

STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS  
PUBLIC UTILITIES COMMISSION

IN RE: PROCEEDING TO ESTABLISH A :  
CONTACT VOLTAGE DETECTION AND REPAIR : DOCKET NO. 4237  
PROGRAM APPLICABLE TO NATIONAL GRID'S :  
REVIEW OF CONTACT VOLTAGE ANNUAL :  
REPORT – FISCAL YEAR 2016 :

ORDER

**I. National Grid's Annual Report**

On April 6, 2016, The Narragansett Electric Company d/b/a National Grid (National Grid or Company) filed with the Public Utilities Commission (PUC) its Contact Voltage Annual Report.<sup>1</sup> On July 12, 2016, in response to recommendations filed by the Division of Public Utilities and Carriers (Division) on May 4, 2016, National Grid submitted a revised table and analysis of the comparison of the results of the mobile testing results. On July 14, 2016, the PUC reviewed the Contact Voltage Annual Report and found that, with the revisions, it complied with the prior PUC orders. Additionally, the PUC approved continued testing of 100% of the contact voltage risk areas in 2017 in lieu of the statutory minimum of 20%.

The report contains eight sections: (1) background and summary, (2) survey and mobile testing results for the contact voltage risk areas, (3) the contact voltage program costs, (4) calls into the shock line, (5) updated electric operating procedures, (6) results of the total harmonic distortion pilot program, (7) recommendations to test 100% of the contact voltage risk areas in 2017, and (8) an update on standards and equipment for testing. In the report, National Grid stated that the fourteen contact voltage risk areas were surveyed during the period October 26, 2015 to November 10, 2015 and covered a total of 117.5 miles, including both sides of the road. A total

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<sup>1</sup> An electronic copy can be found at: [http://www.ripuc.org/eventsactions/docket/4237-NGrid-2016-AnnualRept\\_4-6-16.pdf](http://www.ripuc.org/eventsactions/docket/4237-NGrid-2016-AnnualRept_4-6-16.pdf).

of twenty-six mobile events were recorded during mobile scanning for one volt or greater. The testing included the total harmonic distortion pilot, designed to determine whether readings between one volt and 4.5 volts were contact voltage or not.

Fourteen assets registered between one and 4.5 volts. Ten locations were remediated after total harmonic distortion testing revealed readings that suggested the cause of this elevated voltage was contact voltage. The other four locations were remediated as well, although the results of the total harmonic distortion indicated that the voltage reading was not hazardous to the public. Twelve assets, all of which were on streetlights, registered above 4.5 volts requiring immediate remediation. According to the Company, all assets that registered greater than one volt were permanently repaired by March 16, 2016. The number of mobile events with readings less than one volt were lower than each year except FY 2015; readings between one and 4.5 volts were greater than in each of the other years and included two repeat assets. The instances of readings above 4.5 volts were greater than each year except FY 2013 and did not include repeat assets.<sup>2</sup>

In its Order approving the FY 2014 Annual Report, the PUC ordered National Grid to conduct follow-up scans in areas where remediation work had been completed between mobile testing scans. The PUC further required National Grid to implement a process where random objects are selected in each contact voltage risk area for manual testing in order to verify areas not shown by mobile technology. According to National Grid, on May 7, 2015, it conducted post-mitigation manual testing of the twenty-one FY 2015 mobile events and found all readings at or below one volt, thus requiring no additional remediation. In addition, from December 8-16, 2015, 1,100 National Grid-owned assets located within the contact voltage risk areas were tested. No

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<sup>2</sup> FY 2016 Contact Voltage Annual Report at 10-14; Revised Table 3; [http://www.ripuc.org/eventsactions/docket/4237-NGrid-RevTable3\(7-12-16\).pdf](http://www.ripuc.org/eventsactions/docket/4237-NGrid-RevTable3(7-12-16).pdf) . The Company discussed the use of the total harmonic distortion testing and recommended continued use in FY 2016. FY 2016 Contact Voltage Annual Report at 26-28.

