Q. **Reference: Reliability and Resource Adequacy Study – 2022 Update, Volume III: Long-Term Resource Plan, October 3, 2022, page 33, lines 2-5.**

> Chart 10 includes both the Holyrood TGS and the Hardwoods Gas Turbine in service during the six-week LIL outage. In this scenario, it is estimated that customers can expect an average of 20 hours of unserved energy over a six-week period, with the highest anticipated shortfall estimated to be 150 MW.

a) Please provide a table showing the annual reliability performance on the Island Interconnected System, in terms of unserved energy per customer, over the past 20 years in comparison to the scenario described above.

b) Approximately how many customers does Hydro estimate would be impacted by outages in the scenario described above?

c) Has Hydro investigated how an extended outage of the LIL, that could last six weeks or more, would impact customers on the Island Interconnected System, including whether businesses, schools, and other institutions would be able to maintain operations. If so, please provide details. If not, why not?

A. Newfoundland and Labrador Hydro's ("Hydro") data regarding unserved energy on the Island Interconnected System over the past 20 years, based on system conditions, is included in Table 1.

These numbers include unserved energy due to generation shortfall in addition to other causes.[1] Hydro does not track this data per customer and is unable to provide that specific metric.

[1] Hydro does not currently track unserved energy due to generation shortfall independently.

Table 1: Unserved Energy due to System Conditions (MWh)[2]

Year	Unserved Energy[3]
2003	371
2004	74
2005	6
2006	0
2007	42
2008	20
2009	10
2010	0
2011	99
2012	198
2013	10
2014	2,672
2015	21
2016	10
2017	3
2018	3
2019	18
2020	0
2021	66
2022	38

For comparison, the expected unserved energy ("EUE") can be seen in the "Reliability and Resource Adequacy Study – 2022 Update."[4] The EUE in the scenario from Table 1 is expected to be 1,600 MWh on average.

b) Hydro estimates that an outage of 150 MW would impact approximately 40,000 to 50,000 customers, on average.

c) In the event an extended outage of the Labrador-Island Link caused load interruptions, Newfoundland and Labrador Hydro's Energy Control Centre would coordinate with Newfoundland Power Inc.'s ("Newfoundland Power") Control Centre based on a coordination plan established between the two control centres. Following its advisement of

[2] Unserved energy classified under Code 400 – System Condition or Code 700 – System Configuration as defined in "Instruction Manual for Reporting Bulk Electricity System Delivery Point Interruptions and Significant Power Interruptions" as published by Electricity Canada in 2023.
[3] Unserved energy is calculated by taking the load at the delivery point at the start of the outage event and multiplying by the duration of the outage.
[4] "Reliability and Resource Adequacy Study - 2022 Update," Newfoundland and Labrador Hydro, October 3, 2022, vol. III, p. 33, Table 10.

the amount of load to be rotated, Hydro would look to Newfoundland Power to identify specific feeders under their load rotation plan to determine which institutions are able to maintain operations. Hydro and Newfoundland Power have an established Joint Outage Communications Protocol based on the reliability protocols and have established public alert levels to notify customers of any potential impacts to reliable service.