

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 – :
REVIEW OF CONTACT VOLTAGE ANNUAL :
REPORT – FISCAL YEAR 2014 :

ORDER

I. National Grid's Annual Report

On June 26, 2014, 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.¹ 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 2015 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 March 12-28, 2014 and covered a total of 131 miles. The testing included the total harmonic distortion pilot, designed to determine whether readings between 1 volt and 4.5 volts were contact voltage or not. Six locations were remediated after total harmonic distortion testing revealed readings that suggested the cause of elevated voltage above 1 volt was contact voltage. In addition, three locations were remediated although the results of the total harmonic distortion indicated that the voltage reading was not hazardous to the public. An additional seven assets required immediate temporary remediation, all of which were on streetlights. According to the Company, all fifteen of the streetlights were permanently repaired

¹ A copy of the FY 2014 Contact Voltage Annual Report is attached hereto as Appendix A. An electronic copy can be found at: [http://www.ripuc.org/eventsactions/docket/4237-NGrid-2014Annual-Rept\(6-26-14\).pdf](http://www.ripuc.org/eventsactions/docket/4237-NGrid-2014Annual-Rept(6-26-14).pdf).

by April 22, 2014. Testing also detected contact voltage on one customer-owned asset, the owners of which were notified in accordance with the statute and the approved contact voltage program. The number of mobile events with readings less than 1 volt and with readings between 1 and 4.5 volts was higher than in FY 2013, but the instances of readings above 4.5 volts was lower.²

In its Order approving the FY 2013 Annual Report, the PUC ordered National Grid to conduct follow-up scans in areas where remediation work has been completed between mobile testing scans and further, 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, between February 26, 2014 and March 4, 2014, National Grid conducted post-mitigation manual testing of the FY 2013 mobile events and found all twenty readings at or below 1 volt, thus requiring no remediation. In addition, 803 National Grid-owned assets located within the contact voltage risk areas were tested. No elevated voltage was found on 765 of the assets and 36 were inaccessible to the public or not located within the mobile testing field. Two instances of possible elevated voltage were discovered in Newport. One subsequently tested at less than one volt. The other, a customer-owned street light in the middle of a parking lot, tested at 35 volts. As a precaution, National Grid tested nearby street lights and found another with a reading of 39 volts. The streetlights were disconnected and repaired. According to National Grid, mobile testing did not detect the voltage levels because they were outside of the mobile testing survey range. In addition to the random sampling, National Grid tested all customer-owned street lighting assets in Pawtucket over a two-day

² FY 2014 Contact Voltage Annual Report at 10-15. The Company discussed the use of the total harmonic distortion testing and recommended continued use in FY 2015. *Id.* at 28-30.

period and found no instances of elevated voltage.³ The total cost of the mobile testing, post-mitigation manual testing, quality assurance manual testing, remediation, and repair was \$306,031.⁴

During fiscal year 2014, National Grid received twelve calls to its “shock line” from the public. Subsequent testing of the relevant assets revealed ten instances of elevated voltage. In eight of these instances, the Company was either able to remediate the problem or direct the customer in remediating the problem.⁵ There were two elevated voltage reports received in May 2013, at two separate addresses on Westwind Drive in South Kingstown. According to the Company, no defective facilities were located, despite findings of stray voltage in the area near the Peacedale substation. As of October 14, 2014, the Company had attempted remediation, but had been unsuccessful in eliminating the elevated voltage. Therefore, National Grid explained that it is continuing to attempt remediation.⁶ At two of the locations subject to the “shock line” calls, no elevated voltage was detected.⁷

Next, the Company reviewed the contact voltage risk areas and did not recommend any changes to the previously identified contact voltage risk areas.⁸ National Grid did recommend that the PUC approve testing of 100% of the contact voltage risk areas in FY 2015 rather than the minimum 20% required by statute. National Grid offered that “[g]iven the similar number of events found in FY 2014 as compared to FY 2013, the Company concludes that testing 100 percent of the [designated contact voltage risk areas] is a reasonable approach.”⁹ National Grid also proposed to shift the timeframe for testing from March, the end of the Company’s fiscal

³ *Id.* at 15-18.

⁴ *Id.* at 20.

⁵ *Id.* at 22-24.

⁶ FY 2014 Contact Voltage Annual Report Supplemental Filing (Oct. 14, 2014), [http://www.ripuc.org/eventsactions/docket/4237-NGrid-CV-Suppl\(10-14-14\).pdf](http://www.ripuc.org/eventsactions/docket/4237-NGrid-CV-Suppl(10-14-14).pdf).

