minimum, implementing all applicable components of the Company's ERP related to restoration of service. 220 CMR 19.03(3).

3. Reporting - Each Company shall comply with certain reporting requirements (such as submitting reports on meetings with officials, training and drill exercises, as well as periodic event reports and a final event report). 220 CMR 19.03(4).

If the Department finds a violation of any of the standards established in 220 CMR 19.03, the Department shall levy a penalty not to exceed $250,000 for each violation for each day that the violation persists, for a maximum of $20,000,000 for any related series of violations.

Irene and the October Snowstorm, respectively. 469 Mass. 553, 556. With respect to the NSTAR Electric finding, the Court remanded the case to the Department for the imposition of a penalty that reflected the more limited scope of its factually supported findings on the subject. 469 Mass. 553, 555. On remand, the Department reduced NSTAR Electric's penalty related to wires-down response from $2,000,000 to $400,000. With respect to the two National Grid findings, the Court vacated $500,000 in penalties associated with the two days ($250,000 times two days) for which a penalty was not supported by substantial evidence. 469 Mass. 553, 555.

G.L. c. 164, § 1J; 220 CMR 19.05(2). In determining the amount of the penalty, the Department shall consider, among other factors, the following: (a) the gravity of the violation; (b) the appropriateness of the penalty to the size of the Company; (c) the good faith of the Company in attempting to achieve compliance; and (d) the degree of control that the Company had over the circumstances that led to the violation. 220 CMR 19.05(2).

V. COMPANIES' STORM PERFORMANCE

A. Event Classification

1. Introduction

In this section, we analyze how National Grid classified the October 29 Event based on its ERP in response to weather forecasts and customer outages. For the October 29 Event, the Companies state that they reviewed professional weather data from DTN, a subscription weather service, the National Weather Service ("NWS"), event briefing packages, and the Massachusetts Emergency Management Agency's ("MEMA") situational awareness statements to forecast customer outages and damage to its system in order to identify the event classification level (Exhs. NG-2, Att. J; DPU 1-16; AG 1-15, Att.). The Companies state that they also participated in pre-event planning calls in which emergency response personnel reviewed the weather forecasts and began planning efforts for the possibility that the forecasted weather would impact the Companies' distribution system in New England (Exh. NG-2, at 14).

The objective of the event classification process, as outlined in the Companies' ERP, is to provide a framework to assist National Grid in preparing for emergency events based on the severity of expected outages and expected damage to the Companies' distribution system (Exh. DPU 2-1, Att. at 35-52). See D.P.U. 11-85-A/11-119-A at 15. The Companies' ERP

outlines the procedures that the Companies follow to prepare for and restore service following an emergency event, including activating the incident command system, classifying an emergency event, and decentralizing storm operations (Exhs. DPU 1-2, Att.; DPU 2-1, at 35-52). See D.P.U. 11-85-A/11-119-A at 15-16. For purposes of classifying an emergency event, the Companies' ERP includes a table that outlines, among other things, the number of predicted outages, the number of predicted trouble spots or locations, and the number of anticipated crews associated with each of the five emergency event classification levels (Exhs. DPU 1-2, Att; DPU 2-1, at 35-52.). See D.P.U. 11-85-A/11-119-A at 16.

National Grid states that it considers the following variables when establishing and revising its event classification level: (1) expected number of customers without service; (2) expected duration of the restoration event; (3) recommendations of the state planning section chief, transmission and distribution control centers, and other key staff; (4) current operational situation (e.g., number of outages, resources, supplies); (5) current weather conditions; (6) damage appraisals; (7) forecasted weather conditions; (8) restoration priorities; (9) forecasted resource requirements; and (10) forecasted scheduling and pace of restoration work crews (Exh. NG-2, at 14-15). The state incident commander[6] is primarily responsible for establishing the projected and actual event classification level (Exh. NG-2, at 14).

[6] The state incident commander is the head of the Companies' Massachusetts response organization, and that person is responsible for the overall management of the emergency at the state level (Exh. DPU 2-1, Att. at 25).

Beginning on Friday, October 27, 2017, the Companies initially planned and prepared for a Type 4 ERP event in Massachusetts for the October 29 Event (Exh. NG-2, at 15).[7] On Friday, October 27, 2017, National Grid activated its ERP and classified the approaching storm as a Type 4 event (Exh. NG-2, at 4). High winds and rain began at approximately 8:00 p.m. on Sunday, October 29, and the first outages occurred at approximately the same time (Exhs. NG-2, at 5, 13; DPU 1-25, Att.). On Monday, October 30, at approximately 1:00 a.m., the state incident commander elevated the event classification to a Type 3 event (Exh. NG-2, at 15).[8] The Companies continued to classify the event as a Type 3 for the remainder of the October 29 Event (Exh. NG-2, at 30).

During this proceeding, the Companies submitted weather forecasts from two weather forecasting services, DTN and the NWS (Exhs. NG-2, Att. J; AG 1-15, Att.). The Companies also submitted situational awareness emails from MEMA, which included weather information and referenced NWS forecasts (Exh. AG 1-15, Att.). The NWS forecasts for October 27 through October 29, 2017, varied in some ways from the DTN forecasts, particularly with respect to the predicted wind impact (Exhs. NG-2, Att. J; AG 1-15, Att.). Starting on Thursday, October 26, NWS consistently predicted stronger wind gusts than DTN (Exhs. NG-2, Att. J, AG 1-15, Att.).

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7 A Type 4 event has the following typical event characteristics: (1) restoration activities are accomplished in less than 24 hours; (2) less than three percent customer interruptions; (3) less than 750 lines of trouble; (4) up to 100 contractor line crews; (5) up to 50 outside forestry crews; and (6) wires down and damage assessment functions are not activated (Exh. DPU 1-2, Att. at 9-10).

8 A Type 3 event has the following typical event characteristics: (1) restoration activities are accomplished in less than 72 hours; (2) less than nine percent customer interruptions; (3) less than 1,000 lines of trouble; (4) greater than 20 contractor line crews; (5) greater than ten outside forestry crews; and (6) 50 to 75 damage assessment crews and 50 to 150 wires down personnel (Exh. DPU 1-2, Att. at 7-8).

National Grid's ERP lists several factors that inform how the Companies classify an event. Specifically, as specified in its ERP, event classification is based upon: (1) the time in which restoration activities are generally accomplished (referred to as duration); (2) typical percentage of customer outages (up to a certain percentage); (3) typical number of lines of trouble at peak; (4) number of expected external line crews (e.g., over 20 external line crews, or over 300 external line crews); (5) number of expected external tree crews (e.g., over ten external tree crews, or over 100 external tree crews); (6) number of damage assessment crews (presented as a range of crews); and (7) number of wires down personnel (presented as a range of crews) (Exh. DPU 1-2, Att.). With respect to the expected duration of an event, National Grid's ERP does not specify what it means by "the time in which restoration activities are generally accomplished" (Exh. DPU 1-2, Att.). The Companies state that they consider the restoration window to begin at the time of peak customer outages and end when it has restored 90 or 95 percent of customers, but neither the Companies' ERP nor any other documents define the duration as ending at any particular percentage of customers restored (Tr. at 106, 107, 167). Table 1, below, lists typical event characteristics outlined in National Grid's ERP that are associated with each event Type (Types 1-5), with Type 5 being a blue-sky day and Type 1 being the most serious event (Exh. DPU 1-2, Att.). Additionally, the final row of Table 1 specifies October 29 Event data:

Table 1: National Grid Event Classification Levels

Event Type	Duration*	Lines of Trouble at Peak	External Line crews	Tree crews	Damage assessors	Wires down crews	Peak Customer interruptions
Type 1	>7 days	>5,000	>500	>200	150 to 200	200 to 375	Up to 100 percent
Type 2	Within 1 week	<7,000	>300	>100	100 to 125	125 to 250	Up to 30 percent
Type 3	Within 72 hours	<1,000	>20	>10	50 to 75	50 to 150	Up to 9 percent
Type 4	Within 24 hours	750	0 and 100	0 to 50	50	Typically not activated	0 to 3 percent
Type 5	Normal	Normal	Normal	Normal	Normal	Normal	Normal
October 29 Event	**	3,398	291 (peak number)	265 (peak number)	90 (peak number)	160 (peak number)	17 percent[9]

* Duration means the expected duration of restoration activities (Exh. DPU 1-2, Att.).

** The Companies report that they completed the following percentages of customers restored: 95 percent restoration within 67.6 hours, leaving approximately 11,138 customers without service after that time; and 98 percent restoration within 90.5 hours, leaving approximately 4,455 customers without service after that time (RR-DPU-2).

2. Positions of the Parties

a. Attorney General

The Attorney General argues that National Grid relies solely upon its subscription weather forecast service, DTN, even in the face of other weather forecasts indicating an increasing likelihood for an intense weather event that will impact the Companies' service territory (Attorney General Comments at 2, citing Exhs. NG-2, Att. J; AG 1-15, Att.). The Attorney General claims that the Companies' reliance on DTN is evident in the submission of

[9] Exh. NG-2, at 10, Att. C.

the pre-event report to the Department where the Companies used the DTN forecast without noting conflicting NWS information (Attorney General Comments at 2, citing Tr. at 158).

The Attorney General asserts that National Grid is unaware of the importance of properly classifying emergency events pursuant to its ERP (Attorney General Comments at 3). The Attorney General argues that National Grid testified that even if it had elevated the event classification to a Type 3 event before October 30, National Grid would not have requested additional external crews or changed the way it prepared for the October 29 Event (Attorney General Comments at 3, citing Tr. at 158, 165). Further, the Attorney General adds that National Grid testified that "very little difference" exists between Type 2 and Type 3 events and between Type 3 and Type 4 events, even though the ERP sets forth specific guidance on increasing the number of crews and other resources as the event type elevates (Attorney General Comments at 3, citing Exh. DPU 2-1, Att. at 38-44; Tr. at 159).[10] The Attorney General argues that National Grid downplays the importance of the event classification, which raises concerns about how the Companies decide on resource acquisition in preparation for forecasted weather events (Attorney General Comments at 3).

b. Companies

National Grid asserts that it uses weather forecasts, operational knowledge of the electrical system, and past weather events to estimate the predicted percentage of customers that

[10] Additionally, the Attorney General notes that National Grid did not request wires down or damage assessment crews until after it had elevated the October 29 Event from a Type 4 to a Type 3 event (Attorney General Comments at 3, citing Exh. DPU 1-14, Att. at 3). The Attorney General states that, according to National Grid's ERP, Type 4 events, unlike Type 3 events, do not usually require activation of wires down and damage assessment crews (Attorney General Comments at 3, citing Exhs. DPU 2-1, Att. at 42-43).

would be without distribution service due to the event's impact (Companies Brief at 15, citing Exhs. NG-2, at 15, Att. J). National Grid states that it requested additional staff to be activated and increased the request for additional external contractor resources shortly after escalating to a Type 3 event (Companies Brief at 15, citing Exhs. DPU 1-16; AG 2-4). Additionally, the Companies state that they initiated a mutual assistance request for 500 line crews and 210 forestry crews for the Companies' New England-wide response at approximately 1:00 a.m. on Monday, October 30 (Companies Brief at 15, citing Exhs. DPU 1-16; AG 2-4). Prior to changing the event type at 1:00 a.m. on October 30, and before its Monday, October 30, 8:00 a.m. state briefing call, National Grid contends that it took the following actions: (1) activated the state emergency response organization ("ERO"); (2) notified all state ERO positions of the event change and their activation; (3) opened the state emergency operations center ("EOC")[11] in Worcester, Massachusetts; (4) established the first state briefing call for 8:00 a.m. on Monday, October 30; (5) activated MEMA liaisons; and (6) notified branch directors of the event type change and advised them to prepare for restoration support functions including decentralized dispatching, damage assessment, wires down, and municipal room openings, community liaison activation, and staging site identification (Companies Brief at 15-16, citing Exh. AG-1, at 5).

The Companies contend that on Monday, October 30, at 8:00 a.m., they notified the Department that they escalated the event classification from Type 4 to Type 3 (Companies Brief at 16, citing Exh. NG-2, at 12). Further, National Grid argues that if it had declared a Type 3

[11] EOCs are pre-established locations, typically located at National Grid facilities, where National Grid emergency response personnel coordinate some level of the emergency response, dependent on the type of EOC and the event type (Exh. DPU 2-1, at 49).

event on Friday, October 27, rather than a Type 4 event, this escalation would not have changed the way the Companies prepared for the storm (Companies Brief at 16-17, citing Tr. at 158). Rather, National Grid asserts that many of the action items for preparing for a Type 3 event are very similar to the action items for preparing for a Type 4 event (Companies Brief at 16-17, citing Tr. at 158). The Companies argue that they followed the ERP in determining event classification throughout the October 29 Event (Companies Brief at 17; Companies Reply Brief at 4).

