

1 Q. **Reference: March 13, 2026 Letter, Page 1.**

2 Deferral of this work would pose a significant system reliability risk given the  
3 penstock's condition and scheduling constraints, which require execution of this  
4 project during the planned outage period in 2027.

5 a) Describe the significant system reliability risk caused by the penstock's condition.

6 b) Describe the scheduling constraints around the execution of the project, addressing

7 i. Why Hydro believes the timing of this project is the most optimal approach to  
8 coordinate Penstock 3 with the other capital, maintenance, and operational needs  
9 at Bay d'Espoir;

10 ii. Why the Penstock 3 project and the Unit 7 Life Extension project cannot occur  
11 concurrently; and

12 iii. Any issues or concerns with the Penstock 3 project and the schedule for the  
13 proposed Bay d'Espoir Unit 8 project.

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16 A. a) Penstock 3 supplies water to Units 5 and 6 at the Bay d'Espoir Hydroelectric Generating  
17 Facility ("Bay d'Espoir"). A single failure of Penstock 3 would result in the loss of 153 MW of  
18 generation on the Island for several weeks; compounding failures could result in the loss of  
19 generation for an extended period, depending on the magnitude and location of failures. A  
20 catastrophic failure of Penstock 3, while highly unlikely with current mitigations, could cause  
21 significant damage to the terminal station downhill from the area of Penstock 3 most likely  
22 to fail. A loss of this magnitude of generation would have a significant impact on Island  
23 reserves, especially during the winter months, resulting in increased thermal generation  
24 from Holyrood Thermal Generating Station ("Holyrood TGS"), and/or from standby  
25 generation, depending on the demand and availability of other generating units at the time.

1           The risk of penstock failure cannot be considered in isolation, as Hydro must manage  
2           compounding risks across its entire asset fleet. This was demonstrated in January 2026,  
3           when Bay d’Espoir was brought offline as a result of frazil ice formation at the intakes.  
4           Concurrently, Newfoundland and Labrador Hydro (“Hydro”) experienced a series of trips  
5           that resulted in the unavailability of Unit 2 at the Holyrood TGS, and other issues that  
6           resulted in the derating of Unit 1. The combination of the issues resulted in increased risk to  
7           reliable service for customers.

8           While Hydro cannot predict the nature, timing, and magnitude of asset failures, Hydro must  
9           consider the risk and likelihood of those failures. Hydro considers the timely mitigation of  
10          known asset risks to be the most practical and prudent option to mitigate overall risk on the  
11          Island Interconnected System. A penstock failure resulting in the unavailability of two units  
12          at Bay d’Espoir, concurrent with the unavailability of one or more units at the Holyrood TGS,  
13          the unavailability of the Labrador-Island Link, or the occurrence of frazil ice at Hydro’s  
14          remote hydro plants could result in insufficient supply to serve Island demand.<sup>1</sup>

15          **b)** Please refer to Hydro’s response to PUB-NLH-005 of this proceeding.

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<sup>1</sup> The concurrent unit availabilities listed herein are considered illustrative examples based on known system risks.