Thomas R. Teehan
Senior Counsel

April 5, 2012

VIA HAND DELIVERY & ELECTRONIC MAIL

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

RE: Docket 4237 - Commission Investigation relating to Stray and Contact Voltage Occurring in Narragansett Electric Company Territories
Responses to Commission Data Requests (Set 4)

Dear Ms. Massaro:

On behalf National Grid[1] enclosed please find ten (10) copies of the Company's responses to the Commission's Fourth 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").

National Grid Response
Commission 4-1

Request:

What would be the cost and rate impact of requiring all electric utilities operating within the state of Rhode Island to submit quarterly reports (similar to COMM 1-2(c) and Comm 1-2 (d)) to the PUC and DPUC on the incidence of stray and contact voltage, such reports to include without limitation the nature of the incident (including level of voltage), the location and cause of the incident, resulting injuries, the manner in which the incident was reported to the utility, and the date, time and nature of any repairs made as a result of the incident?

a. Would these reporting requirements increase your awareness of the incidence of stray and contact voltage?
b. Would these reporting requirements serve to reduce the number of injuries to human or animal life? Why/why not?

Response:

The cost for National Grid to submit quarterly reports on incidence of stray or contact voltage would be $1,350 a quarter based on two FTE's for two days. These reporting requirements would not have an incremental rate impact to customers as this information is currently tracked, investigated and mitigated.

a. The reporting requirements would not increase National Grids awareness as the information is currently tracked, investigated and mitigated.

b. The Company feels that these reporting requirements would not necessarily reduce the number of injuries to human or animal life as this information is currently tracked, investigated and mitigated, and therefore would not change or make any significant difference from what exists today.

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

National Grid Response
Commission 4-2

Request:

National Grid stated in COMM 2-18 that the cost of implementing regular monitoring and/or elevated voltage testing of these facilities, using either mobile or manual testing, would range from $250,000 to $1.090M (COMM 2-18, COMM 3-1). Would regular monitoring of stray and contact voltage, through mobile or manual testing, even at the lower end of the price range, on an annual or more frequent basis, increase your utility's awareness of the incidence of stray and contact voltage?

Response:
In COMM 2-18 there were 3 scenarios presented for annual elevated voltage testing on Handhole, Manhole, Padmounted equipment (Transformer and Switchgear), Street light and Vault structures. The cost ranges quoted were between $75K for manual testing to $1.09M for a combination of mobile and manual testing.

Regular monitoring of stray and contact voltage may incrementally increase awareness of the incidence of stray and contact voltage. As shown in the table below, over the period from 2005 to 2011, the Company manually tested over 220,000 units for elevated voltage, and found 55 instances (0.02%) of voltages 1 volt or greater. Street Light assets represent the highest rate of elevated voltage instances.

Testing Summary 2005 to 2011	Current Total System Units	Units Tested 2005 - 2011	Units with Voltage Found (>= 1.0v)	Percent of Units Tested with Voltage (>= 1.0v)
Overhead Distribution Facilities	286,368	202,238	15	0.007%
Underground Facilities	13,870	11,630	1	0.009%
Street Lights	5,888	6,737	39	0.579%
TOTAL	306,126	220,605	55	0.02%

National Grid Response
Commission 4-2 (continued p2)

While a more frequent elevated voltage testing cycle might find an instance of elevated voltage sooner, given the extremely small occurrence rate of elevated voltages, the Company believes that more frequent testing is not necessary.

The Company recommends that it continue with the current elevated voltage inspection program described in COMM 3-2 as summarized below.

- 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[1]. 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[2]. The second five-year cycle for this program has begun.

- Street Lights – National Grid surveyed all metallic street light standards (poles) in Rhode Island for elevated voltage in 2006. A five-year testing cycle began in April 2011, which requires testing of approximately 20% of metallic street light standards per year.

Prepared by or under the supervision of: Jennifer Grimsley

[1] During the first five-year cycle for overhead, the Company updated its records to ensure all assets requiring testing were accounted for, which increased the number of assets. This resulted in additional units being added to the second cycle for testing,

[2] During the first five-year cycle for underground, the Company updated its records to ensure all assets requiring testing were accounted for, which increased the number of assets. This resulted in additional units being added to the second cycle for testing,

National Grid Response
Commission 4-3

Request:

Would regular monitoring for stray and contact voltage, through manual or mobile testing, on an annual or more frequent basis, serve to reduce the number of injuries to human or animal life? Why/why not?

