

1 Q. **Reference: Schedule 1 – Upgrade Report – Penstock 1 Life Extension – Bay d'Espoir.**

2 The Application states on page i, lines 20-25, that

3 During the investigation of the most recent failure that occurred in 2019, it was
4 determined that the failure had developed in a previously refurbished weld,
5 indicating that the weld repairs in this section of penstock are not reliable. This
6 was confirmed following the 2021 and 2022 annual inspections of Penstock 1,
7 which found that additional cracks had formed in the longitudinal welds of the
8 17-foot diameter section, which had been previously repaired. Therefore, Hydro
9 believes that capital investment is required to address the ongoing risk of
10 penstock failure.

11 Is Hydro satisfied that there has been enough investigation to dismiss inadequate initial
12 refurbishment of the welds as the primary reason for their subsequent failure?

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15 A. Given the widespread history of cracking across the 17-foot diameter portions of all three
16 penstocks supplying Powerhouse 1 at the Bay d'Espoir Hydroelectric Generating Facility, the
17 robust quality control processes used for welding refurbishments, including welder
18 certification,¹ and the findings of the root cause investigations, Newfoundland and Labrador
19 Hydro is satisfied that inadequate weld refurbishment is not considered the primary cause of
20 the widespread penstock cracking encountered.

¹ Welders are to be certified to The American Society of Mechanical Engineers Standard B31.3 (2023) *Process Piping* (2022 ed.) and non-destructive, post-weld testing.