Q. (Reference Application, 2022 Capital Plan, 1.2 Sandy Brook Plant Penstock Replacement) Section 6.0 provides the Economic Analysis that does not include consideration of the additional cost that will be recoverable from the Newfoundland customers of NL Hydro and Newfoundland Power as a result of the decreased supply of power by NL Hydro to Newfoundland Power as a result of the project.

a) Please provide details of the reduction in NL Hydro costs, if any, and the reduction in NL Hydro revenues that will be received from Newfoundland Power as a result of the additional Newfoundland Power hydro production resulting from the penstock replacement.

b) Please provide a comparison of the total costs that will be recoverable from Newfoundland electricity customers (aggregating the revenue requirements of NL Hydro and Newfoundland Power recoverable from domestic customers) under the alternatives with and without the Sandy Brook Plant Penstock Replacement. This comparison should show the impact of the project on Newfoundland Power's revenue requirement as compared to the domestic revenue requirement impacts for NL Hydro resulting from the reduced Newfoundland Power power purchases from NL Hydro.

A. The economic analysis provided in *Report 1.2 – Sandy Brook Plant Penstock Replacement, Appendix A* includes all costs necessary to evaluate the economic viability of the *Sandy Brook Plant Penstock Replacement* project and the continued operation of the Sandy Brook Plant. It includes Newfoundland Power's costs of continued operation of the Sandy Brook Plant and Newfoundland and Labrador Hydro's ("Hydro") marginal costs.[1]

Hydro's marginal costs reflect the cost that will be recoverable from Hydro's customers, including Newfoundland Power, as a result of the project. The economic analysis demonstrates that the cost of providing service to customers will be lower with the continued operation of the Sandy Brook Plant than if the plant were no longer in service.

a) Generation from Newfoundland Power's hydro plants reduces the amount of electricity required from Hydro to serve Newfoundland Power's customers.[2] It also increases the amount of energy available for Hydro to export.

The impact of the Sandy Brook Plant on Hydro's costs, as indicated by the levelized value of export sales and avoided generation capacity, will range between 10.26 ¢/kWh and 13.43 ¢/kWh.[3]

[1] Hydro's marginal costs include the opportunity cost associated with export energy sales and Hydro's avoided capacity cost. Hydro's avoided capacity cost is the avoided cost of not having to provide the additional generation capacity currently supplied by the Sandy Brook Plant.

[2] The normal annual production of the Sandy Brook Plant is approximately 27.6 GWh of energy.

[3] See *Report 1.2 – Sandy Brook Plant Penstock Replacement, Appendix A*, page A-5. Levelized cost of electricity is a measure of the average net present cost of electricity generation for a generating plant over its lifetime.

b) The total levelized cost of continued operation of the Sandy Brook Plant is 3.22 ¢/kWh. Without the Sandy Brook Plant in service, the cost to replace production from the plant would be between 10.26 ¢/kWh and 13.43 ¢/kWh. Normal annual production from the Sandy Brook Plant is 27.6 GWh. The levelized annual cost of continued operation of the Sandy Brook Plant is lower than Hydro's costs if the plant was not available by between $1.9 million and $2.8 million.[4] This indicates that continued operation of the Sandy Brook Plant is least cost for customers.

[4] The annual benefit of the Sandy Brook Plant based on the value of energy exports and run of river capacity benefits is $1.9 million (27.6 GWh x (10.26 ¢/kWh – 3.22 ¢/kWh) = $1.9 million.) The annual benefit of the Sandy Brook Plant based on the value of energy exports and fully dispatchable capacity benefits is $2.8 million (27.6 GWh x (13.43 ¢/kWh – 3.22 ¢/kWh) = $2.8 million).