Q. **Reference: Application**

With respect to alternatives considered in the Application:

**a)** What criteria has Hydro used to determine if an alternative is relevant? Are environmental impacts one such criterion?

**b)** How has Hydro incorporated future trends in its assessments? Specifically, has Hydro considered sensitivity studies relating to shorter asset lifespans in the event that new environmentally sensitive options become available in, for example, the next 10 years?

**c)** Which renewable energy forms are viable in NL? Specifically, are rooftop solar and wind, battery storage, green renewable fuels, etc. viable alternatives in NL?

**d)** Do thermal generation alternatives burning fossil fuels remain viable under government net-zero emissions efforts?

A. **a)** Newfoundland and Labrador Hydro ("Hydro") reviews all planned capital expenditures to ensure the appropriateness of timing and justification of scope. In undertaking the evaluation of all technically viable alternatives, environmental responsibility is one of the factors evaluated, as required per the amendments to the *Electrical Power Control Act, 1994*,[1] made in spring 2023.

Throughout the capital budget cycle, Hydro's Long-Term Asset Planning team reviews information at an asset level to determine the associated level of operational risk and proposes items accordingly. These items are then reviewed by Hydro's Engineering Services team for feasibility and determination of alternatives. If multiple viable alternatives are identified, this could require the completion of a cost-benefit analysis to identify the least-cost option may be required. This ensures options put forward are appropriately scoped and justified on a project/program basis. Once this is completed, the Capital Planning and

[1] *Electrical Power Control Act, 1994*, SNL 1994, c E-5.1.

Regulatory Engineering teams are engaged to conduct a more broad review of the overall capital plan, including system risk, reliability, executability, and total investment. Analysis at all levels includes qualitative and quantitative considerations such as historical asset experience, asset age and condition, risk assessment (including safety, reliability, and environment considerations), and cost comparisons.

**b)** Hydro plans its capital investments based on the needs of the systems it serves and the available technologies and alternatives to meet those needs. At this time, Hydro does not have reason to believe that its current investments would experience shortened lifespans based on new environmentally sensitive options becoming available throughout the life of such assets. Asset lifespans are evaluated in Hydro's depreciation studies. Hydro will be filing an updated depreciation study in its next general rate application.

**c)** The viability of renewable energy sources is highly dependent on the individual application and geographic location.

***Interconnected System Resource Adequacy Applications***

Additional information on the viability of renewable energy sources in a province-wide generation capacity application is available in Hydro's Reliability and Resource Adequacy Study.

***Isolated System Application***

In Hydro's isolated power systems, solar and run-of-river hydro generation has been installed by independent power producers. These power producers are compensated through a power purchase agreement based on the amount of diesel fuel that is avoided. Additional information on the viability of renewable energy sources in Hydro's isolated power systems is included in Hydro's Response to CA-NLH-036, and CA-NLH-064 of this proceeding.

***Renewable Fuels***

Renewable fuels may present an opportunity to reduce the emissions associated with fossil-fuel-fired generation used in both isolated power system and the interconnected power system applications; however, these fuels often have technical limitations, such as limitations which preclude them for use in winter temperatures or remain cost-prohibitive.

***Customer Generation***

In 2017, Hydro introduced the net metering service option for customers who generate electricity from small-scale renewable sources to offset their own usage.[2] Additional information on the uptake of this program is available in both Hydro's and Newfoundland Powers Net Metering Program Annual Reports.[3]

**d)** The Government of Canada's Clean Energy Regulations, currently in draft, represent the most stringent regulations pertaining to Canadian utilities with regard to carbon-emitting electricity generation. These regulations contain provisions for the use of thermal generation on interconnected systems up to a prescribed emissions limit, or for emergency use. The draft Clean Energy Regulations acknowledges that thermal generation remains necessary for the provision of reliable and economical supply of firm capacity on Rural Isolated systems, and therefore exempts such systems from the regulations.

[2] As approved in Board Order No. P.U. 17(2017), to qualify for the net metering service option, a customer's generation must: (i) be designed not to exceed the customer's annual energy requirements; (ii) be 100 kW or less; and (iii) produce electricity from a renewable resource.
[3] Annual Net Metering Program Reports for both Hydro and Newfoundland Power Inc. can be retrieved from the website for the Board of Commissioners of Public Utilities. http://www.pub.nl.ca/indexreportspages/netmetering.php.