

1 Q. **Reference: Reliability and Resource Adequacy Study 2022 Update, Volume III, page 23.**

2 Describe any discussion or studies of the Holyrood generation units that have been completed
3 to determine if reliability measure more aligned with a start-up failure rate or perhaps a blend
4 of DAUFOP and a start-up failure rate is appropriate if the units are to be run at a lower power
5 level then run up in power as needed. Provide a copy of any documentation of such discussion
6 or study.

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9 A. To determine appropriate reliability measures for the units at the Holyrood Thermal Generating
10 Station as the operational mode changes from base load to standby, consideration was given
11 only to key performance indicators (“KPI”) identified in Electricity Canada’s Equipment Reliability
12 Information System. These are the performance standards that Newfoundland and Labrador
13 Hydro (“Hydro”) has used for benchmarking as well as all historical generation performance
14 reporting. No additional discussion or studies were completed on the use of non-standard
15 reliability measures.

16 DAUFOP¹ has been used by Hydro to measure standby unit performance since its introduction to
17 the utility in 2018; it was originally used for gas turbine assets. As this is a measure of the
18 probability that a generating unit will not be available when required, starting reliability is a
19 factor in the calculation of this KPI. Additionally, as this measure is calculated based on rated
20 capacity of a unit and not the varying output generation, the operational decision to run these
21 units at anything less than rated output capacity has no effect on the reliability measure as long
22 as rated capacity is available if required by the power system.

¹ Derated adjusted utilization forced outage probability (“DAUFOP”).