

1 **Q. (Reference Application Volume 2, 2021 Substation Refurbishment and**
 2 **Modernization) Please demonstrate how NP has incorporated customer preferences,**
 3 **planning criteria, system reliability, asset condition and benchmarking for this**
 4 **project. Please identify the risk impacts of not proceeding with this project in 2021**
 5 **both in terms of probability of failure and the consequences of failure.**

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 7 A. See the response to Request for Information CA-NP-008 for information on how
 8 Newfoundland Power incorporates customer preferences into its *2021 Capital Budget*
 9 *Application*.

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 11 See the response to Request for Information CA-NP-007 for information on how
 12 Newfoundland Power incorporates benchmarking into its *2021 Capital Budget*
 13 *Application*.

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 15 Newfoundland Power's *Substation Refurbishment and Modernization Plan* is an element
 16 of the *Substation Strategic Plan* filed with the Company's *2007 Capital Budget*
 17 *Application*.¹ Capital expenditures related to the *2021 Substation Refurbishment and*
 18 *Modernization* project are necessary to address the condition of the Dunville ("DUN")
 19 substation and to accommodate the expansion of the Rattling Brook ("RBK") substation.²

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 21 The proposed expenditures for the DUN substation are based on an engineering
 22 assessment.³ The proposed expenditures for the RBK substation were recommended in
 23 the *Central Newfoundland System Planning Study*.⁴ These projects are being coordinated
 24 with other capital projects proposed for the DUN and RBK substations in 2021 to
 25 minimize customer outages and achieve efficiencies that reduce costs associated with
 26 engineering, project management and construction.⁵

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 28 Substations are critical to electrical system reliability. The consequence of any
 29 unplanned substation outage is high as it will typically result in a loss of power to
 30 thousands of customers. The likelihood of substation outages is higher for substations

¹ See the response to Request for Information CA-NP-026 for information on Newfoundland Power's *Substation Strategic Plan* and the considerations given to *Substation Refurbishment and Modernization* projects.

² Capital expenditures for the *2021 Substation Refurbishment and Modernization* project include \$1,845,000 related to the DUN substation and \$3,124,000 related to the RBK substation. The remaining project cost includes \$184,000 associated with substation monitoring upgrades to upgrade substation communication systems. See the response to Request for Information CA-NP-026 for information on Newfoundland Power's *Substation Strategic Plan* and *Substation Refurbishment and Modernization* projects.

³ See the *2021 Capital Budget Application, Volume 2, report 2.1 2021 Substation Refurbishment and Modernization*.

⁴ The *Central Newfoundland System Planning Study* was completed in 2018 and was included as part of *Newfoundland Power's 2019 Capital Budget Application*. Expenditures in 2019 related to the study were approved by the Board in Order No. P.U. 35 (2018). Expenditures in 2020 related to the study were approved by the Board in Order No. P.U. 5 (2020).

⁵ The DUN substation refurbishment and modernization expenditures are being coordinated with the *DUN Additions Due to Load Growth* project. The RBK substation refurbishment and modernization expenditures are being coordinated the *RBK Transmission Line Rebuild* project and the *RBK Hydro Facility Rehabilitation* project.

1 with deteriorated equipment and legacy equipment that lacks the functionality of modern
2 protection and control systems. The consequence of substation outages and opportunities
3 to mitigate these outages are considered in the Company's engineering assessments and
4 planning studies.