

Massaro, Luly (PUC)

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Sent: Thursday, November 07, 2019 12:17 PM
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Subject: [EXTERNAL] : Docket 4237 - 2019 N Grid Contact Voltage Annual Report
Attachments: Docket 4237 DPUC Compliance Report Response.pdf

Good afternoon,

Attached please find a letter from DPUC consultant, Mr. Gregory L. Booth, PE, which contains his expert review, comments and recommendation.

This letter serves as the DPUC's response to National Grid's recent 2019 Contact Voltage Annual Report filing.

Best regards,

Christy Hetherington | Special Assistant Attorney General

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November 7, 2019

Mr. John Bell
Public Utility Rate Analyst
Rhode Island Division of Public Utilities and Carriers
89 Jefferson Boulevard
Warwick, Rhode Island 02888

Subject: Docket 4237; National Grid September 18, 2019 Contact Voltage Annual Report

Dear John:

I have reviewed National Grid's *2019 Contact Voltage Annual Report* dated September 18, 2019. This letter outlines my review, comments, and recommendations. On September 18, 2012 I prepared and filed testimony concerning Docket 4237, on December 19, 2013, I filed a memorandum with the Division in which I commented and provided recommendations concerning the National Grid *Stray and Contact Voltage Compliance Report* dated August 29, 2013. I have also provided letters containing comments and recommendations concerning each of the Annual reports on September 25, 2014, August 3, 2015, May 4, 2016, October 6, 2017, and October 3, 2018. My testimony and recommendations associated with the National Grid FY 2018 ISR Plan filing included an adjustment to the Contact Voltage Program due to the trend in changing ownership of streetlights to the municipalities. The Division recommended, and the PUC subsequently approved, moving from completing a 100% area survey to a 20% survey of the Designated Contact Voltage Risk Areas ("DCVRAs"). I recommend continuing the 20 percent survey of the DCVRAs.

I found that National Grid's September 18, 2019 *Contact Voltage Annual Report* meets the requirements set forth in §39-2-25(b)(6)¹, while also incorporating all previous recommendations of the Division and multiple Commission Orders incorporating program additions and enhancements. Specifically, the Company complied with the PUC directive to complete surveys in 20% of DCVRAs, and located in Providence.²

The Company explained in detail the contact voltage survey process, and the findings and actions taken. It compared the FY 2019 results to the FY 2018 mobile surveys. Table 3 of the Company's report indicates a significant increase in mobile events (2018 was 13 and 2019 was 32) with the majority of FY 2018 and 2019 events associated with streetlights (Table 2).

¹ §39-2-25(b)(6)- Annually report on contact voltage findings, including, but not limited to, the number and type of energized objects on both company-owned and customer-owned assets, voltage level, corrective action taken, shocks that occur to members of the public or to pets owned by members of the public, and any other information that the commission deems appropriate.

² Docket 4237 PUC Written Order issued September 4, 2018; page 6

Table 3
Comparison of Number of Mobile Events FY 2018 to FY 2019

Number of Mobile Events	FY 2018	FY 2019
Readings less than 1 volt	9	32
Readings greater than 1 volt but less than 4.5 Volts	2	0
Readings greater than 4.5 volts	2	0
Total	13	

The comparison provided in Table 3 is for a 20% survey each year. Prior years compared in the report were for a 100% DCVRA survey. It is important to note that for 2019, there were zero events greater than 1 volt versus years 2015 through 2018, which ranged from a low of 4 to a high of 26. I recommend National Grid develop a methodology to compare survey results for comparable surveyed areas so there is not a statistical distortion on the report; such as comparing a 100% area survey with a 20% area survey.

The Company utilized THD readings for contact voltages between 1 and 4.5 volts to evaluate the usability of these readings in determining actionable contact voltage events. The Company has also incorporated a Shock Line, on which it received four (4) calls. The Company found negligible elevated voltage in one case. It identified significantly elevated voltage on customer owned equipment in two situations. National Grid stated that they are in constant communication with the customer to address the concern as effectively as possible.^{3,4} I recommend that the Company continue its approach of remaining engaged with its customer, since elevated voltage issues may be contact or stray voltage events precipitated by customer equipment issues or contributions from the utility.

The Company has used the mobile survey vendor TRC (formerly Willbros Engineering, LLC) since FY 2016. The next request for proposals for the contract will be for the FY 2020 mobile survey. The Company's RFP process should be comprehensive and incorporate multiple options, including 20%, 50% and 100% area testing pricing in order to have sufficient information for a contract that allows long term options without the need for price negotiations later.

The repair of identified events on municipal owned street lights has transitioned to municipal contractors. National Grid executed an agreement with the City of Providence which shifts the costs of repair and/or mitigation work to the City's contractors. Under this agreement, the Company was not responsible for, and incurred no repair costs in FY 2019. The municipal contractors are shadowing the Company and its testing vendor in order to be available to make immediate repairs.

³ Contact Voltage Annual Report; page 19.

⁴ The Company filed data request responses which indicate it verifies customer corrective measures have been successful.

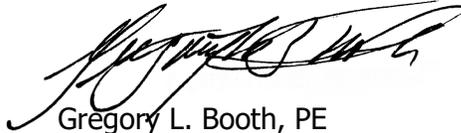
Mr. John Bell
November 7, 2019

National Grid proposes to complete a survey of 20% of the DCVRA areas in prospective years. I anticipate that the Company will schedule upcoming surveys in Providence under the municipal agreement, since ten of the fourteen identified DCVRAs are located in the City. The Company also proposes continuation of post-mitigation annual testing and the use of THD testing. I have reviewed the Company's responses to the data requests, and the responses were as expected and support the program and the Company's report as provided.

Lastly, the Company has also recognized that the Institute of Electrical and Electronics Engineers ("IEEE") Standards Board's approved Standard P1695, *Guide to Understanding, Diagnosing and Mitigating Stray and Contact Voltage*, is a valuable standard upon which to rely. The Company should continue its present process. The Company should continue to monitor IEEE committee activities and developments, and bring any standards changes to the attention of the PUC for future consideration.

The program is mature and the remediation benefits have become evident. The fact 2019 testing resulted in zero events over 1 volt being detected is a positive outcome. I support the Company's recommendation contained on page 27 of its report, including continuing a 20% DCVRA survey each year. This is consistent with the Division's recommendations for the FY 2020 ISR Plan analysis process. If you have any questions or would like additional clarification, please contact me.

Sincerely,



Gregory L. Booth, PE
President

glb/sk