

November 1, 2024

Stephanie De La Rosa
Commission Clerk
Rhode Island Public Utilities Commission
89 Jefferson Boulevard
Warwick, Rhode Island 02888

Subject: Docket 4237; Rhode Island Energy
2024 Contact Voltage Annual Report Filed September 5, 2024

Dear Ms. De La Rosa:

The Division of Public Utilities & Carriers ("Division") hereby submits its review and recommendation concerning Rhode Island Energy's ("RIE" or "Company") annual Contact Voltage Report for 2024.

Historical Overview

In 2012, the Rhode Island General Assembly enacted R.I. Gen. Law §39-2-25(b)(6)¹. This statute required the development of a contact voltage detection and repair program by the Public Utilities Commission ("Commission") and the Division that would require the electric distribution company to implement appropriate procedures to detect contact voltage on publicly accessible surfaces that could become energized by contact voltage due to faults in the underground distribution system. The program is to establish designated contact voltage risk areas. Under the program, the Company is to conduct surveys within designated contact voltage risk areas for contact voltage on all conductive surfaces in the public rights-of-way, using equipment and technology as determined by the Commission. In response thereto, the Company filed its first Proposed Contact Voltage Program on August 17, 2012² and the Commission opened the within Docket, No 4237.

For each year from 2012 to the present, the Company has filed its annual Contact Voltage Program and Report which has evolved over the years and this firm has reviewed the Plan and provided annual commentary and recommendations to the Division and Commission. Reference is made to those reports, incorporated herein.

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 Contact Voltage Program, August 17, 2012;
<https://ripuc.ri.gov/sites/g/files/xkgbur841/files/eventsactions/docket/4237-NGrid-SCVPlan%288-17-12%29.pdf>.

In 2018, this firm's 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 Commission subsequently approved, moving from completing a 100 percent area survey to a 20 percent area survey of the Designated Contact Voltage Risk Areas ("DCVRA"). Since then, our firm has continued to recommend continuing the 20 percent survey of the DCVRA and the process of municipal contractors shadowing the field-testing vendor to remedy defects identified.

Current Filing

A. Survey Process & Results

The Company filed its 2024 Contact Voltage Report on September 5, 2024. The testing reflected in the 2024 report took place between February 4, 2024 and February 8, 2024 which is a change in the prior testing cycle periods of November or December. The survey occurred at nighttime to include the testing of streetlights. The survey covered a distance of approximately 95 miles.

The Company explained in detail the current contact voltage survey process, and its findings and actions taken. The report compared the FY 2024 results to the FY 2023 mobile surveys. Although there was a decrease in mobile events in 2024 from 2023, (63, down from 73) the Company's report indicates an overall dramatic increase in mobile events recorded in excess of 1 volt in these later years. (2021 was 21, 2022 was 16, while 2017 through 2020 were all in the single digits).

The Division has discussed the dramatic increase in the mobile events with the Company. The discussion revealed that the increase in mobile events is a direct result of the vendor selection³ and its use of a superior detection technology to that used by prior vendors, combined with more stops and more items evaluated in the vicinity of each stop. The SVD2000 equipment is the leading-edge technology now recognized as the standard by the Institute of Electrical and Electronics Engineers ("IEEE"). Furthermore, the contracted vendor staff are dedicated to the contact voltage detection process across many states and, therefore, have an apparent increased level of technical competence and experience gained through utilization in multiple states. Additionally, they are performing manual assessment in a 30-foot radius of a mobile event. What this means is the event detection has shown a major improvement from the earlier years of the program.

³ Osmove Utility Services, Inc. conducted the testing for FY 2021, FY 2022, FY 2023, and FY 2024 and has been awarded the contract for FY 2025.

Table 3
Comparison of Number of Mobile Events FY 2024 to FY 2023

Type of Mobile Events	FY 2024 Number of Events	FY 2023 Number of Events
Readings <1 volt	0	0
Readings >1 volt, <4.5 Volts	43	24
Readings >4.5 volts	20	49
Total	63	73

The comparison provided in Table 3 is for a 20% survey each year. It is important to note that for 2024, there were 43 events greater than 1 volt and 20 events greater than 4.5 volts. This is a trend of increasingly more hazardous higher voltage events, versus years 2015 through 2022. For 2019 there were 0 events greater than 1 volt, and for 2020 there was only one event in excess of 1 volt. Now this quantity has increased to 73 events in excess of 1 volt in year 2023 and 63 events in 2024.

B. Manholes

The majority of FY 2022 and FY 2021 events were associated with streetlights, whereas the 2023 and 2024 events were closely weighted between streetlights and manhole covers (Table 2 from each report). The manhole covers had typically not been identified in the past.

