

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

2 Appendix M, page 20 of 219, Item i, states that “A primary constructability objective of the
3 penstock replacement work is, to the extent practical, eliminate field welding.” Is Hydro able to
4 quantify the risk associated with field welding in joining the cans and repairing welds in the
5 lower penstock? If so, what is the quantified risk advantage in eliminating the field welds
6 wherever possible?

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9 A. The referenced statement is applicable to the replacement section only.

10 It is common industry practice to utilize shop welds when possible to minimize fieldwork and
11 construction time. Shop welding tends to increase productivity due to environmental controls,
12 project-specific setups, available weld methods, and automation, which is easier to achieve in a
13 shop setting. The risk of field welding more of the replacement section is primarily related to
14 cost increases due to schedule or field labour increases.

15 For repair welds for the remaining sections, shop welding is not feasible, these welds must be
16 field welded. The risks associated with these welds are outlined in Appendix N.¹

¹ “Application for Approval of Capital Expenditures for Section Replacement and Weld Refurbishment for Bay d’Espoir Hydroelectric Generating Facility Penstock 1,” Newfoundland and Labrador Hydro, December 7, 2022, sch. 1, app. N, p. 21, 022 – Welding – New Penstock Section.