

**STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
PUBLIC UTILITIES COMMISSION**

IN RE: PROCEEDING TO ESTABLISH A :
CONTACT VOLTAGE DETECTION AND REPAIR :
PROGRAM APPLICABLE TO NATIONAL GRID’S : **DOCKET NO. 4237**
REVIEW OF CONTACT VOLTAGE ANNUAL :
REPORT – FISCAL YEAR 2018 :

ORDER

I. Introduction

On August 29, 2018, The Narragansett Electric Company d/b/a National Grid (National Grid or Company) filed with the Public Utilities Commission (PUC or Commission) its 2018 Contact Voltage Annual Report.¹ On October 3, 2018, the Division of Public Utilities and Carriers (Division) submitted a memorandum which opined that the Company’s 2018 Contact Voltage Annual Report met the statutory requirements of R. I. Gen Laws. §39-2-25 (b) (6) while also incorporating all previous Division recommendations and Commission orders.² The Division also recommended approval of the Company’s methodology for conducting the FY 2019 contact voltage survey.³ The Division additionally made several specific recommendations concerning the future surveys and an upcoming Request for Proposals (RFP) process. At an Open Meeting on November 30, 2018, the PUC approved the Annual Report and adopted all the Division’s recommendations regarding current and future administration of the Contact Voltage Mobile Surveys.

¹ An electronic copy of National Grid’s 2018 Contact Voltage Annual Report can be found at: <http://www.ripuc.org/eventsactions/docket/4237page.html>. This report provides a summary of the Company’s surveying and testing results for the period April 1, 2017 to March 31, 2018.

² Memo of Gregory L. Booth, PE (Oct. 3, 2018); http://www.ripuc.org/eventsactions/docket/4237-DIV-PowerServices-Memo_10-3-18.pdf.

³ *Id.*

II. National Grid's Annual Report

The report contains nine 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 emergency operating procedures, (6) results of the total harmonic distortion pilot program, (7) recommendations to test 20% of the contact voltage risk areas in 2019, (8) an update on standards and equipment for testing, and (9) recommendations for fiscal year 2019 Contact Voltage program.

In its report, National Grid stated that twenty percent of previously established Designated Contact Voltage Risk Areas (Designated Areas) were surveyed during the nighttime hours through the period January 22, 2018, through January 25, 2018, and covered approximately 21.4 miles and fifty streets.⁴ A total of four mobile events were recorded during mobile scanning for one volt or greater. The testing also included the Total Harmonic Distortion (THD) pilot, designed to determine whether readings between one volt and 4.5 volts were contact voltage or not. Two assets registered between one and 4.5 volts and immediate remedial action was taken. According to the Company, all assets that registered greater than one volt were permanently repaired between January 23, 2018, and January 28, 2018.⁵ According to National Grid, the total number of mobile events in 2018 was thirteen; in 2017, the total number was thirty-two. The majority of events in both years had readings less than one volt and the majority of events in both years involved streetlights.⁶ The cost to conduct the mobile survey, post-mitigation manual testing and quality assurance manual testing in twenty percent of the previous established Designated Areas was

⁴ National Grid's Contact Voltage Report at 10 (Aug. 29, 2018); PUC 1-4 (Sept. 14, 2018).

⁵ *Id.* at 11.

⁶ *Id.* at 13, 14.

\$80,000. This cost will be reconciled in the Company's FY 2018 Electric Infrastructure, Safety, and Reliability Plan Reconciliation Filing.⁷

Pursuant to prior Commission orders, the Company was required to report annual calls to its shock line. For the period April 1, 2017, through March 31, 2018, the Company received two calls, one of which was verified as an elevated voltage event above one volt. The Company reported that it remained in regular communication with that customer concerning this voltage event.

The Company reviewed its sixth year of testing under the Total Harmonic Distortion pilot program conducted during the period January 22, 2018, through January 26, 2018.

“Under the THD pilot testing, during contact voltage testing, any voltage measures greater than 1 volt and less than 4.5 volts that had a THD of less than 10% would be considered contact voltage and treated accordingly. Specifically, these areas would be safeguarded from the public and permanent repairs would be made as needed. However, if the THD was greater than 10% and no visual defects were found, then no further action would be required. THD was determined by the use of a Fluke power quality clamp meter or a Fluke scope meter, both of which have the ability to measure THD.”⁸

The Company will continue using Total Harmonic Distortion testing during its 2019 mobile survey testing cycle, which will cover twenty percent of the Designated Areas in accordance with the minimum required under Rhode Island law.⁹

⁷ *Id.* at 17.

⁸ *Id.* at 23.

⁹ R.I. Gen. Laws § 39-2-25(b)(1).