National Grid disagrees with the Attorney General's argument that the Companies rely solely on DTN weather forecasts to establish event classification, and National Grid asserts that it also consult the NWS, event briefing packages, and MEMA's situational awareness statements for weather information (Companies Reply Brief at 2, citing Exhs. DPU 1-16; NG-2, Att. J; AG 1-15; Tr. at 27). National Grid argues that, contrary to the Attorney General's assertion, it is aware of proper event classification, when it is appropriate to change the event classification level, and the preparations the Companies must make to respond to various events (Companies Reply Brief at 3). National Grid further argues that it considers the following factors in determining or revising event classification: (1) expected number of customers without service; (2) expected duration of the restoration event; (3) recommendations of key emergency personnel; (3) current operational situation; (4) current weather conditions; (5) damage appraisals; (6) forecasted weather conditions; (7) restoration priorities; (8) forecasted resource requirements; and (9) forecasted scheduling and pace of restoration work crews (Companies Reply Brief at 3-4, citing Exh. NG-2, at 11-12; Tr. at 54). The Companies contend that, by considering all of the

above referenced factors, National Grid complied with its ERP (Companies Reply Brief at 4, citing Exh. NG-2, at 11-12).

3. Analysis and Finding

The days immediately preceding a storm event are a critical period of preparation for an electric distribution company. D.P.U. 11-85-A/11-119-A at 26. The actions that a company takes with respect to monitoring weather forecasts of an approaching event, predicting damage from that event, classifying the event according to its ERP, and securing resources before the event, significantly affect how effectively a company can respond to customer outages when a storm hits. D.P.U. 11-85-A/11-119-A at 15-16. Therefore, we begin by examining how the Companies monitored weather forecasts as the inclement weather approached, the substance of those forecasts, and whether the Companies used those forecasts to reasonably classify the event consistent with its ERP and the Department's emergency response standards.

The record demonstrates that National Grid monitored customized weather data supplied from DTN to assist the Companies in classifying the event level (Exhs. NG-2, Att. J; Att. M; Tr. at 27). The Companies state that they also review a number of other sources, including NWS, Weather Underground, and local news reports (Exh. AG 1-15, Att.; Tr. at 27). As discussed below, however, the evidence suggests that the Companies relied primarily upon information provided by DTN, despite other weather forecast indicating an increasing likelihood for a severe weather event (Exhs. NG-2, Att. J; AG 1-15, Att.). The DTN forecast did not change significantly between Thursday, October 27, and the early afternoon of Sunday,

October 29,[12] while the NWS forecast worsened considerably over those same days (Exh. AG 1-15, Att.; Tr. at 40). Moreover, even as the DTN forecast deteriorated during the evening of Sunday, October 29, the Companies did not adjust their planning for the event (Exh. NG-2, at 15; Att. J).

More specifically, beginning on Thursday, October 26, DTN predicted 40-50 mile per hour winds, while NWS predicted 50-60 mile per hour winds along with downed trees and limbs that would result in isolated to scattered power outages (Exhs. NG-2, Att. J; AG 1-15, Att.). Beginning on Saturday, October 28, at approximately 6:00 a.m., DTN predicted wind gusts up to 50 miles per hour for most locations in Massachusetts, with peak gusts up to 65 miles per hour on Nantucket, while NWS predicted extreme winds with gusts up to 70 miles per hour for coastal areas, and gusts up to 55 miles per hour for inland areas resulting in widespread tree damage (Exhs. NG-2, Att. J; AG 1-15, Att.). The wind-gust predictions from DTN and the NWS remained at or very near those figures through Monday, October 30, and MEMA's situational awareness emails referred specifically to the NWS forecasts, including the wind-gust predictions (Exhs. NG-2, Att. J; AG 1-15, Att.). Further, starting in the early afternoon of Sunday, October 29, the NWS forecast stated that "confidence is rising for hurricane wind gusts particularly across portions of east/southeastern Massachusetts" (Exh. AG 1-15, Att.; Tr. at 40). On Sunday, October 29, at noon, the Companies included DTN forecast information in their pre-event report to the Department and stated that there could be wind gusts up to 65 miles per

[12] For example, from Saturday, October 28 at 6:00 a.m., through Sunday, October 29, at 1:00 p.m., the DTN forecast predicted, beginning on Sunday evening, sustained winds of 15 to 25 miles per hour, with wind gusts of 35 miles per hour, and potential for gusts between 40 and 50 miles per hour (Exh. NG-2, Att. J). The same forecast also stated potential for peak gusts up to 65 mile per hour on Nantucket (Exh. NG-2, Att. J).

hour on Nantucket, up to 60 miles per hour in southeast Massachusetts, and up to 55 miles per hour in the Merrimack Valley (Exh. NG-2, Att. M.; RR-AG-1). By Sunday, October 29, at 7:00 p.m., DTN predicted wind gusts up to 65 miles per hour for most areas of Massachusetts, with potential for 70-75 mile per hour winds off the coasts (Exh. NG-2, Att. J).

Even in light of these deteriorating DTN and NWS forecasts, the Companies did not elevate the event type, attempt to secure additional crews, or notify the Department or other public safety officials of the worsening forecast (Tr. at 50; RR-AG-1). The Companies' Sunday, October 29, 12:00 p.m. pre-event report to the Department simply copied the DTN forecast and did not reference any other source of weather information, such as the conflicting forecast from the NWS or MEMA situational awareness emails (Exh. NG-2, Att. M; Tr. at 158). Further, the Companies continued to classify the event as a Type 4 event, and they did not elevate the event to Type 3 until the strongest wind gusts had impacted the area in the early morning of Monday, October 30 (Exh. NG-2, at 15). All of the above suggests that the Companies did not consider the NWS forecast, but rather relied primarily on the less severe DTN forecast prior to and during the onset of the event (Tr. at 50; RR-AG-1). While we do not suggest that one weather service is more accurate than any other, in light of conflicting weather reports, it would be prudent to take into consideration the more severe forecast when preparing for an emergency event. We acknowledge, however, the challenge of monitoring weather conditions, the degree of uncertainty in such monitoring, and that at least one of the forecasts (the DTN forecast) did not deteriorate until Sunday, October 29, at 7:00 p.m. (Exh. NG-2, Att. J at 22-24).[13] We conclude

[13] The NWS forecasts were consistent from Saturday, October 28, through the afternoon of Sunday, October 29 (Exh. DPU 1-15, Att.). The NWS forecast predicted stronger wind

that National Grid's apparent reliance primarily on the DTN forecast, which was consistently less severe than and in conflict with other forecasts, likely contributed to its failure to appropriately classify the event, as discussed further below (Exhs. NG-2, Att. J; AG 1-15, Att.).

With respect to National Grid's event classification, we next examine whether it was reasonable for the Companies to (1) initially classify the October 29 Event as a Type 4 event on Friday, October 27; (2) reclassify the event as a Type 3 event beginning on the morning of Monday, October 30; and (3) remain at a Type 3 event for the remainder of the restoration. When initially classifying the event, in addition to the DTN weather forecasts, the Companies assert that they relied on the state incident commander's previous storm experience and operational knowledge of the electrical system and many situational factors, such as current weather conditions, damage appraisals, restoration priorities, forecasted resource requirements, and forecasted scheduling and pace of restoration (Exhs. NG-2, at 15; NG-2, Att. J). Further, National Grid states that it used its ERP event classification table to classify the event (Exh. DPU 1-2; Tr. at 102-104). Specifically, the Companies state that they did not escalate the event type to a Type 2 at any time during the October 29 Event because they did not believe restoration would take one full week, which is the typical event duration associated with Type 2 events in National Grid's ERP (Exhs. DPU 1-2, Att.; DPU 1-4; DPU 2-1, Att.; DPU 2-16).

While the Companies assert that they followed their ERP regarding event classification, for the reasons discussed below, we disagree. For each event type, National Grid's ERP provides a range of expected damage and crew-related data that describe typical event

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gusts than previously, beginning at 7:00 p.m. on Sunday, October 29 (Exh. DPU 1-15, Att.).

characteristics that should inform National Grid's event classification (Exh. DPU 1-2, Att. at 2-11). These characteristics include the following: (1) expected duration of restoration activities; (2) percentage of customer interruptions at peak; (3) lines of trouble at peak; (4) number of external line crews; (5) number of external tree crews; (6) number of damage assessors; and (7) number of wires-down crews (Exhs. DPU 1-1, Att.; DPU 1-2, Att.; DPU 2-1, at 38-40). As discussed in detail below, for most of the typical characteristics and associated damage and crew-related data, the storm-related data falls well above the Type 3 event thresholds and are in the range of values associated with Type 2 events (see Table 1, above) (Exh. DPU 1-2, Att.; RR-DPU-2).

As provided in National Grid's ERP, the following represent typical peak customer interruptions for Type 4, Type 3, and Type 2 events (Exh. DPU 1-2, Att.). For a Type 4 event, the percentage of peak customer interruptions is typically zero to three percent (Exh. DPU 1-2, Att. at 9). For a Type 3 event, the percentage of peak customer interruptions is up to nine percent, while for a Type 2 event, the percentage of peak customer interruptions is up to 30 percent (Exh. DPU 1-2, Att. at 4, 7). Although the October 29 Event resulted in 17 percent peak customer interruptions, the Companies initially classified the event as a Type 4 event (zero to three percent customer outages), and then, on the morning of Monday, October 30, classified the event as Type 3 (up to nine percent customer outages), at which point the Companies already reached the peak customer outages of 17 percent (Exhs. NG-2, at 4, 15; DPU 1-3; DPU 1-4; DPU 1-7; DPU 2-1, at 38-40; RR-DPU-2)). Accordingly, the peak percent of customer interruptions was significantly above those of a Type 3 event, which is up to nine percent

outages). Instead, customer interruptions were in the realm of a Type 2 event, which is up to 30 percent outages.

Additionally, National Grid's ERP provides that, for a Type 3 event, typical lines of trouble at peak are less than 1,000, and for a Type 2 event the typical lines of trouble are less than 7,000 (Exh. DPU 1-2, Att. at 4, 7). There were a total of 3,398 lines of trouble at peak in the October 29 Event, which also falls within parameters expected of a Type 2 event (Exh. DPU 1-2, Att. at 4; RR-DPU-2). Further, as specified in the Companies' ERP, the expected number of external line crews for a Type 3 event is greater than 20, while for a Type 2 event the expected number of external line crews is greater than 300 (Exh. DPU 2-1, Att. at 4, 7). The Companies used 291 external line crews at peak for the October 29 Event. While this level is technically within the Type 3 category, it is significantly closer to external line crew numbers for a Type 2 event (Exh. DPU 1-2, Att. at 4, 7; RR-DPU-2).

National Grid's ERP also provides that the typical number of external tree crews for a Type 3 event is greater than 10, while for a Type 2 event the typical number of external tree crews is greater than 100 (Exh. DPU 1-2, Att. at 5, 8). The Companies used a total of 265 external tree crews in the October 29 Event, which again falls in the realm of a Type 2 event and is even in the realm of a Type 1 event (Exh. DPU 1-2, Att. at 5; RR-DPU-2). Additionally, the Companies' ERP provides that the typical number of damage assessor crews for a Type 3 event is 50 to 75, while the typical number of damage assessor crews for a Type 2 event is 100 to 125 (Exh. DPU 1-2, Att. at 5, 8). National Grid used 90 damage assessor crews in the October 29 Event, which falls above the Type 3 criteria and slightly below the Type 2 criteria (Exh. DPU 1-2, Att. at 5; RR-DPU-2). Finally, the Companies' ERP provides that the typical

number of wires-down crews for a Type 3 event is 50 to 150, while that number for a Type 2 event it is 125 to 250 (Exh. DPU 1-2, Att. at 5, 8). In the October 29 Event, the Companies used 160 wires-down crews, which falls in the realm of a Type 2 event (Exh. DPU 1-2, Att. at 5; RR-DPU-2). Accordingly, as discussed above, most storm-related data falls well above the Type 3 event thresholds and are in the range of Type 2 events.