Response:

The Company believes its monitoring cycle as described in COMM 4-2 is appropriate and that a more frequent elevated voltage testing would not serve to reduce the number of injuries to human or animal life. As shown in the table below, over the period from 2005 to 2011, the Company tested over 220,000 units for elevated voltage, and found 55 instances (0.02%) of voltages 1 volt or greater. Street Light assets represent the highest rate of elevated voltage instances.

Testing Summary 2005 to 2011	Total System Units	Units Tested 2005 - 2011	Units with Voltage Found (>= 1.0v)	Percent of Units Tested with Voltage (>= 1.0v)
Overhead Distribution Facilities	286,368	202,238	15	0.007%
Underground Facilities	13,870	11,630	1	0.009%
Street Lights	5,888	6,737	39	0.579%
TOTAL	306,126	220,605	55	0.02%

While a more frequent elevated voltage testing cycle might find an instance of elevated voltage sooner, given the extremely small occurrence rate of elevated voltages, the Company believes that more frequent testing is not necessary.

Prepared by or under the supervision of: Jennifer Grimsley

Question #4
Directed to Pascoag and Block Island Power

Question #5
Directed to Pascoag and Block Island Power

National Grid Response
Commission 4-6

Request:

National Grid stated in COMM 2-20 that the cost of implementing Massachusetts reporting requirements (COMM 1-6, Attachment 3, Sec. VIII.) in Rhode Island would be negligible.

a. (BIPCO and PUD only) What would be the estimated costs to BIPCO and PUD of implementing the Massachusetts reporting requirements referenced in COMM 1-6. Attachment 3, Sec. VIII.?
b. Would these reporting requirements increase your awareness of the incidence of stray and contact voltage?
c. Would these reporting requirements serve to reduce the number of injuries to human or animal life? Why/why not?

Response:

a. (BIPCO and PUD only)

b. The reporting requirements would not increase National Grids awareness as the information is tracked, investigated and mitigated already.

c. The Company feels that these reporting requirements would not necessarily reduce the number of injuries to human or animal life as this information is currently tracked, investigated and mitigated, and therefore, would not change or make any significant difference from what exists today.

Prepared by or under the supervision of: Jennifer Grimsley

National Grid Response
Commission 4-7

Request:

Please provide an estimate of the annual cost to implement the contact voltage detection and repair program proposed in Senate Bill No. 2387 introduced on February 15, 2012.

Response:

The testing costs associated with an annual inspection of underground assets as proposed in Senate Bill 2387 could be between $75K and $1.09M depending on the testing methods required. Mobile testing requirements will increase the costs associated with elevated voltage (EV) testing.

Manual testing of all underground and street lighting assets would cost approximately $75K based on current pricing from the vendor the Company is using. Mobile testing could cost approximately $1.09M based on costs the Company has experienced with a vendor performing inspections in Buffalo, NY. A more accurate estimate of the mobile testing is not possible as there has been little pricing consistency across various mobile tests. Due to the pricing inconsistency the Company's experience in Buffalo was used as a model considering the number of assets in service and the miles scanned.

Prepared by or under the supervision of: Jennifer Grimsley

National Grid Response
Commission 4-8

Request:

Please provide an estimate of the monthly rate impact of Senate Bill No. 2387 on a typical residential, commercial and industrial ratepayer.

Response:

Based on an estimated annual expense ranging from $75,000 to $1.09 million as described in the Company's response to 4-7, the estimated monthly bill impacts for typical residential, commercial and industrial customers are as follows:

	Annual expense $75,000	Annual Expense $1.09 million
Residential customer (500 kWh):	$0.01 per month (0.01%)	$0.07 per month (0.1%)
Commercial (30,000 kWh):	$0.31 per month (0.01%)	$4.38 per month (0.1%)
Industrial (500,000 kWh):	$5.21 per month (0.01%)	$72.92 per month (0.2%)

Note: monthly bill impact includes the effect of gross earnings tax.

Prepared by or under the supervision of: Jeanne A. Lloyd

National Grid Response
Commission 4-9

Request:

Would the contact voltage detection and repair program proposed in Senate Bill No. 2387 serve to reduce the number of injuries to human or animal life? Why/why not?

Response:

The Company believes its monitoring cycle as described in COMM 4-2 is appropriate and that a more frequent elevated voltage testing would not serve to reduce the number of injuries to human or animal life. As shown in the table below, over the period from 2005 to 2011, the Company tested over 220,000 units for elevated voltage, and found 55 instances (0.02%) of voltages 1 volt or greater. Street Light assets represent the highest rate of elevated voltage instances.

Testing Summary 2005 to 2011	Total System Units	Units Tested 2005 - 2011	Units with Voltage Found (>= 1.0v)	Percent of Units Tested with Voltage (>= 1.0v)
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Prepared by or under the supervision of: Jennifer Grimsley