

Q. Reference: Newfoundland Power's 2027 Capital Budget Application, 2027 Substation Refurbishment and Modernization, Appendix B - Rattling Brook Substation Refurbishment and Modernization

Newfoundland Power states that the project scope includes removing the obsolete 12.5 kV Nulec recloser and installing a modern replacement recloser.

- a) Has the Nulec recloser reached full operational obsolescence, including lack of manufacturer support and unavailable spare parts, or does Newfoundland Power consider the Nulec recloser obsolete because of its incompatibility with modern controls and protection systems?**
- b) Provide the installation year and current age of the existing Nulec recloser and how the age of the Nulec recloser compares with the average service life of reclosers for depreciation purposes.**
- c) State whether continued operation, repair, control replacement, spare-unit support, or targeted component replacement were considered as alternatives to full replacement.**
- d) Indicate if the recloser is being retired before its average service life and, if so, explain why early retirement is the preferred option.**

- A.** a) The Nulec reclosers Newfoundland Power have in service are considered operationally obsolete due to discontinued manufacturer support, limited spare parts availability, and increasing operational risk due to the number of experienced failures.¹

The Nulec controller is the only digital relay for which Newfoundland Power cannot remotely access fault records using the Company's relay management system. Access to fault records is only available on site through the Nulec user interface. However, this is not a consideration for identifying this equipment as operationally obsolete.

- b) The existing Nulec recloser was installed at Rattling Brook Substation on July 19, 2002, and is 24 years old. The Nulec recloser is one of the earliest generations of microprocessor-based reclosers installed on the Company's system. The average age of all Nulec reclosers in service is 21 years while the average service life for Nulec reclosers in Newfoundland Power's experience is approximately 18 years.
- c) Deferring replacement is the only practical alternative to full replacement for a Nulec recloser. Targeted component replacement for Nulec reclosers is limited as only minor maintenance activities, such as replacement of fuses, batteries, and certain electronic components, can be completed in the field. However, the types of failures that have been observed involve the bushings and other internal recloser components that are integral to the equipment design and are not serviceable outside of the manufacturer's facility.

¹ See the 2027 Capital Budget Application, report 2.1 Substation Refurbishment and Modernization, page 8.

1 In the event of a failure, either the recloser or the associated control cabinet can
2 be replaced independently while retaining the remaining equipment, provided it
3 remains serviceable.² However, Newfoundland Power no longer maintains spare
4 Nulec reclosers. The Nulec product line has been discontinued, and the Company
5 has exhausted its inventory of spare units that were acquired when the
6 equipment was commercially available.

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8 Due to Newfoundland's Power history of failures with this equipment, it is
9 recommended to replace existing units as part of planned refurbishment projects
10 because it reduces operational risk, improves maintainability, and avoids the cost
11 and customer impacts associated with a future in-service failure replacement.

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13 d) No, in Newfoundland Power's experience the Nulec recloser in Rattling Brook
14 Substation is beyond its average expected service life. See part b) above.

² Nulec reclosers and their associated control cabinets are proprietary components that are only compatible with one another. As a result, a Nulec recloser cannot be operated using a control cabinet from another manufacturer, nor can a Nulec control cabinet be used with a non-Nulec recloser.