Q. **Reference: Bay d'Espoir Unit 7 Additional Analysis Report, September 23, 2025, page 3, lines 13-14.**

"The total estimated incremental cost impact of the Unit 7 uprate is approximately $45 million."

a) Hydro has previously identified hydroelectric generation alternatives including addition of a new unit (Unit 8) in Bay d'Espoir (154 MW), addition of a new unit (Unit 3) in Cat Arm (68.4 MW), Island Pond Development (36 MW), Round Pond Development (18 MW) and Portland Creek Development (23 MW). In a table provide the marginal cost of energy ($/MWHR) and capacity ($/MW) for Bay d'Espoir Unit 7 Refurbishment and each of the five opportunities identified here. Also include any other opportunities to increase hydroelectric generation that Hydro is currently considering.

b) Has Hydro identified any other potential capital projects that could provide approximately 20 MW of nominal capacity for a similar cost on a $/MWHR? If yes, provide the details.

A. **a)** It is assumed that it is the cost of the uprate of Bay d'Espoir Unit 7, not the refurbishment, that is requested. It should also be noted that the costs provided are not considered to be marginal costs.

As stated in the Bay d'Espoir Unit 7 Additional Analysis Report ("Additional Analysis Report"),[1] the capacity cost associated with a 20 MW uprate of Unit 7 is estimated to be $45 million, which equates to $2,260/kW, assuming that the full capacity is available to the system and ignoring significant additional costs, which are described below.

As identified in the Additional Analysis Report, increasing the capacity of Unit 7 may constrain the capacity available from Unit 8. This could add approximately $38 million to the project; however, it would not provide a net increase in capacity on the system.[2] It would

[1] "Bay d'Espoir Unit 7 Additional Analysis Report," Newfoundland and Labrador Hydro, rev. September 23, 2025 (originally filed Septemebr 22, 2025), sec. 2.2.1, pp. 3–4.
[2] *Supra,* f.n. 1.

require more study to determine the exact impact on Bay d'Espoir Unit 8, but if a reduction in the capacity of Unit 8 is required, there would be no benefit to the system in terms of energy or capacity from increasing the capacity of Unit 7, and it would not be a worthwhile project at any cost.

Increasing the capacity of Bay d'Espoir Unit 7 would result in a delay in the refurbishment of Unit 7 to 2031. The Bay d'Espoir Unit 7 Condition Assessment Condition Report[3] completed by Hatch Ltd., recommended that this work be completed by 2029, and this delay would greatly increase the risk of failure of that unit. Failure of a large unit like Bay d'Espoir Unit 7 would likely result in customer outages and significant additional costs associated with thermal generation. These costs are not captured in the $45 million figure.

Increasing the capacity of Bay d'Espoir Unit 7 would also result in a delay of the proposed Bay d'Espoir Unit 8 Project, estimated in the range of $30 million to $50 million per year. Further, this change would delay the retirement of the Holyrood Thermal Generating Station, with operating costs estimated at up to $120 million annually. These costs are also not captured in the $45 million figure.

The uprate of Unit 7 would not provide any additional energy to the system, and as such, a cost per MWh cannot be produced. In fact, as stated on page 7 of the Additional Analysis Report, it was determined that a runner with increased capacity has lower efficiency over the operating range of the unit when compared to a runner with the same rating as is currently installed. This reduction in efficiency may be somewhat offset by a reduction in spill; however, this has not been studied, nor is it expected to be a significant reduction, as spill from the Long Pond Reservoir that feeds the Bay d'Espoir Plant occurs very rarely.

Table 1 compares the cost of the Unit 7 uprate (in 2025 dollars), excluding the additional costs mentioned above, to the capacity costs of the hydro resource options that were considered in the 2025 Build Application[4] analysis (in 2024 dollars).

[3] "Bay D'Espoir Unit 7 Condition Assessment Condition Report," Hatch Ltd., Rev B0, May 3, 2024.
[4] "2025 Build Application – Bay d'Espoir Unit 8 and Avalon Combustion Turbine," Newfoundland and Labrador Hydro, March 21, 2025.

Table 1: Comparison of Unit 7 Update to Hydro Resource Options

Project	Cost ($ Million)	Capacity (MW)	Capacity Cost ($/kW)
Bay d'Espoir Unit 7 Uprate (Excluding impacts to Bay d'Espoir Unit 8)	45	20	2,260
Bay d'Espoir Unit 8 (P50)[5]	934	154.4	6,049
Cat Arm Unit 3[5]	545	68.2	7,996
Island Pond[5]	961	36	26,704
Portland Creek[5]	621	23	27,007
Round Pond[5]	588	18	32,682

b) Battery Energy Storage Systems ("BESS") are expected to have a capacity cost in the range of the costs noted above for the uprate of Bay d'Espoir Unit 7. Table 2 summarizes the costs that were assumed in the 2025 Build Application (in 2024 dollars). As Newfoundland and Labrador Hydro ("Hydro") has previously stated, there remain appreciable feasibility concerns surrounding BESS solutions related to capability in emergency scenarios such as an extended outage to the Labrador-Island Link ("LIL") bipole. Hydro's position remains that, given concerns regarding BESS solutions in the event of a LIL shortfall scenario, such solutions should not be included as capacity resources until further study is completed. Hydro recognizes that battery technology is constantly improving, and the costs are reducing, which makes it a viable option to meet future load growth requirements. Hydro is committed to further study of battery ELCC[6] to inform the next Resource Adequacy Plan.

Table 2: Capacity Costs Assumed in 2025 Build Application ($/kW)

Resource	Capacity Cost
4-hr, 50 MW	2,081
4-hr, 80 MW	3,798

[5] Note that costs of comparison resource options are shown in 2024 dollars, as presented in the 2025 Build Application.
[6] Effective Load Carrying Capability ("ELCC").