We note that during the first days after the storm hit, the Companies had some of the above-referenced information available to them, including the percentage of customer outages, which hit its peak of 17 percent at 4:23 a.m. on Monday, October 30, and the number of lines of trouble, which hit 2,500 in the morning on that same day (RR-DPU-2).[14] We do not suggest that National Grid or any company could predict exact customer interruption percentages, lines of trouble, or other associated value ranges set forth in the event classification table prior to or at the onset of a major event. Given the available weather forecasts, however, including the NWS forecasts, and situational conditions, such as the peak customer outages of 17 percent at 4:23 a.m. on Monday, October 30, as well as the over 2,500 trouble spots at the same time, there was a significant disconnect between the Companies' event classification and the reality of the damage caused by the October 29 Event (Exhs. NG-2, Att. J; AG 1-15, Att.; RR-DPU-2). Moreover, even after the October 29 Event hit and the Companies' distribution system had suffered damage that falls squarely within the realm of a Type 2 event, including 17 percent of its customers without power and 2,500 lines of trouble, the Companies did not factor this damage into how it classified the October 29 Event (Exh. DPU 1-3; RR-DPU-2). We acknowledge that

[14] During the October 29 Event, a total of 330,610 customers were affected, or approximately 25 percent, but the peak number of customer outages, which is the most outages at a single time, was 222,768, or approximately 17 percent (RR-DPU-2).

there is no single driving factor that prescribes event classification. Rather, the ERP event classification tables are meant in part to help assess the scope and complexity of the event and to communicate that preparation to state and local emergency officials and the public (Exh. DPU 1-2-1, Att. at 2). Based on the above, however, and based upon the Companies' multiple statements that it classified the event based only on the expected duration of restoration activities, as discussed further below, we conclude that the Companies failed to assess the complexity of the October 29 Event and properly classify the event pursuant to its ERP and the Department's restoration of service standard (Exhs. DPU 1-4; DPU 2-1; DPU 2-16; Tr. at 115-117)).

As discussed above, expected duration of restoration activities is one factor that the Companies consider when classifying an event (Exhs. DPU 1-2, Att.; DPU 2-1, at 38-40). National Grid states throughout this proceeding that it classified this event as Type 3 (as of Monday, October 30, at approximately 1:00 a.m.) because the expected maximum duration for restoration activities for a Type 3 event is 72 hours, and National Grid did not expect the restoration to take up to one week, the expected maximum duration of a Type 2 event (Exhs. DPU 1-4; DPU 2-1, Att.). It is unclear when the Companies consider event duration to end, that is, the time when the Companies' have completed restoration activities. First, we accept the Companies' premise that the clock on restoration duration begins at time of peak customer outages, which in this event, was 4:23 a.m. on Monday, October 30 (Tr. at 118; RR-DPU-2). National Grid was, however, unable to define, and the record does not clearly demonstrate, when "restoration activities are generally accomplished" for purposes of the event classification table (Exh. DPU 2-1, at 38-40). The Companies suggested that the duration ends

when either 90 or 95 percent of customers were restored, but could not point to an ERP or any other provision that defined the duration as ending at any particular percentage of customers restored (Tr. at 106, 167). In another instance, the Companies reported the event duration of several severe storms from the past several years, and those reported durations were for complete, or 100 percent, restoration (Exh. DPU 1-1; RR-AG-5). Based on the above, it is unclear whether, for purposes of event classification, the Companies estimate the duration of restoration activities based upon 90 percent customer restoration, 95 percent customer restoration, or 100 percent customer restoration.

For purposes of the actual duration of restoration activities, we rely on the following in determining whether the overall length of restoration activities was reasonable. For the October 29 Event, the Companies reported the following with respect to percentage of customers restored from the time the Companies experienced the peak number of customer outages (Monday, October 30 at 4:23 a.m.): 90 percent of customers were restored within 54.2 hours; 95 percent of customers were restored within 67.6 hours; 98 percent of customers were restored within 90.5 hours; and 100 percent of customers were restored in approximately 107 hours (Exh. NG-2, Att. B; RR-DPU-2). These percentages translate to the following approximate number of customers remaining without service: 90 percent restored leaves 22,275 customers without power; 95 percent restored leaves 11,138 customers without power; and 98 percent restored leaves 4,455 customers without power (RR-DPU-2). Given the level of damage the October 29 Event caused to the Companies' distribution system, we are satisfied with the overall pace of restoration as evidenced by the timeframes for restoration of 90, 95, 98, and 100 percent of customers. We note, however, that for purposes of restoring service in a safe and reasonably

prompt manner, consistent with 220 CMR 19.03(3), we do not consider restoration activities to be complete when either 90 or 95 percent of customers have service restored. While these points are important markers for purposes of measuring restoration progress, they are not indicative of complete restoration (see Exh. NG-2, Att. B, Excel 1; RR-DPU-2). Rather, as discussed above, significant numbers of customers still needed service restored when both 90 percent and 95 percent of customers were restored (RR-DPU-2).

Based on the evidence presented in the case, we are not persuaded that National Grid made a systematic and effective effort to translate the expected number of customer outages, potential damage to its distribution system (i.e., lines of trouble) and damage to sub-transmission systems (as well as actual damage incurred on its distribution system as of the morning of Monday, October 30), into its classification of the October 29 Event (Exhs. NG-2, at 15; DPU 1-3; DPU 1-4; DPU 1-7; RR-DPU-2). We conclude that the Companies' primary reliance on the DTN forecast and its failure to properly classify the event are indicative of a more systematic failure in preparation and organization for this event. We note, however, that the DTN weather forecast did worsen as the event neared, particularly in the evening of Sunday, October 29, which resulted in some uncertainty as to the expected impact of the event (Exhs. NG-2, Att. J; AG 1-15, Att.). For this reason, we do not find that the Companies' initial classification of the October 29 Event as a Type 4 event was a violation of the Department's service restoration standards. We do find, however, as discussed below, that the Companies' classification of the October 29 Event as a Type 3 event, which continued even after the Companies' experienced peak outages of 17 percent of customers and damage and crew needs

that largely fell within Type 2 event parameters, was a violation of the Department's service restoration standards (Exh. NG-2, at 12; RR-DPU-2). 220 CMR 19.03(3).

Misclassification of an ERP event is a harbinger to not securing adequate resources to meet restoration needs and to inadequately communicating the severity of the event to local, state, and emergency officials. We agree with the Attorney General that National Grid has downplayed the importance of event classification throughout this proceeding, which raises serious concerns about the Companies' ability to acquire and deploy sufficient resources (Exhs. DPU 1-4; DPU 2-16; Tr. at 158-159, 165). We also find concerning the Companies' statement that they would not have done anything differently if they had classified the event as Type 3 earlier in the process, a classification that would have been reasonable given the severity of weather forecasts (Exhs. NG-2, Att. J; AG 1-15, Att.). National Grid makes this claim despite the additional resources and different operational characteristics that a Type 3 event typically requires, such as the use of wires down and damage appraisal crews and decentralization of the response, which are not required for a Type 4 event (Exh. DPU 2-1, Att.). Further, the Companies stated that there is little difference between a Type 2 and a Type 3 and between a Type 3 and Type 4 event, yet National Grid's event classification tables from its ERP show otherwise, as the expected percentages of customer outages, lines of troubles, required resources, and actual response activities all differ greatly between these event types (Exh. DPU 1-2, Att.; Tr. at 159).

The Department finds that the Companies' performance was deficient in evaluating the weather reports, expected and then actual damage, and necessary resources into the classification of the October 29 Event (Exhs. NG-2, Att. J; DPU 1-4; DPU 2-1; DPU 2-16; AG 1-15, Att.;

RR-DPU-2). The Companies provided an inadequate explanation for why they did not escalate to a Type 2 event after the peak customer outages, lines of trouble, and crew resource needs far outpaced the parameters of a Type 3 event (Exh. DPU 1-2, Att; RR-DPU-2). Given the disparities between the actual event characteristics and typical Type 3 event characteristics, the Companies' apparent reliance on a single weather forecast and the Companies' expected 72-hours of restoration activities to classify the October 29 Event as a Type 3 event, we find that the Companies failed to properly consider their ERP in their event classification (Exh. DPU 1-2, Att.; RR-DPU-2).

With respect to the duration of the violation, we find that the Companies failed to meet their obligation to properly classify the event starting on Monday, October 30, when National Grid had classified the event as Type 3, even after the storm had hit and customer outages started to accrue (Exhs. NG-2, at 12; NG-2, Att. B1; RR-DPU-2). On Monday, October 30, at approximately 4:00 a.m., the customer outages soared to 17 percent and the lines of trouble reached above 2,000, or double the maximum expected number for a Type 3 event (Exhs. NG-2, Att. B1; DPU 1-2, Att.; RR-DPU-2). The record does not support the Companies' decision not escalate to a Type 2 event at this stage (Exhs. DPU 1-2, Att.; DPU 1-4; DPU 2-1, Att.; DPU 2-16). Lines of trouble and resource numbers, including, tree crew, and wires-down crews, remained at levels consistent with a Type 2 event through Tuesday, October 31, and Wednesday, November 1 (Exhs. NG-2, Att. C; DPU 1-2, Att.). For example, on Tuesday, October 31, and Wednesday, November 1, there were still 3,155 and 2,696 lines of trouble, respectively (Exh. NG-2, Att. C). Despite these figures, and other situational characteristics that fit squarely within the Type 2 classification per National Grid's ERP event classification tables, the Companies

maintained event classification as a Type 3 event (Exhs. NG-2, Att. C; DPU 1-2, Att.; RR-DPU-2). Again, the record does not support National Grid's decision, National Grid states only that it did not expect the duration of restoration activities to reach one week (Exhs. DPU 1-4; DPU 2-1; DPU 2-16; Tr. at 115-117).

National Grid has the duty to restore service to its customers in a safe and reasonably prompt manner during all service interruptions and outages. 220 CMR 19.03(3). Safe and reasonably prompt service restoration includes adequate estimation of customer outages and of expected damage and resource requirements, timely and effective securing of adequate resources, effectively deploying those resources throughout the event, and implementing all applicable component of the company's ERP, including those with respect to event classification. D.P.U. 11-85-A/11-119-A at 42-43. 220 CMR 19.03(3). If the Companies had properly classified the October 29 Event, they would have more effectively communicated the severity of the event with state and local public safety officials (Exhs. DPU 1-4; DPU 2-1; DPU 2-16; Tr. at 115-117). We find that the Companies' actions with respect to classifying the October 29 Event constitute a violation of the Companies' duty to restore service in a safe and reasonably prompt manner, which includes but is not limited to implementing applicable components of the Companies' ERP (Exh. DPU 2-1, Att.). D.P.U. 14-72-A, Attachment; 220 CMR 19.03(3). In light of this failure, we find that the Companies violated the Department's restoration of service standard. 220 CMR 19.03(3).

In determining the amount of the penalty for this violation, we take into account the factors listed in 220 CMR 19.05(2), as well as other factors including but not limited to the following: (a) the gravity of the violation; (b) the appropriateness of the penalty to the size of the

Companies; (c) the good faith of the Companies in attempting to achieve compliance; and (d) the degree of control that the Companies had over the circumstances that led to the violation. 220 CMR 19.05(2). Regarding the gravity of the violation, we note that an electric company's proper event classification is a critical tool in allowing a company as well as state and local public safety officials to appropriately prepare for and respond to an emergency event and, likewise, failure to properly classify an emergency event can lead to cascading failures throughout an event as well as inadequate communication of the seriousness of the event with local, state, and emergency officials.

Regarding the size of the Companies, National Grid is a large investor owned utility in Massachusetts, serving approximately 1.3 million electric customers. Therefore, the size of the Companies is not a mitigating factor in this matter. Next, in not escalating the event classification, particularly after a significant level of customer outages and lines of trouble were evident, we conclude that the Companies did not display good faith in attempting the achieve compliance with its own ERP or the Department's restoration standards for further escalating the event classification (Exhs. DPU 1-2; DPU 1-3; DPU 1-4; DPU 2-1, Att. at 35-45). Further, National Grid is solely in control over the circumstances (i.e., properly classifying the event) that led to this violation. Specifically, the Companies had control over the weather forecasts that National Grid reviewed, as well as other factors the Companies considered in classifying the event, including as outage numbers and trouble locations (Exhs. NG-2, at 12; NG-2, Att. J; AG 1-15, Att.; RR-DPU-2). No outside entities have control over the Companies' event classification.

Taking all of these factors into consideration and based on our review of the record evidence in this case, we find that a $150,000 penalty per day for three days, October 30, 2017, October 31, 2017, and November 1, 2017, is warranted. The maximum allowable penalty is $250,000 per day, and we find that the lack of good faith in classifying the event and the Companies' control over their ability to classify the event warrant a significant penalty. We note, however, the relatively reasonable overall duration of the restoration activities associated with the event is a mitigating factor.[15] Accordingly, the Department assesses the Companies a total penalty of $450,000 based on the Companies' failure to properly classify the event ($150,000 for Monday, October 30, $150,000 for Tuesday, October 31, and $150,000 for Wednesday, November 1).