⁷ FY 2014 Contact Voltage Annual Report at 24.

⁸ *Id.* at 24.

⁹ *Id.* at 32.

year, to the April-June timeframe, the beginning of the Company's fiscal year. In order to transition to that schedule, National Grid proposed testing in the Fall 2014 (fiscal year 2015) and then in May 2015 (fiscal year 2016).¹⁰

Finally, providing an update on standards and equipment, National Grid noted the the Institute of Electrical and Electronics Engineers Working Group had not completed its work on developing standards for contact voltage testing. Nor 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 third year of the program, rebidding the contract in FY 2016.¹¹

II. Division's Position on the Contact Voltage Annual Report

On September 25, 2014, the Division of Public Utilities and Carriers (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 2013 Contact Voltage Annual Report.¹² Mr. Booth noted that, although there has been a small decline in identified instances of contact voltage requiring action, there has been an increase in the number of findings between 1 and 4.5 volts, with an additional seven instances of readings in excess of 4.5 volts. Therefore, he recommended the PUC approve the proposals to once again conduct mobile testing of 100% of the contact voltage risk areas and to modify the testing schedule.¹³

¹⁰ *Id.* at 34.

¹¹ *Id.* at 37.

¹² Letter from Gregory Booth to Stephen Scialabba at 1 (Sept. 25, 2014).

http://www.ripuc.org/eventsactions/docket/4237-DPU-Booth-Position_10-2-14.pdf.

¹³ *Id.* at 1-2.

III. PUC Findings

At an Open Meeting conducted on October 15, 2014, the PUC reviewed National Grid's FY 2014 Contact Voltage Annual Report, the Division's recommendations, and National Grid's responses to PUC data requests. 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, and 21414.¹⁴ The PUC also approved National Grid's proposed modification to the mobile testing schedule as well as the proposal to again test 100% of the contact voltage risk areas in lieu of the statutory minimum of 20%.¹⁵

The PUC found that although National Grid could still be in compliance with the statutory testing schedule set forth in R.I. Gen. Laws § 39- 2-25(b)(3) if it conducted its next mobile testing in May 2015 without the additional testing in Fall 2014, to do so would result in no testing for a full twelve-month period (National Grid's fiscal year).¹⁶ As Mr. Booth noted in support of his recommendation that the modified testing schedule be approved, while the overall number of contact voltage incidents has been reduced, there was an increase in readings below the 4.5 volt level as well as seven instances of higher voltage. Furthermore, certain funds have already been allocated in the FY 2015 Electric Infrastructure, Safety and Reliability Plan to conduct mobile testing in FY 2015. Therefore, public safety being paramount, the PUC finds that the modified testing schedule -- which will result in three tests of the contact voltage risk areas in a period of sixteen months -- to be a reasonable expenditure of ratepayer funds.

¹⁴ On January 6, 2014, the PUC issued a procedural schedule that included a tentative Open Meeting date of January 16, 2014 and requested public comment by January 10, 2014, if possible. No public comment was received prior to January 16, 2014.

¹⁵ R.I. Gen. Laws § 39-2-25(b)(1).

¹⁶ National Grid's fiscal year runs from April 1-March 31.

Accordingly, it is hereby

(21780) ORDERED:

1. The Narragansett Electric Company d/b/a National Grid is in compliance with Public Utilities Commission Order Nos. 20871, 20950 and 21414.
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 Fall 2014.
3. The Narragansett Electric Company d/b/a National Grid shall continue to include in its FY 2015 Contact Voltage Annual Report the recommendations that were outlined in Order No. 21414.
4. The Narragansett Electric Company d/b/a National Grid shall file its Annual Report 60 days prior to conducting its Calendar Year 2015 testing.
5. The Narragansett Electric Company d/b/a National Grid shall file with its Annual Report, prior to conducting its Calendar Year 2015 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.
6. 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) shall 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.

7. 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.
8. The Narragansett Electric Company d/b/a National Grid shall comply with all other findings and instructions contained in this Order.

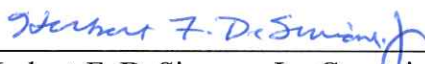
EFFECTIVE AT WARWICK, RHODE ISLAND ON OCTOBER 15, 2014,
PURSUANT TO AN OPEN MEETING DECISION. WRITTEN ORDER ISSUED
DECEMBER 16, 2014.

PUBLIC UTILITIES COMMISSION




Margaret E. Curran, Chairperson


Paul J. Roberti, Commissioner


Herbert F. DeSimone, Jr., 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.