elevated voltage was found on 1,085 of the assets while fifteen were inaccessible to the public or not located within the mobile testing field.<sup>3</sup> The total cost of the mobile testing, post-mitigation manual testing, quality assurance manual testing, remediation, and repair was \$259,636.<sup>4</sup>

During FY 2016, National Grid received three calls to its “shock line” from the public. Subsequent testing of the relevant assets revealed one instance of elevated voltage in excess of 4.5 volts on a traffic control. The Company remediated the problem.<sup>5</sup> At one of the locations that was the subject of a “shock line” call, no elevated voltage was detected. Finally, at the third, no elevated voltage was found at the location reported but nearby, as a precaution, the Company performed remedial measures.<sup>6</sup>

Next, the Company reviewed the contact voltage risk areas and recommended no changes to the previously identified contact voltage risk areas.<sup>7</sup> National Grid did recommend that the PUC approve testing of 100% of the contact voltage risk areas in FY 2017 rather than the minimum 20% required by statute. National Grid offered that “[g]iven the similar number of events found

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<sup>3</sup> FY 2016 Contact Voltage Annual Report at 14-16. Addressing stray voltage that had been found on Westwind Drive in South Kingstown in FY 2014, but not yet remediated, National Grid stated that it has continued to make progress with mitigating stray voltage on Westwind Drive in South Kingstown, Rhode Island. In July 2013, the company received initial shock complaints from two customers on Westwind Drive. To date, the Company has reduced the stray voltage from approximately 22.5 volts down to approximately 12.5 volts. The Company has continued working with several property owners on Westwind Drive in efforts to secure necessary easement rights to construct a permanent distribution system between Westwind Drive and Julia Court. Installation of this permanent distribution system will reduce the stray voltage down to approximately 6.5 volts. After the Company has installed the permanent distribution system, it will assess this situation based on stray voltage readings and feedback from customers on Westwind Drive. The Company will notify the PUC when this issue is resolved. *Id.* at 16, n.16. On July 21, 2016, the Company, through legal counsel, advised the PUC that most recently, the Company received one executed easement from one of the property owners. The Company continues to work with the remaining property owners to secure the necessary easement rights. The Company still believes that installation of the permanent distribution system will reduce the stray voltage down to approximately 6.5 volts. Email from Raquel Webster, Senior Counsel to Cynthia Wilson-Frias, Deputy Chief of Legal Services (July 21, 2016).

<sup>4</sup> FY 2016 Contact Voltage Annual Report at 18.

<sup>5</sup> *Id.* at 20-21.

<sup>6</sup> *Id.* at 21.

<sup>7</sup> *Id.* at 29.

in FY 2016 as compared to FY 2015, the Company concludes that testing 100% of the [designated contact voltage risk areas] is a reasonable approach.”<sup>8</sup>

Finally, providing an update on standards and equipment, National Grid noted that the Institute of Electrical and Electronics Engineers Working Group had not yet completed its work on developing standards for contact voltage testing. Neither was the Company aware of any changes in the mobile testing technology. National Grid will continue using its existing manual technology and the chosen mobile testing vendor in the fifth year of the program. In October 2015, the Company awarded a four-year contract to Willbros to conduct mobile testing following a competitive bid process.<sup>9</sup>

## **II. Division’s Position on the Contact Voltage Annual Report**

On May 4, 2016, the Division submitted a letter from its consultant, Gregory L. Booth, P.E., of Power Services, Inc. Mr. Booth stated that after reviewing the Contact Voltage Annual Report, he found that it met the requirements set forth in R.I. Gen. Laws § 39-2-25(b)(6) and included the recommendations made by the Division after its review of the FY 2015 Contact Voltage Annual Report.<sup>10</sup> However, Mr. Booth had two recommendations in light of the increasing trend of recordable mobile events. First, he recommended the Company provide a detailed explanation of the reasons for the trend of identifying more events in each testing cycle. Second, he recommended requiring National Grid to include a multi-year comparison rather than a single-year comparison of each test category.<sup>11</sup> As noted above, on July 12, 2016, the Company filed a supplement to its report to incorporate the recommendations.