For future emergency events, the Department directs the Companies to submit, in writing, to Department Commission, the Chief of Staff, the Director of the Electric Power Division ("EPD"), appropriate EPD staff, and any other designee provided by the Department, whenever National Grid makes any change to its event classification type, and indicate this requirement in its ERP. This requirement is applicable to both normal operations and emergency events. Further, we direct National Grid to amend its ERP to indicate when it considers restoration activities to be generally accomplished, or, in other words, when the clock stops for purposes of event duration for purposes of event classification. The Companies shall submit the above revision to its 2018 ERP within ten business days of this Order.

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15 The Companies maintained the Type 3 event classification from Monday, October 30 through the duration of the restoration activities (Exh. NG-2, at 15). We penalize, however, only for the three days when the lines of trouble and certain crew resource requirements, including tree crews, and wires-down crews, remained at levels consistent with a Type 2 event (Exhs. NG-2, Att. C; DPU 1-2, Att.).

B. Communications

1. Introduction

Communication between a company and municipal officials and communication between a company and the general public are a critical component of safe and reasonably prompt restoration during an emergency event. Massachusetts Electric Company and Nantucket Electric Company, D.P.U. 11-85-A/11-119-A at 100 (2012). Accurate and timely communication allows customers and officials to prepare for and respond to an event, and it serves as a central piece of a systematic response. D.P.U. 11-85-A/11-119-A at 100. The Companies' ERP, as well as the ERP Guidelines, include a number of communication requirements that National Grid must follow during an emergency event (Exh. DPU 2-1, Att. at 153-175). Revised Emergency Response Guidelines, D.P.U. 14-72-A (2015).[16] For example, National Grid must provide various reports to the Department during the pre-event stage, service restoration stage, and post-event stage[17] of emergency events classified as Type 3, Type 2, or Type 1 (Exh. DPU 2-1, Att. at 222-223). D.P.U. 14-72-A, Att. at 15-16. In this section, we address National Grid's communications with public officials and customers.[18]

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16 The ERP Guidelines provide minimum requirements for the content of electric distribution company ERPs, as well as reporting requirements related to annual training, drills, meetings and other annual activities. D.P.U. 14-72-A, Attachment.

17 A company must submit a final event report, a post-event stage report, following any Type 1 or Type 2 event, or following a Type 3 event upon Department request. D.P.U. 14-72-A, Attachment at 16.

18 In addition, we discuss some internal communications issues that overlap with the Companies' communications with municipal officials and customers.

2. Description of Event

a. Communication with State Officials

i. The Department and MEMA

On Friday, October 27, 2017, at 3:45 p.m., the Companies notified the Department of National Grid's planning efforts for the October 29 Event (Exh. NG-2, at 21). At that time, the Companies had classified the approaching storm as a Type 4 event (Exh. NG-2, at 15). After the October 29 Event, the Companies noted that much of the damage from the storm was due to whole-tree failure, rather than limb damage, which can be cleared more easily (Exh. NG-2, at 26). On Sunday, October 29, at 1:00 p.m., the Companies provided a pre-event report[19] to the Department (Exh. NG-2, at 21). On Sunday, October 29, at 5:20 p.m., the Department notified the Companies that MEMA was opening the bunker[20] in Framingham, Massachusetts at

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19 Pre-event reports contains the following: (1) weather forecasting and monitoring information; (2) planned storm conference calls (indicating date and time); (3) pre-event communications with the public, municipal contacts, and elected officials (describing communication methods); (4) pre-event notifications with regulators, MEMA, and life support customers, Critical Facilities (describing communication methods); (5) expected event classification type (describing expected severity), including all factors considered in that determination and, when applicable, a description of any changes to event classification type and the factors considered in the determination; (6) resource readiness (indicating actions taken to ensure availability of crews and material resources indicating type and quantity of available crews); (7) likelihood of an emergency operations center ("EOC") being opened (indicating date and time opened or predicted to be opened); (8) problems anticipated or encountered in preparation for the anticipated emergency; and (9) any other pertinent information (Exh. DPU 2-1, at 223). The Companies must submit pre-event reports to the Department daily at 5:00 a.m., and 5:00 p.m., or whenever the Companies change the event type, in Type 1, 2, and 3 events during the pre-event stage (Exh. DPU 2-1, at 223). The Companies state that because they were operating as a Type 4 event until the early morning on Monday, October 30, they only submitted a single pre-event report after escalating to a Type 3 event (Exh. NG-2, Att. M).

20 MEMA maintains an emergency response operation center in a cold war era bunker in Framingham, Massachusetts, where MEMA, Department, National Grid, and other state

8:00 p.m., but that MEMA did not request that the Companies provide a MEMA liaison at that time (Exh. NG-2, at 21). Customers first experienced outages as a result of the October 29 Event at approximately 10:00 p.m., on Sunday, October 29 (Exh. NG-2, Att. B, Excel 1). On October 29, at 11:00 p.m., the Companies provided a MEMA liaison at the MEMA bunker (Exh. NG-2, at 21). The Companies' MEMA liaison arrived to the bunker at approximately 12:00 a.m. that night (Exh. NG-2, at 21).

Although they did not notify the Department until 8:00 a.m. on Monday, October 30, the Companies elevated the event to a Type 3 event approximately seven hours earlier at 1:00 a.m., on Monday, October 30 (Exh. NG-2, at 15; DPU 1-15). On Monday morning, October 30, MEMA fully activated the MEMA bunker and the Companies maintained a MEMA liaison in the bunker until operations at MEMA were scaled back and no longer required the Companies' presence (Exh. NG-2, at 21). The Companies provided their first service restoration stage report to the Department at 10:00 a.m. on Monday, October 30 (Exh. NG-2, Att. C).[21] On Wednesday, November 1, at approximately 5:00 p.m., the Companies determined a MEMA liaison was no longer necessary at the MEMA bunker (Exh. NG-2, at 21, 30).

During the restoration effort, the Companies participated in two separate conference call meetings with state agencies and Department officials (Exh. NG-2, at 30). The first call was on

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public safety personnel convene during emergency events in order to facilitate communication between those entities.

[21] The ERP Guidelines require companies to submit service restoration stage reports, referred to as Stage A and Stage B reports, during the restoration stage of an emergency event. D.P.U. 14-72-A, Attachment at 20. The reports include information about customer outages, trouble locations, crew numbers, and other restoration details. D.P.U. 14-72-A, Attachment at 20.

Tuesday, October 31 to discuss the specific type of damage incurred on National Grid's system, the global estimated time of restoration ("ETR") for the state, restoration resource levels, and communications with Essex County local officials (Exh. NG-2, at 30). The second conference call was on Wednesday, November 1, 2017, and it also included Essex County local officials (Exh. NG-2, at 30). On Wednesday, November 1, at 5:00 p.m., MEMA deactivated the bunker in Framingham (Exh. NG-2, at 30).

On December 4, 2017, after the event was over, the Companies noted that from very early in the storm, the October 29 Event had resulted in many whole trees falling down (Exh. NG-2, at 26, 34-35). The Companies stated that whole-tree damage results in lengthier restoration than tree-limb damage because whole trees cause much more severe damage to the distribution system (Exh. DPU 1-9). The Companies state that they do not typically communicate restoration facts such as whole-tree damage versus limb damage to public officials, municipalities, or customers (Exh. DPU 1-9).

b. Communication with Municipal Officials

National Grid contacted municipal officials regarding the upcoming weather event as follows: South Shore on Friday, October 27 at 11:30 a.m.; the Central/West (Worcester) on Sunday, October 29 at 12:30 p.m.; and the Merrimack Valley/North Shore on Sunday, October 29 at 3:00 p.m. (Exh. NG-2, at 21). On Friday, October 27, the Companies contacted Nantucket's emergency management director to notify them that the municipal room[22] and Cape

[22] During emergency events, the Companies decentralize operations to branch EOCs. See D.P.U. 11-85-A/11-119-A, Transcript 4, at 725-727. The Companies set up municipal rooms and wires-down rooms in each EOC as a mechanism to communicate with municipalities. See D.P.U. 11-85-A/11-119-A, Transcript 4, at 725-727.

Cod/Nantucket municipal liaison were available for the event (Exh. NG-2, at 22). Additionally, on the same day, the Companies' municipal liaisons covering Scituate and Cohasset contacted their respective towns in advance of the storm (Exh. NG-2, at 22). On Friday, October 27, and Sunday, October 29, the Companies conducted conference calls with the Plymouth County Fire Chiefs (Exh. NG-2, at 22). During these calls, the Companies informed municipalities that they were monitoring the weather forecast and that the forecasted rain and wind could have an impact beginning on Sunday, October 29 (Exh. NG-2, at 21). Further, on October 29, the Companies expected the forecasted weather to impact the South Shore and Merrimack Valley/North Shore areas, and they informed municipal officials in those regions that National Grid was preparing for a Type 4 event, when they expected to open storm rooms[23] and municipal rooms, and that crews would be on site to respond to any power outages (Exh. NG-2, at 21). Similarly, on Sunday, October 29, the Companies contacted the South Shore municipal police and fire dispatchers to notify them that National Grid's storm and municipal rooms were open (Exh. NG-2, at 22).

On Sunday, October 29, the Companies continued to classify the October 29 Event as a Type 4 event and planned to open a storm room at 6:00 p.m. and the municipal room at 9:00 p.m. that day in the Companies' North Andover office (Exh. DPU 1-10 (Supp.)). On Sunday, October 29, at 3:00 p.m., the Companies' municipal liaison teams informed municipalities in the areas where the Companies expected an impact from the weather (e.g., the South Shore and

[23] The Companies use storm rooms to (1) prioritize service restoration, (2) maintain the outage management system, (3) dispatch resources, (4) estimate and disseminate ETAs for Priority wires down, and (4) generate required reports (Exh. DPU 2-1, Att. at 126).

Merrimack Valley/North Shore, including the Town of Boxford ("Boxford")) about when the Companies expected to open municipal rooms (Exh. NG-2, at 21).

On Sunday, October 29, the Companies opened municipal rooms in Brockton and North Andover at 7:00 p.m. and 9:00 p.m., respectively (Exh. NG-2, at 19). On Monday, October 30, Boxford municipal officials unsuccessfully tried to call the North Andover municipal room at 2:30 a.m. to discuss the numerous priority wires-down calls Boxford had reported (February 13 Transcript at 22, 24). Boxford officials called several times over the next hour without reaching National Grid personnel (February 13 Transcript at 22, 24).[24]

The October 29 Event turned out to be more severe than the Companies anticipated, which led to an unexpected increase in call volume to the municipal room from municipal officials (Exh. DPU 1-10 (Supp.)). On Monday, October 30, at 8:00 a.m., the Companies began to open additional municipal rooms in Worcester and Hopedale to manage and communicate with the large number of impacted communities (Exh. NG-2, at 30). At the same time, the Companies deployed or assigned municipal liaisons to work with the municipalities' emergency, safety, and public officials (Exh. NG-2, at 30). The Companies assigned municipal liaisons to support specific communities and enable direct communications back into the Companies' branch municipal rooms, public information coordinators, and branch operations personnel (Exh. NG-2, at 30-31). The Companies held municipal calls beginning on Monday, October 30,

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[24] In the Companies' initial response to information request DPU 1-10, they stated that the North Andover facility lost power during the first night of the October 29 Event, and that the loss of power affected incoming calls to the municipal room. Upon further investigation, the Companies discovered that the power outage and backup generator malfunction affected the lights, but not the phones or internet in the facility (Exh. DPU 1-10 (Supp.)).

until completion of the restoration activities in each region (Exh. NG-2, at 31). As each branch completed restoration, the Companies held a final municipal call with instructions on how to communicate with the Company should any new issues arise (Exh. NG-2, at 31).

c. Communications with Customers

On Saturday, October 28, National Grid took the following steps to facilitate communications with the Companies' customers: (1) added additional staffing for the customer contact center for Sunday October 29, through Saturday, November 4; (2) established and created 12- to 16-hour shifts for National Grid staff in New England; (3) assigned support to assist with life support customer[25] ("LSCs") monitoring and outreach; (4) scheduled management personnel for 12- to 16-hour rotating shifts; and (5) contacted the Companies' third-party vendor to provide additional support for incoming calls (Exh. NG-2, at 22). The Companies provided information prior to the event to customers through National Grid's website, social media, and interviews with the media (Exh. NG-2, at 22).

On Saturday, October 28, at 2:00 p.m., the Companies issued a pre-event message to critical facilities (Exh. NG-2, at 22).[26] In addition to monitoring LSCs throughout the event, the Companies initiated automated calls to LSCs on Sunday, October 29, at 2:00 p.m., to notify them

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[25] LSCs are those who have provided documentation of their medical conditions necessitating electric service (Exh. DPU 2-1, at 273).

