Q. **Reference: Response to Request for Information NP-NLH-040, Page 1 of 2, Lines 10 - 12**

On Page 1 of 2 at Lines 10 - 12, Hydro states: "The St. Lewis Diesel Generating Station is the newest of the four diesel generating stations (2006) and it has, on average, an approximately 4.2% higher efficiency than the other diesel generating stations."

The higher efficiency experienced at the St. Lewis Diesel Generating Station is attributed to the more recent technology in service. If diesel gensets were replaced in the other diesel generating stations, would Hydro expect that efficiency improvements similar to those in St. Lewis would be achieved? If not, why not?

A. Newfoundland and Labrador Hydro's ("Hydro") diesel generating stations may experience fuel efficiency improvements from the replacement of existing diesel gensets with more efficient, modern gensets. Fuel efficiency improvements would be maximized when all diesel gensets within a diesel generating station are replaced, which would allow Hydro to evaluate the venders, models, and sizing of all units to maximize unit efficiency. To maximize overall diesel generating station efficiency, additional upgrades may be required, such as the installation of variable frequency drives, conductor resizing, waste-heat recovery, and auxiliary equipment efficiency.

As per Section 6.3 of the "Long-Term Supply Study for Southern Labrador: Economic and Technical Assessment,"[1] the outcome of Hydro's sensitivity analysis indicates that a reduction in fuel efficiency for new diesel generating stations by 50% would be required to change the outcome of the cost-benefit analysis to an option not involving an interconnection. However, such a reduction in fuel efficiency through the use of new diesel gensets would not be realistic.

[1] "Long-Term Supply for Southern Labrador – Phase 1," Newfoundland and Labrador Hydro, July 16, 2021, sch. 1, att. 1, sec. 6.3, at p. 44.