for Bonavista Substation.

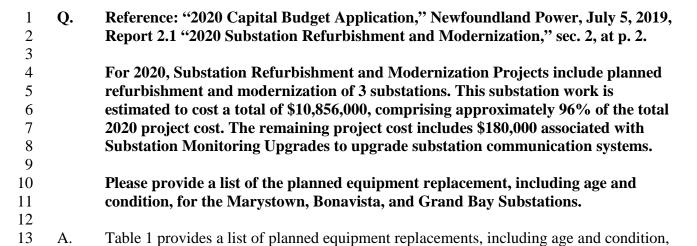


Table 1
Bonavista Substation
2020 Planned Equipment Replacements

	Age	a
Equipment	(Years)	Condition
Transformer Foundation	29	No spill containment
138 kV Air Break/High-Speed Ground Switch	9	Air break seized
12.5 kV Bypass Switches	36-43	Deteriorated
12.5 kV Side Break Switches	36-43	Deteriorated
12.5 kV Hook-stick Operated Switches	36-43	Deteriorated
BVA-CT/PT Combo	5	Bypassed (failed during 2018 storm)
Protective Relays	5	Non-standard ¹
48 VDC Battery Bank (4 x 12 VDC)	8	End of Life

failures.

14

The existing BVA-T1 protective relay was installed in 2014 due to a failure of the previous device. The existing relay is installed in an outdoor control cabinet and does not have standardized functionality of transformer protective relays currently used by the Company. Following completion of the 2020 planned equipment replacements, the existing relay will be repurposed as a spare to respond to future equipment

3

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Table 2 provides a list of planned equipment replacements, including age and condition, for Grand Bay Substation.

Table 2
Grand Bay Substation
2020 Planned Equipment Replacements

	Age	
Equipment	(Years)	Condition
Transformer Foundation	36	No spill containment
Power Transformer ²	53	Deteriorated (failed tap changer)
12.5 kV Bypass Switches	30	Deteriorated
12.5 kV Side Break Switches	30	Deteriorated
12.5 kV Hook-stick Operated Switches	30	Deteriorated
66 kV Bypass Switches	36	Deteriorated
66 kV Side Break Switches	36	Deteriorated
Protective Relays	36	Obsolete

Table 2 provides a list of planned equipment replacements, including age and condition, for Marystown Substation.

Table 3 Marystown Substation 2020 Planned Equipment Replacements

	Age	
Equipment	(Years)	Condition
Transformer Foundation	44	No spill containment
66 kV Air Break Switches	44	Deteriorated
66 kV High-Speed Ground Switch	40	Deteriorated
12.5 kV Bypass Switches	38-45	Deteriorated
12.5 kV Side Break Switches	38-45	Deteriorated
12.5 kV Hook-stick Operated Switches	38-45	Deteriorated
Protective Relays	40	Obsolete

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GBS-T1 was originally installed in Newfoundland Power's Deer Lake Substation before being transferred to Grand Bay Substation in 1992.