[26] A critical facility is a building or structure where the loss of electrical service would result in disruption of a critical public safety function (Exh. DPU 2-1). Examples of critical facilities may include, but are not limited to hospitals, police and fire stations, airports, emergency management agencies, acute/post-acute medical facilities with life sustaining equipment, water sewer, pump stations, evacuation centers, and emergency communications centers which serve a life safety function (emergency 911 centers) (Exh. DPU 2-1, at 271). Revised Service Quality Guidelines, D.P.U. 12-120-D at 34, citing D.P.U. 12-120-C, Att. A at 2.

of the upcoming weather, to recommend taking necessary precautions and preparations in the event of an outage, and to advise them to contact 911 or their local public safety officials in the event of an emergency (Exh. NG-2, at 22).

On Tuesday, October 31, at 12:00 p.m., upon completion of damage assessment, National Grid first communicated ETRs to customers (Exhs. NG-2, at 29; DPU 2-3). The Companies provided updates to ETR's three times per day from Tuesday, October 31 until Friday, November 3; after Friday, November 3, at 12:00 a.m., National Grid updated ETR information on a real-time basis (Exhs. NG-2, at 29; DPU 2-3). National Grid states that it communicated ETRs through its website and various media outlets (Exhs. NG-2, at 29; DPU 2-3).

During the February 13 public hearing, a National Grid customer from the town of North Andover spoke regarding the Companies' dissemination of ETRs and communication with customers during the October 29 Event (February 13 Transcript at 32). The customer stated that by Monday morning (October 30) the customer did not have power and was not able to get an ETR (February 13 Transcript at 33). The customer's family included two small children and, because they were unable to get an ETR, they made the decision to get a hotel (February 13 Transcript at 33). On Tuesday, October 30, during the afternoon, the customer found out that the ETR was Thursday, November 2, at 11:59 p.m., and made the decision to stay in a hotel for the following days (February 13 Transcript at 33). Instead, the customer's power came back on Tuesday, October 31, during the afternoon, when the customer had already booked their hotel, costing them several hundred dollars (February 13 Transcript at 33). This customer states that she is disappointed in the inaccurate information that National Grid gave her as well as the lack of information the Companies provided during the event (February 13 Transcript at 34).

3. Positions of the Parties

a. Attorney General

Based on the information provided by National Grid, the Attorney General acknowledges that the Companies have made improvements to their storm response protocols since the October 29 Event (Attorney General Comments at 1). The Attorney General asserts that these improvements include changes to municipal room protocols and additional efforts to improve communication with municipalities and customers (Attorney General Comments at 1). The Attorney General contends that National Grid changed its municipal room protocols to address specific problems experienced by municipalities trying to reach the North Andover municipal room during the first night of the October 29 Event (Attorney General Comments at 2). Accordingly, the Attorney General recognizes that National Grid has taken other steps to improve communication with municipalities and customers throughout event restoration (Attorney General Comments at 2).

b. Companies

As a general matter, National Grid argues that it adequately and sufficiently prepared to and did restore service to its customers in a safe and reasonably prompt manner for the October 29 Event, including conducting successful pre-event, restoration stage, and post-event communications (Company Brief at 42). National Grid asserts that it has demonstrated that it implemented pre-event communications with public officials in accordance with the Companies' ERP (Companies Brief at 35, citing Exh. NG-2, at 21-22). The Companies further claim they showed that they followed their ERP with respect to communications with regulatory and state officials during and after the October 29 Event (Companies Brief at 64, citing Exh. NG-2, at 27).

National Grid avers that, throughout the October 29 Event, it worked closely with local safety and elected officials to provide information regarding number and locations of outages, the restoration progress, and ETRs (Companies Brief at 65, citing Exh. NG-2, at 28).

Further, National Grid contends that it worked closely with municipalities to prioritize public safety, including the restoration of critical facilities and infrastructure (Companies Brief at 66, citing Exh. NG-2, at 28). The Companies maintain that their ERP requires National Grid to use municipal calls and deploy municipal liaisons during an emergency event, and they claim to have met both requirements during the October 29 Event (Companies Brief at 67). National Grid argues that it demonstrated that its communication with municipal officials during and after the October 29 Event complied with its ERP (Companies Brief at 67, citing Exh. NG-2, at 27-29).

Additionally, the Companies assert that they communicated with customers before, during, and after the October 29 Event (Companies Brief at 29, citing Exh. NG-2, at 20; Companies Brief at 68, citing Exhs. NG-2, at 32, Att. H; DPU 2-3; AG 2-39-1, Att.). National Grid maintains that it communicated with customers through its call center, website, direct email, and social media during and after the October 29 Event (Companies Brief at 68, citing Exhs. NG-2, at 32, Att. H; DPU 2-3; AG 2-39, Att.). National Grid claims that it made information available to its customers regarding how the Companies prepared for the storm, how to report and check on outages, relevant safety tips, and instructions for customers on how to receive text message alerts and updates from the Company (Companies Brief at 29, citing Exh. NG-2, at 20). Further, the Companies argue they followed their ERP regarding customer communications during and after the October 29 Event (Companies Brief at 69).

According to the Companies, during emergencies that are classified as Type 1, 2, or 3 events, the ERP provides that National Grid must maintain a communications system that customers can access to obtain ETRs (Companies Brief at 58, citing Exh. DPU 2-1, Att. at 147). National Grid claims that it provided the Companies' best projections for ETRs throughout restoration (Companies Brief at 59, citing Exh. DPU 1-12 (Supp.)). National Grid asserts that it used the following information to calculate ETRs: Outage Management System ("OMS")[27] predictions of the failed device that caused the outage; damage assessment information; reports from field employees; outage management data; priority calls; and customer calls (Companies Brief at 59, citing Exh. DPU 1-12 (Supp.)). Further, the Companies report that they first communicated ETRs on Tuesday, October 31, at 12:00 p.m., upon completion of damage assessment, and that they subsequently updated ETRs three times daily until Friday, November 3, at which time the Companies updated ETRs on a real-time basis (Companies Brief at 60, citing Exhs. NG-2, at 26; DPU 2-3). National Grid contends that it communicated ETRs through its website and media outlets (Companies Brief at 60, citing Exh. NG-2, at 26). The Companies argue that the record demonstrates that National Grid followed its ERP with respect to disseminating ETRs to customers (Companies Brief at 61).

4. Analysis and Findings

a. Introduction

In this section, the Department determines whether the Companies communicated with state officials, municipal officials, and customers in compliance with the Companies' ERP, the

[27] OMS is a system to identify customer outages, assign trouble crew, and record outage event statistics (Exh. DPU 2-1, at 274).

ERP Guidelines, or as otherwise required to ensure safe and reasonably prompt restoration. D.P.U. 14-72-A, Attachment; 220 CMR 19.03(3). The Companies' ERP outlines a suite of communication channels and information that National Grid must provide to customers and state and local public safety officials during an emergency event, as well as requirements for the dissemination of ETRs (Exh. DPU 2-1, at 153-175). It is not enough for the National Grid to set forth methods of communication in its ERP if the Companies' procedures and methods as implemented result in the Companies' failure to restore service to its customers in a safe and reasonably prompt manner. See D.P.U. 11-85-A/11-119-A at 109.

b. Communications with State Officials

With respect to communication with state officials, National Grid elevated its event classification from a Type 4 to a Type 3 at approximately 1:00 a.m. on Monday, October 30 (Exhs. NG-2, at 12; DPU 1-15, at 1). The Companies are obligated, per their ERP and the ERP Guidelines, to provide certain reports at certain pre-determined times to the Department depending on the event classification and the stage, defined as either pre-event stage, service restoration stage, or post-event stage. D.P.U. 14-72-A, Attachment at 3.[28] The pre-event stage means the period of time between when (1) the Companies first identify an impending emergency event and (2) the emergency event first causes damage to the Companies' system that results in service interruptions. D.P.U. 14-72-A, Attachment at 3. The service restoration stage means the period of time between when an emergency event first causes damage to the system, resulting in service interruptions, and the time when the Companies restore service to all

[28] As we find no issues with the post-event reports the Companies provided, we do not discuss that reporting here.

customers (Exh. DPU 2-1, Att. at 223). D.P.U. 14-72-A, Attachment at 15. The Companies must provide the pre-event reports during the pre-event stage during Type 1, 2, or 3 events, at 5:00 a.m., 5:00 p.m., or whenever the Companies change the event classification (Exh. DPU 2-1, Att. at 223). D.P.U. 14-72-A, Attachment at 15.

Additionally, the Companies are required to provide two types of service restoration stage reports during the service restoration stage during Type 1, 2, or 3 events, which are referred to as Stage A and Stage B reports (Exh. DPU 2-1, Att. at 223).[29] See also D.P.U. 14-72-A, Attachment at 16. The Stage A report must be provided every four hours beginning at noon or midnight (Exh. DPU 2-1, Att. at 224).[30] D.P.U. 14-72-A, Attachment at 19. The Companies must provide the Stage B report every eight hours[31] (Exh. DPU 2-1, Att. at 224).[32] D.P.U. 14-72-A, Attachment at 19-20.

Based on the definitions of the pre-event stage and the service restoration stage, and the time at which the Companies elevated the event to a Type 3 event (approximately 1:00 a.m. on Monday, October 30), the Companies should have provided the first service restoration Stage A

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29 Stage A reports require information about the number of customer outages, trouble locations, and services requiring repair. D.P.U. 14-72-A, Attachment at 19. Stage B reports require information about the number of each type of crew working on restoration. D.P.U. 14-72-A, Attachment at 20.

30 For example, if the Companies first submit Stage A reports at midnight, they would subsequently submit them at 4:00 a.m., 8:00 a.m. noon, 4:00 p.m., 8:00 p.m., and midnight.

31 For example, if the Companies first submit Stage B reports at midnight, they would subsequently submit them at 8:00 a.m., 4:00 p.m. and then midnight.

32 The required contents of the restoration Stage A and B reports are detailed in the ERP Guidelines, as well as the Companies' ERP (Exh. DPU 2-1, Att. at 707-708). DPU 14-72-A, Attachment at 19-20.

report at 4:00 a.m. on Monday, October 30, and the first restoration Stage B report at 8:00 a.m. that same day (Exhs. NG-2, at 12; DPU 2-1, Att. at 223-224). The Companies, however, did not provide the first restoration Stage A report until 10:00 a.m. on Monday, October 30, and the first restoration Stage B report until noon on the same day (Exh. NG-2, Att. C). Moreover, the Companies' ERP requires National Grid to report the event classification in restoration Stage A reports, so had the Companies provided such reports when they were required, which is at 4:00 a.m. on Monday, October 30, the Department would have known that National Grid had elevated to a Type 3 event at that time (Exh. DPU 2-1, Att. at 224). D.P.U. 14-72-A, Attachment at 19. The Companies, however, did not file the first restoration Stage A report until 10:00 a.m. on Monday, October 30, and did not otherwise notify the Department of the change in event classification, until 8:00 a.m. that morning, via a phone call (Exhs. NG-2, at 12, Att. C; DPU 1-15, at 1).[33]

The event classification signals a number of important things to the Department, MEMA, municipal, and public safety officials, including but not limited to the level of damage caused by the storm, the expected length of restoration, and the number of required resources to restore service following an emergency event. The ERP and ERP Guidelines require regular reporting at specific times during a Type 3, Type 2, or Type 1 event so that the Department remains apprised of the conditions with which the Companies are contending and to allow the

[33] Additionally, even if we considered the time that the Companies elevated the event classification to a Type 3 (1:00 a.m. on Monday, October 30) to be in the pre-event stage, which we do not based on the definitions in the ERP Guidelines, the Companies' ERP requires them to provide in a pre-event report to the Department any change in event classification (Exh. DPU 2-1, Att. at 223). That pre-event report would need to have been submitted to the Department at 5:00 a.m. on Monday, October 30 (Exh. DPU 2-1, Att. at 223). The Companies, however, submitted no such report at that time.