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<sup>8</sup> *Id.*

<sup>9</sup> *Id.* at 33.

<sup>10</sup> Letter from Gregory Booth to Steve Scialabba at 1 (May 4, 2016);

<sup>11</sup> *Id.* at 1-2.

### **III. PUC Findings**

At an Open Meeting conducted on July 14, 2016, the PUC reviewed National Grid's FY 2016 Contact Voltage Annual Report, as revised and supplemented, along with the Division's recommendations. The PUC unanimously found National Grid's annual report to be in compliance with R.I. Gen. Laws § 39-2-25(b)(6) and PUC Order Nos. 20871, 20950, 21414, 21780, and 22357. The PUC also approved National Grid's proposal to again test 100% of the contact voltage risk areas in lieu of the statutory minimum of 20%.<sup>12</sup> The Company shall also continue the random testing within the contact voltage risk areas and the post remediation testing previously recommended by Mr. Booth.

Accordingly, it is hereby

(22567) ORDERED:

1. The Narragansett Electric Company d/b/a/ National Grid is in compliance with Public Utilities Commission Order Nos. 20871, 20950, 21414, 21780, and 22357.
2. The Narragansett Electric Company d/b/a National Grid shall adopt a survey and testing schedule for completing 100% of the Designated Contact Voltage Risk Areas in FY 2017.
3. The Narragansett Electric Company d/b/a National Grid shall continue to include in its FY 2017 Contact Voltage Annual Report the recommendations that were outlined in Order Nos. 21414, 21780, and 22357.
4. The Narragansett Electric Company d/b/a National Grid shall include in its FY 2017 Contact Voltage Annual Report a multi-year comparison of the number and types of

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<sup>12</sup> R.I. Gen. Laws § 39-2-25(b)(1).

mobile events together with an analysis consistent with the filing made on July 12, 2016 in this docket.

5. The Narragansett Electric Company d/b/a National Grid shall file its Annual Report sixty days prior to conducting its 2018 testing.
6. The Narragansett Electric Company d/b/a National Grid shall file with its Annual Report, prior to conducting its 2018 testing, a recommendation of the percentage and identification of contact voltage risk areas to be tested in the fourth year of the Contact Voltage Detection and Repair Program.
7. The Narragansett Electric Company d/b/a National Grid shall: (1) conduct follow-up scans in areas where remediation work has been completed between mobile testing scans, (2) implement a process where random objects are selected in each contact voltage risk area, and (3) manually test for contact voltage to spot-verify areas not indicated by mobile technology.
8. The Narragansett Electric Company d/b/a National Grid shall notify the Public Utilities Commission when it successfully remediates the elevated voltage at the Westwind Drive, South Kingstown locations, with an explanation of the source of the problem and the manner of remediation.
9. The Narragansett Electric Company d/b/a National Grid shall comply with all other findings and instructions contained in this Order.

EFFECTIVE AT WARWICK, RHODE ISLAND ON JULY 14, 2016, PURSUANT TO AN OPEN MEETING DECISION. WRITTEN ORDER ISSUED OCTOBER 7, 2016.

PUBLIC UTILITIES COMMISSION



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Margaret E. Curran, Chairperson

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Herbert F. DeSimone, Commissioner

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Marion S. Gold, Commissioner

**NOTICE OF RIGHT OF APPEAL:** Pursuant to R.I. Gen. Laws § 39-5-1, any person aggrieved by a decision or order of the PUC may, within seven days from the date of the order, petition the Supreme Court for a Writ of Certiorari to review the legality and reasonableness of the decision or order.