

January 3, 2012

VIA HAND DELIVERY & ELECTRONIC MAIL

Luly E. Massaro, Commission Clerk
Rhode Island Public Utilities Commission
89 Jefferson Boulevard
Warwick, RI 02888

**RE: Commission Investigation relating to Stray and Contact Voltage Occurring in
Narragansett Electric Company Territories
Responses to Commission Data Requests (Set 3)**

Dear Ms. Massaro:

On behalf National Grid¹ enclosed please find ten (10) copies of the Company's responses to the Commission's Third Set of Data Requests issued in the above-captioned proceeding.

Thank you for your attention to this transmittal. If you have any questions, please feel free to contact me at (401) 784-7667.

Very truly yours,



Thomas R. Teehan

Enclosure

cc: Docket 4237 Service List
Steve Scialabba
Leo Wold, Esq.

¹ The Narragansett Electric Company d/b/a National Grid ("National Grid" or the "Company").

The Narragansett Electric Company
d/b/a National Grid
In Re: Commission Investigation Relating to Stray and Contact Voltage
Occurring in Narragansett Electric Company Territories
Responses to Commission Data Requests (Set 3)
Issued on December 8, 2011

Commission 3-1

Request:

Referencing the Transcript from the Technical Record Session in Docket No. 4218, March 18, 2011 at pp. 62-63, Ms. McDonough agreed that within six months National Grid would “have something to the Division saying this is how the company believes it should proceed in dealing with” stray voltage. Please provide a copy of that proposal. If no proposal exists, please explain why the Company did not prepare the proposal.

Response:

In Data Request Commission 2-18 issued April 8, 2011, National Grid discussed three scenarios and their estimates for implementing regular monitoring and/or elevated voltage testing of Handholes, Manholes, Padmounted Equipment (Transformers and Switchgear), Street lights and Vault structures (approximately 29,842 in Rhode Island).

The three scenarios discussed in 2-18 were: all mobile testing, all manual testing and a combination of mobile and manual testing of all structures. The cost for manual testing is based on estimates received from Premier, and the costs for mobile testing are based on Premier and Power Survey estimates.

The Power Survey estimates were based on actual costs sustained during the 2009 and 2010 NY mobile tests. The NY mobile tests occurred in Buffalo, Niagara Falls, Albany, Schenectady, Syracuse, and Utica in 2009 and in Buffalo, Niagara Falls, and Albany in 2010. There was little consistency in per unit costs across the various mobile tests, with variations occurring from city to city and from year to year. To estimate the cost of implementation in Rhode Island, the actual costs incurred in the Buffalo tests were used as the population is of similar size and the types of infrastructure to be tested is most similar.

The estimates for each scenario are outlined below:

Scenario I-A: Solely Mobile Testing

Mobile testing of all RI structures utilizing NARDA¹ unit by Premier:

Total: \$130k (based on \$2.96 per structure and cost for NARDA unit)

Although the costs for using this technology is competitive, the results of the tests have been challenged in other areas and we expect will continue to be challenged.

¹ NARDA Model 8950 Stray Voltage Detection System complete with vehicle mounting and software: \$40,000 (1 unit) used for Premiere mobile testing

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Scenario I-B: Solely Mobile Testing

Mobile testing of all RI structures utilizing the services of Power Survey:

Low Estimate: \$1.3M (based on \$43 per structure in 2010)

Medium Estimate: \$1.8M (based on \$60 per structure for average² cost 2009-2010)

High Estimate: \$2.8M (based on \$94 per structure for in 2009)

Scenario II: Solely Manual Testing

Manual testing of all RI structures by Premier:

Total: \$75k (based on \$2.50 per structure)

Scenario III: Utilizing Mobile and Manual Testing

Mobile Scan utilizing Power Survey for the cities³ of Cranston, East Providence, Newport, Pawtucket, Providence, Warwick and Woonsocket:

Low Estimate: \$480,000

Medium Estimate: \$670,000

High Estimate: \$1.050M

Manual Testing for remaining 31 RI cities by Premier: \$40,000

Combined, the total testing costs range from \$520,000 to \$1.090M

Additionally a fourth scenario exists which is the present program outlined in Commission 3-2 and utilizes a five to six year inspection cycle, at a cost of approximately \$15,000 per year.

Given the continued challenges to the NARDA technology, the Company recommends manual testing for elevated voltage investigation on a five to six year cycle as outlined in Commission 3-2. In addition, National Grid continues its efforts to identify best practices for detecting stray, elevated and contact voltage, which includes reviews of the latest available detection technology, programs conducted in other jurisdictions, and recommendations of noted industry experts.

Prepared by or under the supervision of: Jennifer L. Grimsley

² There were two separate tests in Buffalo in 2010 resulting in an average of \$60 for 2009-2010

³ Rhode Island cities chosen for Power Survey mobile test were based on similar NY criteria. NY originally chose cities for the mobile scan based on population size (> 50,000). The final criteria chosen for RI cities were cities greater than 20,000 or containing a high density of structures that would require testing solely for Scenario III.

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Commission 3-2

Request:

Please explain what actions National Grid has been taking since March 2011 to detect stray voltage and to prevent contact with such stray voltage.

Response:

Prior to March 2011, the following elevated voltage inspection programs for detection of preventing contact with stray voltage were in place for Overhead Equipment, Underground Equipment, and Street Lights:

- Overhead Equipment – Elevated voltage testing on wood poles with metallic risers, down grounds and guy wires has been ongoing since 2006. The program is run on a five year cycle (approximately 20% of the system tested each year), with the first five year cycle completed in 2010. In 2011 this cycle has been changed to a six year cycle to obtain efficiencies with our distribution overhead inspection program cycle.
- Underground Equipment – Elevated voltage testing on padmount transformers, switchgear, and metallic handhole and manhole covers has been ongoing since 2006. The program is run on a five year cycle, with the first five year cycle completed in 2010. The second five year cycle for this program will start in 2011.
- Street Lights – National Grid surveyed all metallic street light standards (poles) in Rhode Island for elevated voltage in 2006.

In April 2011, the Company added elevated voltage testing for metallic street light standards on a five year cycle to its inspection program, which will require testing approximately 20% of metallic street light standards per year.

Beginning in June, the Company began elevated voltage testing of metallic street light standards, padmounted transformers and switchgear and metallic manhole and handhole covers. The Company has completed elevated voltage testing on 1,539 padmounted transformers and switchgear, 1,239 manholes and handholes, and 2,497 street lights. This represents a total of 5,275 units, or 27% of these units in Rhode Island.

Elevated voltage testing on wood poles with metallic risers, down grounds and guy wires has been ongoing throughout the year, with over 25,000 miles of distribution line inspected since April 1, 2011.

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Commission 3-2 (continued), p2.

In addition, the Company continues its efforts to identify best practices for detecting stray, elevated and contact voltage, which includes reviews of the latest available detection technology, programs conducted in other jurisdictions, and recommendations of noted industry experts.

Prepared by or under the supervision of: Jennifer L. Grimsley