Department to fulfill its oversight responsibility to facilitate emergency response and communicate with other state, municipal, and public safety officials, as well as customers (Exh. DPU 2-1, Att. at 222-224).[34] D.P.U. 14-72-A, Attachment at 14-16; See G.L. c. 164, § 76. Failing to provide the service restoration reports when required, particularly the Stage A report, which includes the event classification, and otherwise failing to inform the Department of the changing conditions, including the elevated event classification, is a violation of the Companies' duty to safely and reasonably promptly restore service by communicating effectively and timely with stakeholders. We reiterate the importance of event classification to the Department's ability to understand and respond to the event. Regardless of the specific stage, whether pre-event or service restoration stage, the Companies must report any changes in event classification to the Department in accordance with the timeframes outlined in the ERP and ERP Guidelines (Exhs. DPU 2-1, Att. at 223-224). D.P.U. 14-72-A, Attachment at 15, 19.

c. Communication with Municipal Officials

Safe and reasonably prompt service restoration requires coordination with local officials and communications that are effective and timely. D.P.U. 11-85-A/11-119-A at 109 citing Fitchburg Gas and Electric Light Company, D.P.U. 09-01-A at 125 (2009) (Department found that the company failed to provide accurate and useful information to the public and that this

[34] The Department is one of two responsible state agencies for Emergency Support Function 12, which include implementation of emergency procedures, policies and emergency response measures used by the MEMA, other state agencies, non-government organizations, and private utilities in responding to and recovering from fuel shortages, power outages, and capacity shortages caused by an emergency incident, major disaster, acts of war, terrorism (physical or cyber), or civil disturbance in the Commonwealth.

failure was inconsistent with company's obligation to provide safe and reliable service to its customers).

On Sunday, October 29, at approximately 3:25 p.m., National Grid informed municipal officials via e-mail that the Companies would open a municipal room in the Companies' North Andover office at 9:00 p.m. that evening (Exh. DPU 1-10, at 1 (Supp.)). On the night of Sunday, October 29, the Companies staffed one on-call representative in the North Andover municipal room who reported for duty at 9:00 p.m. that evening (Exhs. DPU 1-10 (Supp.); AG-2-11). The Companies scheduled municipal room staff to arrive at 7:00 a.m. the next day to relieve the on-call representative (Exh. DPU 1-10 (Supp.)). The single on-call representative did not have experience working in the municipal room during storm events; however, the representative had been activated as a municipal liaison in a number of past storms (Exh. AG 2-11). The on-call representative was at the North Andover municipal room from October 29, 2017 at 9:00 p.m. until October 30 at 7:00 a.m. (Exh. AG 2-11).

On the first night of the event, Sunday, October 29, the Companies activated two out of the four phones in the municipal room (Exh DPU 1-10 (Supp.)). The Companies programmed the phones to ring three times before looping to the next phone, if unanswered (Exh. DPU 1-10 (Supp.)). The next phone would ring three more times, and if still unanswered, the call defaulted to a voicemail message (Exh. DPU 1-10 (Supp.)). During this period of time, the on-call representative was the only employee in the municipal room and, therefore, was responsible for answering calls on both lines (Exh. AG 2-12; Tr. at 58). Further, in order to convey relevant information and follow up on outstanding requests to the storm room, the

employee had to leave the municipal room to walk to the storm room (Exh. AG 2-12). By doing so, the municipal room was, at times, left unattended (Exh. AG 2-12).

An official from Boxford testified that Boxford public safety personnel, after several attempts, were unable to reach a qualified Company employee to discuss priority wires-down in the early morning hours of Monday, October 30, when the municipal room had been open for approximately five hours (February 13 Transcript at 23-24).[35] National Grid does not have a record of the October 30 calls from Boxford, due to the high call volumes and inability to manually log each call the Companies received (Exh. AG 2-12). The Boxford town administrator testified that National Grid failed to provide accurate communications with local officials through the North Andover municipal room and with its customer through its outreach media (February 13 Transcript at 30). Boxford is a municipality that was heavily affected by the October 29 Event, and the Boxford town administrator testified that the town experienced substantial communication issues with the Companies (February 13 Transcript at 23-24).

The Companies are responsible for communicating with all impacted municipalities through the various channels as outlined in National Grid's ERP, including the municipal room and municipal liaisons (Exh. DPU 2-1, Att. at 180). Municipal and public safety officials rely on the Companies to provide and receive critical information, including priority wires-down, during an emergency event. The Department finds that it is unacceptable that Boxford was unable to communicate with National Grid in the early hours of the storm (see February 13 Transcript at 23-24). Boxford was unable to reach National Grid to discuss downed wires, which greatly

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[35] Boxford played audio of the first attempted phone call at the public hearing, noting that all calls in and out of the police station are recorded (February 13 Transcript at 23).

hinders the Companies' ability to restore service safely, and also hinders the municipalities ability to ensure the safety of their residents (see February 13 Transcript at 23-24). Accordingly, we find that the Companies violated the Department's restoration of service standard. 220 CMR 19.03(3).

Early in the storm, the Companies noted that whole-tree damage resulted in longer restoration than damage caused only by tree limbs, which typically are easily cleared allowing the Companies to re-energize impacted lines (Exh. NG-2, at 26). National Grid states, however, that it does not usually communicate this type of information to municipal and public safety officials during an emergency event and the record demonstrates that the Companies did not do so during the October 29 Event (see Exh. DPU 1-9). National Grid's ERP describes several storm roles and communication channels dedicated to communication with various public safety officials, including the Department, MEMA, and municipal public safety officials (Exh. DPU 2-1, Att. at 180, 190-191). Specifically, the Companies employ a state liaison officer[36] and a MEMA liaison[37] (Exh. DPU 2-1, Att. at 188). Further, the ERP requires the Companies to maintain an entire program of municipal liaisons that maintain relationships with municipalities year round, who are expected to communicate with municipalities during an emergency event (Exh. DPU 2-1, Att. at 185-186). Additionally, the Companies maintain a 24-hour municipal call center during emergency events and hold municipal conference calls (Exh. DPU 2-1, Att. at 180, 190-191). While the Companies' ERP does not explicitly state that National Grid must

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[36] This individual is responsible for communicating with Department officials at the MEMA bunker

[37] This individual is responsible for communicating with both MEMA and the Department during emergency events

inform municipal and public safety officials of restoration information such as damage by whole trees, this type of information could significantly aid effective communication with municipal and public safety officials, as well as the Department, MEMA, and other public entities. Given the numerous communication channels that the ERP requires the Companies to employ during an emergency event, and the importance of the information regarding the type and extent of damage incurred, we find that the failure to communicate restoration information, such as the extent of damage caused by whole-tree failure, constitutes a violation of the Department's restoration of service standard.

As discussed above, the evidence demonstrates that the Companies' communications with state and municipal officials during the October 29 Event was inadequate in several ways (Exhs. NG-2, at 21, Att. C; DPU 1-15; AG 2-12; February 13 Transcript at 23-24). D.P.U. 14-72-A, Attachment. We also emphasize that the various aspects of effective restoration impact one another. For example, in this instance, had the Companies incorporated the more serious weather forecasts into their event classification and elevated the event type earlier than Monday, October 30, they would have likely staffed additional employees in the municipal room and been capable of addressing the volume of calls.

d. Communication with Customers

The Department must determine whether the Companies communicated with customers in compliance with National Grid's ERP, the ERP Guidelines, or as otherwise required to ensure safe and reasonably prompt restoration. The Companies' obligation to restore service to customers includes timely response to their calls and consistent, accurate information on safety measures and the length of restoration (Exh. DPU 2-1, at 164-176). This communication is

important so that customers can assess and safely determine their needs during an emergency. D.P.U. 11-85-A/11-119-A at 118.

The record demonstrates that the Companies communicated with the public through various means, including social media, press releases and television and radio interviews, as well as through the Companies' call center and website (Exhs. NG-2, at 29; DPU 2-1, Att. at 147; DPU 2-3). Customers could also reach the Companies through the call center, Facebook, Twitter, and National Grid's website (Exhs. NG-2, at 29; DPU 2-1, Att. at 147-148; DPU 2-3).

The evidence demonstrates that some of National Grid customers, who were without power, could not get an ETR (February 13 Transcript at 33). The Companies' communications' failure led to customers incurring expense (e.g., hotel accommodations) (February 13 Transcript at 33). Once ETRs were established, they were inaccurate and inconsistent (February 13 Transcript at 33). The Department is aware of several instances when the Companies issued incorrect ETRs. Specifically, the Companies acknowledge disseminating incorrect updated ETRs from the North Andover storm room and identified in its after action review areas[38] for improvement related to improving, developing, and reporting ETRs (Exh. AG 2-31;

[38] In National Grid's after-action review, the Companies identified several issues with their ETR process, including a need to improve communication between state and branch EOCs, to better establish customer ETR expectations, issues with communicating ETRs on the Companies' website, and issues with respect to ETR accuracy (Exh. AG 2-31).

Tr. at 93-94, 143).[39] Further, on Monday, October 30, the Companies issued an ETR of two hours and later removed the ETR because it was incorrect (Exh. DPU 2-4).[40]

Given the availability of communications technologies, the Department expects the Companies to provide timely and accurate information to aid in the safe and reasonably prompt restoration of service. While the Companies used various forms of media to communicate with the public, the record shows that the Companies failed to communicate effectively with their customers during the October 29 Event with respect to localized ETRs. While we acknowledge that the Companies have taken steps to remedy issues with developing and communicating ETRs, communicating inaccurate ETRs to the public nevertheless violates the applicable standard requiring restoration of service in a safe and reasonably prompt manner. 220 CMR 19.03(3); see also D.P.U. 09-01-A at 125 (Department found that the company failed to provide accurate and useful information to the public and that this failure was inconsistent with company's obligation to provide safe and reliable service to its customers).

e. Conclusion on Communications

As discussed above, we have found failures with the Companies' communications with state officials, municipal officials, and customers. Specifically, we have found that the Companies failed to timely communicate to the Department the escalation of the October 29 Event from a Type 4 to a Type 3 event, failed to communicate the extent and type of tree damage

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39 This error resulted from an employee failing to follow National Grid's protocols for disseminating ETRs (Tr. at 93-94). The Companies have retrained this employee since the October 29 Event (Tr. at 94).

40 This error was also the result of employee error, and the Companies have retrained this employee since the October 29 Event (Exh. DPU 2-4).

to public officials, failed to adequately communicate with Boxford municipal officials regarding priority downed wires due to phone issues and personnel training, and failed in several instances to communicate accurate ETRs to customers (Exhs. NG-2, at 12, 24-25, Att. C; DPU 1-9; DPU 2-1, Att. at 223-224; DPU 2-4; AG 2-31; February 13 Transcript at 33; Tr. at 93-94, 143). D.P.U. 14-72-A, Attachment at 19. We acknowledge that the Companies did follow their ERP in other instances concerning communication with state officials, municipal officials, and customers, including but not limited to other aspects of the Companies' reporting to the state and using multiple forms of social media to communicate with the public (Exhs. NG-2, at 23, 24-25, 30, 31, 35, Att. H; DPU 2-3; AG 2-39, Att.). In the instances discussed above, however, the Companies' actions constitute a violation of the Department's restoration of service standard. In light of these failures, we find that the Companies violated the restoration of service standard. 220 CMR 19.03(3).

Although the Department has the discretion to penalize the Companies for each instance of violating the restoration of service standard discussed above, in this case, we choose to treat the Companies' communication violations in a holistic manner, so that rather than individually assigning penalties to each specific violation, we will treat service restoration standard violations with respect to communication in the aggregate and only penalize for each day that communication violations persisted. See 220 CMR 19.03(3). In determining the amount of the penalty for these communication violations, we evaluate the length of time over which they occurred, as well as the impact of any mitigating factors.

With respect to the length of the violations, we determine that violations occurred over two days: Monday, October 30; and Tuesday, October 31. Specifically, on Monday, October

30, the Companies inadequately staffed the telephones in the municipal rooms and did not provide adequately trained personnel, which resulted in a failure to answer municipal phone calls from Boxford in the North Andover municipal room (Exh. DPU 1-10, at 1-2 (Supp.); February 13 Transcript at 23-24). Further, on Monday, October 30, National Grid failed to timely provide required reports to the Department, or otherwise advise the Department that it elevated to a Type 3 event for several hours, and it failed to communicate to public officials the type and extent of damage to the Companies' distribution system, specifically that its distribution system experienced damage by whole trees (Exhs. NG-2, at 12, 26, Att. C; DPU 1-9; DPU 2-1, Att. at 223-224). The violations that occurred on Tuesday, October 31 are the failure to communicate reliable ETRs to customers and the continued failure to communicate the nature and extent of damage from whole trees to the Department and other public safety and municipal officials (February 13 Transcript at 33; see Exhs. NG-2, at 26, 29; DPU 1-9; DPU 2-4; Tr. at 93-94, 143). We reiterate the importance of relaying the type and extent of damage, which conveys to the Department and other officials both the seriousness of the damage to the distribution system as well as the potential for a longer restoration period.

With respect to mitigating factors, we have taken into account the factors listed in 220 CMR 19.05(2), as well as other factors including, but not limited to, the following: (a) the gravity of the violation; (b) the appropriateness of the penalty to the size of the Company; (c) the good faith of the Company in attempting to achieve compliance; and (d) the degree of control that the Company had over the circumstances that led to the violation. 220 CMR 19.05(2). Regarding the gravity of the violation, as discussed in Section V.A.3, above, the Department finds the overall restoration duration to be reasonable, despite the failures outlined above.

