

- 1 **Q. (Reference Application, Feeder Additions for Load Growth, page 10) It is**
2 **stated “Of the technically viable alternatives considered, upgrading the**
3 **overloaded section of distribution feeder GOU-03 from two-phase to three-**
4 **phase is the least-cost alternative.” Please provide the detailed lifetime**
5 **analysis showing that this alternative is least cost. Please identify all**
6 **assumptions including the value of capacity provided by the battery storage**
7 **alternative and the replacement cost of the battery storage facility following**
8 **its initial 15-year life.**
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- 10 A. Newfoundland Power did not conduct a detailed life-cycle analysis comparing the
11 GOU-03 feeder upgrade alternative to the battery storage alternative. Since (i) the
12 capital cost of the feeder upgrade alternative was less than the capital cost of the
13 battery storage alternative; and (ii) the battery storage facility would have to be
14 replaced every 15 years, a detailed life-cycle analysis was not required.
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- 16 With respect to the value of capacity provided by the battery storage facility during its
17 initial 15-year life, the latest marginal costs provided by Newfoundland and Labrador
18 Hydro indicate maximum on-peak capacity costs of approximately \$198 per MWh in
19 2040. As a result, the capacity provided by the 2.3 MWh battery storage system that
20 could effectively offload GOU-03 would have a maximum value of approximately \$455
21 per peak-shedding event. Including this cost in a life cycle analysis would not impact the
22 results of the study and, therefore, upgrading the overloaded two-phase section to
23 three-phase remains least cost.