Q. **References: Application, Schedule 1, page 10 of 21**

"*A third-party service provider for the North Plant Diesel Plant carried out an on-site assessment in April 2018 indicating that the units were not in a condition to guarantee reliable service for the 2018-2019 winter season; therefore, the plant is not included in this study*."

NLH also indicated in its Labrador East Reliability Plan – Monthly Status Report dated June 15, 2018, in relation to its 2018 Capital Budget Application:

2.1 Reliability of the North Plant for Peak Loading Conditions

Status: Ongoing

Progress to Date: A third-party service provider for the North Plant Diesels carried out an on-site assessment on April 26, 2018. The assessment indicated that the units were not in a condition to guarantee reliable service for the 2018-2019 winter season. Hydro is currently assessing its options, including both engineering and economic assessments, to determine its course of action with regards to generating assets in Labrador East. An update will be provided in Hydro's next monthly update, to be submitted to the Board on July 16, 2018.

And further indicated in its Monthly Reports dated July 13 and August 15, 2018:

"Hydro continues to review all options for the provision of reliable service in Labrador East; however, at this time, Hydro does not anticipate seeking Board approval for capital work related to the North Plant."

Please indicate the cost and alternative options to provide reliable service, including from the North Plant Diesels.

A. Hydro proposed the Muskrat Falls to Happy Valley Interconnection Project, included in its 2018 Capital Budget Application, to address reliability risks and address forecast capacity shortfalls for the Labrador East system. In Board Orders No. P.U. 43(2017) and No. P.U. 9(2018), the Board deferred its decision on the project.

In accordance with Board Order P.U. 9(2018), Hydro provided a plan[1] for providing reliable service to Labrador East for the 2018-2019 winter season.

Hydro's proposed plan consists of the following eight activity areas:

1. Ensure Reliability of the North Plant for Peak Loading Conditions;
2. Ensure Reliability of the Gas Turbine for Peak Loading Conditions;
3. Inspections of L1301/L1302;
4. Curtailable/Interruptible Service Option;
5. New Customer Connections;
6. Operations Protocol;
7. Labrador East Customer Communication Initiatives; and
8. Minimizing Customer Impacts in Case of Loss of Supply.

Hydro considered action items 1 and 4 to be the most viable contributors to peak load control for the 2018-2019 winter season. An additional option to install temporary mobile diesel generation would also allow for management of the peak load; however, it was not considered economically viable. As outlined in Hydro's letter to the Board on April 16, 2018, "This option is only preferred if adequate

[1] April 24, 2018, *Hydro's Proposed Plan in Relation to the Provision of Reliable Service in Labrador East 2018-2019* filed in Compliance with Order No. P.U. 9(2018), item 1.

curtailable load is not available as mobile generation is a short-term solution and not consistent with least-cost, reliable service." At an estimated cost of $2.5 million to $3.75 million, this option was also higher than the option to overhaul the two North Plant diesel engines and was excluded as an option.

Activity Items 1 and 4

A high level cost comparison of the two options compared 1) the estimated cost of $1,339,800[2] to overhaul the North Side Diesel Units 7 and 8 plus potential for $150,000 in fuel costs[3] to 2) the estimated cost of $220,000[4] to offer an interruptible service agreement. It was determined that the least cost alternative is to offer an interruptible load service agreement.

Hydro filed an application with the Board on Friday, August 31, 2018 to approve an interruptible load service agreement.

Activity Item 8

The "Distribution System Upgrades - Happy Valley Goose Bay Distribution System" project (Minimizing Customer Impacts in Case of Loss of Supply) is estimated to cost approximately $195,400. This project as proposed in the Application will allow Hydro to better manage outages for the 2018-2019 winter season as well as future winter seasons.

[2] This cost estimate includes a full overhaul of the diesel engines 7 and 8 at the North Diesel Plant and to upgrade the fuel lines to allow both units to run at full load.
[3] 5,000 kW x 100 hours x $0.30 per kWh = $150,000. 100 hours reflects the available hours for interruptible loading.
[4] This cost estimate is based upon interrupting 5,500 kW at $10/kW/month for four months.

Activity Items 2, 3, 5, 6, 7

The activity items to manage equipment and customer awareness during 2018-2019 winter peak season in Labrador East consist of:

2. Ensure Reliability of the Gas Turbine for Peak Loading Conditions;
3. Inspections of L1301/L1302;
5. New Customer Connections
6. Operations Protocol
7. Labrador East Customer Communication Initiatives;

The cost to ensure reliability of the gas turbine for peak loading conditions is considered to be normal operations and maintenance expenditures, as is the cost to inspect and repair L1301/L1302. The cost of an increased frequency of aerial patrols of L1301/L1302 (from semi annually to every six weeks) are approximately $10,000 per patrol. The costs associated with limiting new customer connections, updating operations protocols, and implementing customer communication initiatives, including CDM, are considered to be immaterial.