Accordingly, we do not think the maximum penalty available is appropriate. With regard to the size of the company, National Grid is a large investor owned utility in Massachusetts, with approximately 1.3 million electric customers, so we find the size of the penalty should not be reduced to account for the size of the Companies.

Although the Companies are solely in control over the staffing of its municipal room and municipal liaison teams, and also had control of all information it disseminated to public officials, we acknowledge that the onset of a major storm is a challenging time for electric distribution companies. We also acknowledge that while National Grid failed to timely inform the Department that it elevated the event from a Type 4 to a Type 3 event, the Companies submitted a report to the Department at 10:00 a.m. on Monday, October 30, which is approximately six hours late.[41] Finally, we consider the actions the Companies took after the October 29 Event to fix the communication issues with the phone system in the North Andover storm room, the after-action review of ETR development and dissemination, and the retraining of employees that made errors with respect to ETRs, to be mitigating factors (Exh. DPU 2-4; AG 2-13; Tr. at 93-94). Taking all of these factors into consideration and a review of the record evidence in this case, we find that a $150,000 penalty per day for two days is warranted.

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[41] While we acknowledge that the October 29 Event occurred on a Sunday, and that significant damage to the Companies' system occurred late Sunday night and early Monday morning, this does not obviate the need for Companies to be prepared to provide required pre-event and service restoration stage events to the Department during weekend or overnight hours. As stated above, MEMA opened the bunker on Sunday, October 29, at 8:00 p.m. (Exh. NG-2, at 18). Where public safety officials, including Department personnel, are manning the bunker during overnight hours of a storm, the Companies should be prepared to provide the required reports during that same timeframe, particularly where their ERP and the ERP Guidelines require such reporting.

Accordingly, the Department assesses National Grid a penalty of $300,000 ($150,000 per day for two days).

C. PUBLIC SAFETY

1. Introduction

A critical part of an electric distribution company's storm response is its response to wires that have detached from utility poles. D.P.U. 11-85-A/11-119-A at 50. Detached wires can pose significant safety concerns for the public at large. D.P.U. 11-85-A/11-119-A at 50. Electric distribution companies respond to calls concerning downed wires to address safety concerns that energized wires pose and to enable municipal officials to open roads and respond to emergency calls. D.P.U. 11-85-A/11-119-A at 50. Electric distribution companies respond both to wires-down calls from the public and to priority calls from municipal officials,[42] the latter of which we discuss below. D.P.U. 11-85-A/11-119-A at 50.[43]

The purpose of wires-down response is to (1) make the electric facilities safe from downed wires; (2) relieve municipal emergency responders, such as fire and police, from guarding unsafe electric facilities; and (3) de-energize and clear electric wires and facilities so that the municipalities can safely perform their required storm-related duties and activities (Exh. DPU 2-1, Att. at 131, 132). Each company shall restore service to its customers in a safe

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42 Priority wires-down calls are wires-down calls that municipal public safety officials report directly to the Companies. The reporting official assigns each priority downed wire a priority (Priority 1, 2, or 3, discussed further below) (Exh. NG-2, Att. at 131).

43 Additionally, electric distribution companies respond to wires-down calls for wires not owned by the company, such as wires owned by telecommunications and cable companies. D.P.U. 11-85-A/11-119-A at 50. This practice was not at issue in this proceeding, so we do not address it in this Order.

manner during all service interruptions and outages, including, but not limited, to implementing all applicable components of a company's ERP. 220 CMR 19.03(3). The response of an electric distribution company to a downed wire is a critical part of providing a safe restoration response. D.P.U. 11-85-A/11-119-A at 59.

According to the Companies' ERP, National Grid's first restoration priority is to eliminate hazards to the public associated with downed wires (Exh. DPU 2-1, Att. at 130, 185). Customers, municipal officials, and public safety officials report downed wires to the Companies through various channels, depending on who is reporting it and the nature of the downed wire (Exh. DPU 2-1, Att. at 131).[44] Municipal officials and public safety officials report downed wires by calling separate, dedicated telephone numbers provided by the Companies (Exh. DPU 2-1, Att. at 131). The reporting official assigns a priority ("Priority") to each downed wire, Priority 1, 2, or 3 (Exh. DPU 2-1, Att. at 131). The categories for Priority calls are defined in Table 2, below.

[44] Customers report downed wires by calling the Companies' customer contact center (Exh. DPU 2-1, Att. at 131-132). Contact center representatives direct customers to contact local police, fire, or 911 if there is threatening emergency situation, such as a downed wire (Exh. DPU 2-1, Att. at 172). The Companies' response to customer-reported downed wires are not at issue in this proceeding and, therefore, are not discussed in this Order.

Table 2: Priority Level Definitions

Priority Level	Priority Definition
1	**Life threatening**, examples include: a. A person trapped in a vehicle that has struck a utility pole and the pole or equipment is prohibiting emergency personnel from approaching the vehicle; b. A person trapped in a burning building and emergency personnel need electrical service disconnected before they can enter the building; and c. A member of the public has come in contact with electrical wires or equipment (e.g., severe electrical shock or electrocution) and the location needs to be made safe before rescue can start.
2	**Hindering emergency operations**, examples include: a. Wires and/or equipment blocking a roadway; b. Electrical service needing to be disconnected before a structure fire can be extinguished; and c. Electrical service needing to be disconnected so that emergency personnel can enter a flooded home or area of town.
3	**Non-threatening emergency hazards**, examples include: a. Wires and/or equipment down along a sidewalk or community traveled way; b. Tree limb arcing on wires; c. Pad-mounted transformer pushed off its pad and wires exposed; and d. Utility pole struck by motor vehicle and personnel on scene unsure of pole's integrity.

(Exh. DPU 2-1, Att. at 131-132). See also Electric Distribution Companies' Emergency Response Time Protocols, D.P.U. 08-112, at 1-2 (2010).

For Priority 1 calls, public safety officials call the Companies' Priority 1 line, while for Priority 2 and 3 calls, public safety officials call the Companies' Priority 2 or 3 line, respectively (Exh. DPU 2 1, Att. at 131, 180). When the Companies receive Priority 1, 2, or 3 calls, they assign a crew to respond and enter the call into the OMS (Exh. DPU 2-1, Att. at 131-133; Tr. at 135-139). The restoration crew that the Companies' dispatch in response to wires-down calls may be comprised of overhead distribution crews, overhead transmission crews, tree crews, underground crews, substation workers, or external contractor crews (Exh. AG 2-2). These

crews may be responsible for standing by the downed wire, making it safe,[45] or restoring power to customers (Exh. AG 2-2). In many instances, the official who reported the Priority downed wire will stand by the wire until National Grid personnel arrive (Exhs. DPU 2-1, Att. at 131; AG 2-20). In those instances, if no National Grid personnel will be available for an extended period, the Companies will provide the official with an estimated time of arrival ("ETA") based on current crew availability (Exh. DPU 2-1, Att. at 132-133). The Companies employ personnel[46] to communicate ETAs back to public safety officials (Exh. DPU 2-1, Att. at 133, 531, 533). The Companies may also use a 24-hour municipal call center, community liaisons, and municipal conference calls to further manage and coordinate with municipal officials regarding municipal electrical issues, such as critical facility outages and Priority wires down (Exh. DPU 2-1, Att. at 180).

2. Description of the Companies' Response

On Friday, October 27, 2017, the Companies classified the approaching storm as a Type 4 event and began the activation of the ERO (Exh. NG-2, at 1, 12). This included deciding the level of decentralization and identifying the required EOCs, incident command structure

[45] Make safe means to perform cut and clear activities at the site of a downed wire, thus making the scene safe for passersby (Exh. DPU 2-1, Att. at 133).

[46] The Companies use various emergency response positions to communicate ETAs to public safety officials during an emergency event, including, but not limited to police and fire leads and branch police and fire coordinators (Exh. DPU 2-1, Att. at 133, 531, 533).

("ICS")[47] command and general staff positions, and support personnel (Exhs. NG-2, at 1; DPU 2-1, Att. at 47).

At 1:00 p.m. on Saturday, October 28, 2017, the Companies decentralized their storm response and opened the state EOC, branch EOCs, and municipal rooms (Exhs. NG-2, at 15; NG-2, Att. E at 1-6; DPU 2-1, Att. at 126-127; AG 2-17).[48] On Sunday, October 29, at 6:00 p.m., the Companies decentralized some of their storm restoration efforts and opened the North Andover and Brockton Branch EOCs (Exh. NG-2, at 26-27). When the Companies opened the municipal rooms on Sunday, October 29, 2017, at 9:00 p.m., National Grid activated municipal phone numbers for municipal officials to report municipal priorities, critical facility outages, and other community related electrical issues and provided a separate telephone number for public safety officials to report wires down (Exhs. NG-2, at 21-22; AG 2-17, at 2-3). As discussed in detail in Section V.B.4.c, above, Boxford could not reach National Grid personnel in the early morning hours of Monday, October 30, and it is possible that other municipal officials attempting to reach the North Andover municipal room between 9:00 p.m. on Sunday, October 29, and 7:00 a.m. on Monday, October 30, would have heard a busy signal or an automated message, indicating the municipal room was not open (Exhs. DPU 1-10 (Supp.); AG 2-5; AG 2-6; Tr. at 58; February 13 Transcript at 23-24).

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47 ICS is a component of the National Incident Management System, which is a comprehensive approach to incident management and applicable to all emergency event types (Exh. NG-2, at 12).

48 During emergency events, municipal rooms are set up as a mechanism for Companies' communication with municipalities (see Tr. at 135-136).

For the October 29 Event, the Companies logged the first Priority wire-down call at approximately 10:00 p.m. on Sunday, October 29 (Exh. NG-2, Att B, Table 4B). At that time, the Companies operated based on a Type 4 event, which does not include activation of the wires-down function (Exh. DPU 1-2, Att. at 43). Because the Companies had not activated the wires-down function, National Grid dispatched available resources, such as overhead crews, in response to Priority wires-down calls (Exh. DPU 1-19, Att. (Supp.)). The Companies received 158 Priority wires-down calls between the hours of 10:00 p.m. on Sunday, October 29 and 1:00 a.m. on Monday, October 30 (Exh. DPU 1-19, Att. (Supp.)). At approximately 1:00 a.m., on Monday, October 30, the Companies escalated the event from a Type 4 event to a Type 3 event (Exh. AG 1-2). On Monday, October 30, the Companies further decentralized their storm restoration efforts and opened wires-down rooms in the Hopedale and Worcester Branch EOCs (Exh NG-2, at 26-27). The function of the wires-down rooms is to supplement the resources dispatched by the storm room in order to determine if the wires down are electric wires and, if so, make wires-down situations safe, while at other times wires-down personnel relieve police and fire personnel and apparatus standing by the Companies' facilities (Exhs. DPU 2-1, Att. at 133; AG 2-2). The Companies dispatched wires-down crews in response to Priority wires-down calls by 4:00 p.m. on Monday, October 30 (Exh. NG-2, Att. C, Table B)). The number of wires down crews that worked during different restoration shifts for the October 29 Event appears in Table 3, below.

Table 3: Wires-Down Crews

Date	Qty. for 0:00 Hour	Qty. for 8:00 Hour	Qty. for 16:00 Hour
10/30/17[49]		0	166
10/31/17[50]	107	172	111
11/1/17	137	147	160
11/2/17	76	92	116
11/3/17	36	51	

(Exh. NG-2, Att. C, Table B).

Throughout the entire October 29 Event, the Company received approximately 5,500 wires-down calls, of which 1,166 were Priority wires-down calls reported by public safety officials (Exhs. NG-2, Att. B, Excel 4; DPU 1-21; DPU 1-21, Att. (Supp.)). The breakdown of the 1,166 priority wires-down calls is as follows: eleven Priority 1 calls; 669 Priority 2 calls; 474 Priority 3 calls; and, twelve reclassified Priority calls (Exhs. NG-2, Att. B, at 30; DPU 1-19, Att. (Supp.)).[51]

The Companies' average Priority wires-down response times was 0.75 hours for Priority 1 calls, 8.5 hours for Priority 2 calls, and ten hours for Priority 3 calls (Exh. DPU-1-19, Att. (Supp.)).[52] The Companies did not exceed 2.05 hours for any Priority 1 response time, and

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49 National Grid first requested 55 wires-down standby crews on Monday, October 30, and was only able to secure 25 crews, with 16 being from Massachusetts and nine being from Rhode Island, all of which arrived on October 31, 2017, at 8:00 a.m. (Exhs. NG-2, Att. C, Table B; DPU 1-14, Att. 1-14-1, at 3).