National Grid noted that the Institute of Electrical and Electronics Engineers (IEEE) Standards Board approved standard P1695, *Guide to Understanding, Diagnosing and Mitigating Stray and Contact Voltage*, which is currently pending editorial revisions and approval. As the IEEE has not officially published any final documentation or final recommendations on elevated voltage, the Company indicated it will continue using existing manual technology and its vendor's chosen mobile technology for the FY 2019 Contact Voltage Program.¹⁰

Finally, the Company reported that it is entering into the last year of a four-year contract with its current vendor and that the next request for proposals for the contract will be for the FY 2020 mobile survey.¹¹

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

On October 3, 2018, 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 incorporated all previous recommendations of the Division and multiple PUC Orders incorporating program additions and enhancements.¹² Mr. Booth noted that the Company reported a significant decrease in mobile events when comparing FY 2017 to FY 2018. However, Mr. Booth argued that the results reported in National Grid's Table 3¹³ are skewed because the areas compared are not the same. In 2017 the report included Designated Areas outside of Providence while 2018 surveys were limited to Designated Areas in College Hill and Providence. Accordingly, Mr. Booth

¹⁰ *Id.* at 29.

¹¹ *Id.*

¹² Letter from Gregory Booth to John Bell at 1 (Oct. 3, 2018); http://www.ripuc.org/eventsactions/docket/4237-DIV-PowerServices-Memo_10-3-18.pdf.

¹³ National Grid's 2018 Contact Voltage Report at 14 (Aug. 29, 2018)

recommended that National Grid develop a methodology to be used in the future to compare survey results in the current year with results from the same Designated Areas in prior years.¹⁴

Mr. Booth noted that National Grid maintained a shock line where it received calls that recorded an event of elevated voltage reported by either the public or another entity such as a utility. Only one event with an elevated voltage of 3.5 volts was recorded. Mr. Booth recommended that National Grid maintain regular contact with that customer since elevated voltage may be contact or stray voltage.¹⁵

Mr. Booth observed that the Company has used the same mobile survey vendor since FY 2016 and that the Company's next request for the contract will be for the FY 2020 mobile survey. He recommended that the Company's next RFP process be comprehensive and incorporate multiple options, including 20%, 50%, and 100% area testing pricing, to allow for a contract that allows long term options without the need for subsequent price negotiations.

Mr. Booth recommended that the Company be required to monitor potential changes to IEEE Standard P1695, as it is currently pending editorial revisions and approvals. Mr. Booth further suggested that the Company should inform the PUC, if and when there are changes to P1695. Finally, Mr. Booth favored approving the Company's recommendations for the program.¹⁶

IV. PUC Findings

At an Open Meeting on November 30, 2018, the PUC reviewed National Grid's FY 2018 Contact Voltage Annual Report and 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 with the PUC's prior orders in this Docket.¹⁷

¹⁴ Booth letter at 2 (Oct. 3, 2018)

¹⁵ *Id.*

¹⁶ *Id.* at 3.

¹⁷ Order Nos. 20871, 20950, 21414, 21780, 22357, 22567, and 23270.

Accordingly, it is hereby

(23442) ORDERED:

1. The Narragansett Electric Company d/b/a/ National Grid is in compliance with Public Utilities Commission Order Nos. 20871, 20950, 21414, 21780, 22357, 22567 and 23270.
2. The Narragansett Electric Company d/b/a National Grid shall adopt a survey and testing schedule for completing 20% of the Designated Contact Voltage Risk Areas in FY 2019, all of which shall be located in the City of Providence.
3. The Narragansett Electric Company d/b/a/ National Grid shall develop a methodology to compare survey results in the current year with results from the same Designated Contact Voltage Risk Areas from prior years.
4. The Narragansett Electric Company d/b/a/ National Grid shall remain engaged with the customer that experienced elevated voltage in its equipment, as reported on the shock line.
5. The Narragansett Electric Company d/b/a/ National Grid's next Request for Proposals for mobile survey vendor, for FY 2020, shall be comprehensive and shall incorporate multiple options, including 20%, 50%, and 100% area testing pricing.
6. The Narragansett Electric Company d/b/a/ National Grid shall continue its current process for conducting mobile surveys.
7. The Narragansett Electric Company d/b/a/ National Grid shall monitor IEEE Standard P1695 and inform the PUC of any changes or other actions involving P 1695.
8. The Narragansett Electric Company d/b/a/ National Grid shall work with municipalities to determine mutually agreed upon Contact Voltage Survey and Testing dates.
9. The Narragansett Electric Company d/b/a/ National Grid shall perform post-mitigation testing on Company-owned assets by manually testing the areas where previous remediation work was completed after the prior year's mobile survey.
10. The Narragansett Electric Company d/b/a/ National Grid shall no longer be required to perform post-mobile survey audit testing to spot verify the accuracy of the mobile technology.

EFFECTIVE AT WARWICK, RHODE ISLAND ON NOVEMBER 30, 2018,
PURSUANT TO AN OPEN MEETING DECISION. WRITTEN ORDER ISSUED MARCH 1,
2019.

PUBLIC UTILITIES COMMISSION



Margaret E. Curran

Margaret E. Curran, Chairperson

Marion S. Gold

Marion S. Gold, Commissioner

Abigail Anthony

Abigail Anthony, 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.