C. Streetlights

i. Company-owned

The Company is immediately assessing the cause for the manhole cover contact voltage issues and mitigating those as part of the testing process. The Company takes immediate action to remedy the detection of contact voltage on its facilities. RIE repairs all events which are associated with RIE equipment, including RIE equipment and faults causing an elevated voltage on municipal owned streetlights or manholes. Thus, there is a complete quality control process on RIE equipment.

ii) Municipal -owned

Municipally-owned streetlights continue to account for most mobile events detected, although the manhole covers events were running a close second in 2024.

R.I. Gen Laws §39-2-25 (5) provides: "If, during a survey for contact voltage hazards on conductive surfaces in public rights-of-ways, an energized surface is identified and the proximate cause is found not to be a utility company asset, then the utility company has no legal duty; however, the company may: clearly designate the area as a contact voltage hazard, and or notify the account owner or owner of the asset causing the contact voltage hazard, and inform the owner of his or her obligation to perform all necessary repairs consistent with the terms contained in this section."

Therefore, for the municipally-owned assets that have been identified as having some level of contact voltage, the statute does not provide for any mandatory remedy by the municipality. Nor does the statute ascribe any affirmative duty to follow-up with the municipalities as to repairs of municipally-owned equipment. In the Division's opinion, it is a statutory deficiency that there is no quality control verification that the municipal vendors have mitigated the contact voltage event. Recognizing this deficiency, the Commission, in its Order No. 24263, ordered the Company to notify municipalities that own streetlights of the increasing trend in mobile events.

In its initial 2024 report, RIE stated that it notified the City of Providence via email on May 23, 2024 and again on August 21, 2024.⁴ However, in a subsequent filing on October 9, 2024, the Company acknowledged that the emails it thought were sent were still in draft email boxes and were never sent. However, the Company further represented that it did work with the City's lighting contractor during the survey and did provide a list of assets that showed contact voltage and needed repair. Regrettably, this process does not provide feedback for the Commission to know whether municipally-owned assets are being repaired, as needed.

Total Harmonic Distortion & Shock Line

The Company utilized Total Harmonic Distortion ("THD") readings for contact voltages between 1 and 4.5 volts to evaluate the usability of these readings in determining actionable contact voltage events. This pilot practice should be continued. The Company has also incorporated a Shock Line, on which it received no calls in 2021, 2022, 2023 and through August 16, 2024. While the Shock Line has had minimal calls over the years, it remains a worthwhile additional tool in the effort to identify and mitigate hazardous contact voltage conditions.

Company's Recommendations for 2025

1. RIE proposes to complete a survey of 20 percent of the DCVRA's in prospective years. The Company also proposes continuation of post-mitigation annual testing and the use of THD testing. The Division supports these practices.
2. The Company has also recognized that the Institute of Electrical and Electronics Engineers ("IEEE") Standard P1695, *Guide to Understanding, Diagnosing and Mitigating Stray and Contact Voltage*, is a valuable standard upon which to rely, and it will continue to follow its final approval process for revision. RIE explained that not only is it continuing its monitoring of the IEEE standard's enhancements, it is also in communication with its vendor which is actively involved in the IEEE committee for this standard. 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 Division and Commission for future consideration.

⁴ Report at 26.

Ms. De La Rosa
November 1, 2024

3. RIE will be issuing an RFP for the next cycle of testing, which was discussed during the Division's conference. RIE will have criteria for the award which will include components other than just price. The Division supports this process, particularly since history has shown that equipment meeting the current IEEE standards and a staff trained and experienced in the use of such equipment results in superior detection, field assessment, and ultimate remediation of contact voltage.


Division's Recommendations

The program is mature and the remediation benefits have become evident. The Division supports the Company's recommendations contained in Section 9 of its report, including continuing a 20% DCVRA survey each year. In addition, the Division recommends:

1. Continue to include the additions incorporated in previous Commission Orders in reports;
2. Develop a comparison of results from the same DCVRA between new results and prior results for the DCVRA once the current vendor using the advanced technology has completed all five 20 percent area assessments, such that comparable data is being used. This will provide better insight into the changing events pattern;
3. Communicate the contact voltage event detection results to the municipalities via letter sent by certified mail, return receipt requested, showing a copy to the Division and the Commission. A copy of the communication should be filed within Docket 4237.
4. Direct the Company to advise the Division and Commission if the municipality does not respond to the Company's correspondence.

If you have any questions or concerns, please call me at (919) 441-6440.

Sincerely,



Gregory L. Booth
President