50 All wires down crews used on October 31 and November 1 were made up of National Grid Personnel (Exh. NG-2, Att. C, Table B).

51 A reclassified Priority call is when National Grid personnel arrive at the scene of a Priority wire-down call and the conditions do not match the definition of any Priority level (1, 2, or 3) (Exh. DPU 1-21). For Priority level definitions, see Table 2, above.

52 The Companies failed to record the time of arrival in approximately 265 Priority wires-down calls during the October 29 Event (Exh. DPU 1-20).

National Grid responded to nine out of the eleven Priority 1 calls in less than 53 minutes (Exh. DPU 1-19, Att. (Supp.)). The Companies' response to Priority 2 calls ranged from 0.05 hours (three minutes) to 85.0 hours (approximately 3.5 days) (Exh. DPU 1-19, Att. (Supp.)). The Companies responded to Priority 3 wires-down between 0.02 hours (approximately two minutes) to 99.6 hours (approximately four days) (Exh. DPU 1-19, Att. (Supp.)).

National Grid is required to maintain, track, and report detailed Priority wires-down data at all times, including during an emergency event.[53] D.P.U.08-112, Attachment A; D.P.U. 14-72-A at 8. During the October 29 Event, the Companies failed to record required Priority wires-down data as follows: the narrative description of the downed wire (nature of the emergency) in 39 instances; the date and time the Companies dispatched a crew to the call in 96 instances; the time between when the Companies received the call and dispatched a crew in 96 instances; and the time between when the Companies dispatched a crew to the call and the arrival of the crew in 265 instances (Exh. DPU 1-19, Att. (Supp.)). The Companies stated that, for some calls, the arrival times were not reported by the crews (Exh. DPU 1-20). For calls where the arrival time is undetermined, National Grid was able to report the time the crew reported their work as complete, but not the time the crew first arrived (Exh. DPU 1-20).

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53 The Companies are required to track the following Priority wires-down data: (1) the call priority (1, 2, or 3); (2) street location; (3) nature of emergency ;(4) date and time call received; (5) date and time dispatched; (6) date and time arrived; (7) date and time of temporary repairs; (8) date and time of permanent repairs; (9) time between dispatched arrival (in hours); (10) time between arrival and temporary repairs (in hours); and (11) comments. D.P.U. 08-112, Att. A.

3. Positions of the Parties

a. Attorney General

The Attorney General notes that National Grid did not request wires down or damage assessment crews until after it had elevated the event from a Type 4 to a Type 3 event (Attorney General Comments at 3, citing Exh. DPU 1-14, Att. at 3). The Attorney General also notes that the Companies had made improvements to its storm protocols since the October 29 Event, including changes to municipal room protocols (Attorney General Brief at 1-2).

b. Companies

The Companies state that they adhered to the Department's standards for emergency preparation and service promulgated in 220 CMR 19.03, including the implementation of all applicable components of their ERP, and restored service to their customers in a safe and reasonably prompt manner (Companies Brief at 3). National Grid states that its first priority is to eliminate hazards to the public associated with live wires (Companies Brief at 49).

The Companies argue that they handled police and fire ETA and call-back processes from decentralized storm rooms for the October 29 Event (Companies Brief at 52, citing Exh. NG-2, at 24). The Companies claim that they assigned and scheduled employees to provide 24-hour coverage for the duration of the event for wires-down response (Companies Brief at 53, citing Exh. NG-2, at 24). The Companies assert that National Grid storm personnel at various decentralized locations worked to ensure effective and efficient use of available resources and appropriate coverage of police and fire Priority 2 and Priority 3 calls (Companies Brief at 53, citing Exh. NG-2, at 24). National Grid claims it followed wires-down protocols and acted consistently with its ERP regarding wires-down response (Companies Brief at 53). The

Companies indicated that they have already made a number of improvements in their preparation and response since the October 29 Event and that National Grid is amenable to the changes requested by the Attorney General (Companies Reply Brief at 5-6).

4. Analysis and Findings

National Grid has a duty to restore service to its customers in a safe and reasonably prompt manner. 220 CMR 19.03(3). The response of an electric distribution company to a downed wire is a critical part of providing a safe restoration response. D.P.U. 11-85-A/11-119-A at 59. The purpose of wires-down response is to (1) make the electric utility facilities safe, (2) relieve public safety officials, such as fire and police, from guarding unsafe utility facilities; and (3) de-energize and clear electric wires and facilities so that the municipalities can safely perform their required storm-related duties and activities (Exh. DPU 2-1, Att. at 131-132). Here, we address the Companies' response to Priority wires-down.

Few activities are more crucial to public safety than timely response to downed wires. While we recognize the heavy volume of wires-down calls the Companies received during the October 29 Event, safety must remain an uncompromised priority (Exh. DPU 1-19, Att. (Supp.)). We expect that National Grid will address all priority wires-down calls in an efficient and timely manner and that the Companies will appropriately prioritize all priority wires-down calls. The Companies' average response time to Priority 1 calls was approximately 0.75 hours (Exh. DPU 1-19, Att. (Supp.)). Additionally, no Priority 1 response time exceeded 2.05 hours, and the Companies responded to nine out of the eleven Priority 1 calls in less than 53 minutes (Exh. DPU 1-19, Att. (Supp.)). Based on our review of the record, we find the Companies'

response to Priority 1 calls was reasonable, and we additionally note that no injuries occurred during the storm event (Exh. DPU 1-19, Att. (Supp.); Tr. at 131).

The Companies' response time to some Priority 2 calls, however, was lengthy, with certain responses taking more than three days (Exh. DPU 1-19, Att. (Supp.)). The Companies' response to Priority 2 calls ranged from 0.05 hours (three minutes) to 85.0 hours (3.5 days) (Exh. DPU 1-19, Att. (Supp.)).[54] Further, we note that the Companies did not provide arrival times for some Priority 2 calls during the October 29 Event (Exh. DPU 1-19, Att. (Supp.)). As described above, the Companies report the time when the work is completed rather than when crews arrived in these instances (Exh. DPU 1-20). While Priority 2 calls are not the highest priority public safety situations, public safety is still paramount for these events (Exh. DPU 2-1, Att. at 131). Therefore, the Companies still must demonstrate an ability to respond appropriately to these calls and requests (Exh. DPU 2-1, Att. at 131-132). D.P.U. 14-72-A, Att. at 21, 23.

Due to the public safety implications of wires-down calls, it is imperative that the Department be able to evaluate a company's response to these calls. D.P.U. 11-85-A/11-119-A at 60. In order to evaluate a company's response, that company must have tracking processes in place that captures all required priority wires-down data, even during a hectic emergency event. In this instance, the Companies responded to over 1,000 Priority 1, 2 and 3 wires-down calls (Exh. NG-2, Att. B at 30). For this event, however, there were nearly 500 missing pieces of priority wires-down data. Specifically, the Companies failed to record the following: the nature

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[54] Although Priority 3 calls are not threatening emergency hazards, the Companies' response to these calls was similar to that of Priority 2 calls (Exh. DPU 1-19, Att. (Supp.)). The Priority 3 responses ranged from 0.02 hours to 99.6 hours (Exh. DPU 1-19, Att. (Supp.)).

of the emergency in 39 instances; the date and time the Companies dispatched a crew to the call in 96 instances; the time between when the Companies received the call and dispatched a crew in 96 instances; and the time between when the Companies dispatched a crew to the call and the arrival of the crew in 265 instances (Exh. DPU-1-19, Att. (Supp.)). The Companies' inability to provide reliable evidence on how it responded to wires down raises questions as to National Grid's entire wires-down process, including how the Companies prioritized calls (Exhs. DPU 1-10 (Supp.); DPU 1-19, Att. (Supp.); DPU 1-20; AG 2-12).

We note that the Companies' response to Priority downed wires affects other areas of the Companies' restoration response, and it is in turn affected by the Companies' storm preparation and restoration response. For instance, National Grid did not request wires-down crews until after it had elevated the October 29 Event from a Type 4 to a Type 3 event on Monday, October 30 because Type 4 events do not include activation of the wires-down function (Exh. DPU 2-1, Att. at 38-44). We agree with the Attorney General that if National Grid had elevated to a Type 3 (or a Type 2) event earlier, it would likely have deployed wires-down crews earlier, allowing the Companies to respond to Priority 2 wires down more quickly and efficiently, thus increasing safety overall (Exhs. NG-2, Att. C, Table B; DPU 1-19, Att. (Supp.)). Further, because of the phone issues and minimal staffing within the North Andover municipal room on Sunday, October 29, and Monday, October 30,[55] at least some public safety officials could not reach the Companies to report priority wires down (Exhs. DPU 1-10; AG 1-8; AG 2-12; AG 2-13; Tr. at 60-77; RR-AG-2). It is important to emphasize that the various aspects of a safe and reasonably prompt restoration are highly interrelated and dependent upon one another.

[55] We discuss these issues in Section, V.B.4.c, above.

After a review of the record with respect to public safety, and in particular, Priority wires-down response, we do not find that the Companies violated the Department's standard to restore service in a safe and reasonably prompt manner (Exhs. NG-2, at 28; DPU 1-19, Att. (Supp.)). As discussed above, there were material deficiencies in the Companies' response to Priority wires down, including accurate data tracking and long response times to some Priority 2 and Priority 3 calls (Exh. DPU 1-19, Att. (Supp.)). As a result, the Department finds it appropriate to make recommendations for improvements to improve and ensure public safety. In future storm events, we expect National Grid to improve the following: (1) its process for collecting and maintaining sufficient and accurate wires down information, including precise and detailed descriptions of the nature of emergencies; and (2) response time to Priority 2 calls by training and maintaining adequate wires-down resources, and using them in a timely manner.

The Companies have implemented some improvements based on lessons learned from the October 29 Event (Exhs. NG-2, at 34; Tr. at 159-160). Specifically, the Companies changed municipal room protocols and will now staff municipal rooms with at least two employees, eliminate prerecorded messages, and program phones to loop to another until answered (Exhs. AG 1-8, at 2; AG 1-12, at 2; AG 1-29; AG 2-13; AG 2-29; AG 2-30; Tr. at 72-76, 80-82, RR-AG-2). We find these improvements are appropriate for present and future emergency events, and the Department directs the Companies to incorporate these improvements into the wires-down strategy to reduce response time to Priority wires-down calls. Further, we direct the Companies to conduct an internal review of their wires-down process, both during blue-sky days and emergency events. The Companies shall submit a report to the Department based on that internal review that shows (1) the adequacy of resources to ensure the ability to respond to

Priority wires-down calls, for all event types, and (2) that the wires-down resources have been properly trained. Finally, any changes or improvements to the wires-down process the Companies have made or will make in response to this Order shall be documented with amendments to the Companies' 2019 ERP and submitted to the Department, as appropriate.[56]

VI. CONCLUSION

As detailed above, the Department has found that the Companies violated the Department's standards of acceptable performance for restoration of service by failing to restore service to their customers in a safe and reasonably prompt manner. In total, the Department imposes a penalty of $750,000 for the Companies performance with respect to the October 29 Event. The Department directs the Companies to submit a compliance filing within 30 days of the issuance of this Order, proposing a method for crediting the penalty monies to the Companies' customers.

[56] If the Companies make changes to protocols or processes that are presently included in the ERP, the Companies shall amend the ERP accordingly. If the Companies make changes to protocols that are not included in the ERP, then the Companies are not obligated to record such changes in the ERP.

VII. ORDER

Accordingly, after due notice, hearing, and consideration, it is

ORDERED: That Massachusetts Electric Company and Nantucket Electric Company shall pay a penalty of $750,000 to be credited back to customers; and it is

FURTHER ORDERED: That Massachusetts Electric Company and Nantucket Electric Company shall submit a proposal, 30 days from the date of this Order, detailing how it intends to credit the penalty money back to its customers; and it is

FURTHER ORDERED: That Massachusetts Electric Company and Nantucket Electric Company shall comply with all directives contained in this Order.

By Order of the Department,

/s/
Angela M. O'Connor, Chairman

/s/
Robert E. Hayden, Commissioner

/s/
Cecile M. Fraser, Commissioner

An appeal as to matters of law from any final decision, order or ruling of the Commission may be taken to the Supreme Judicial Court by an aggrieved party in interest by the filing of a written petition praying that the Order of the Commission be modified or set aside in whole or in part. Such petition for appeal shall be filed with the Secretary of the Commission within twenty days after the date of service of the decision, order or ruling of the Commission, or within such further time as the Commission may allow upon request filed prior to the expiration of the twenty days after the date of service of said decision, order or ruling. Within ten days after such petition has been filed, the appealing party shall enter the appeal in the Supreme Judicial Court sitting in Suffolk County by filing a copy thereof with the Clerk of said Court. G.L. c. 25, § 5.