Q. **a)** Explain why 3,450 kVA was used to compute load-based investment when the customer has indicated that the project is not expected to exceed 2,500 kVA for the first 5 years.

b) Further to the response to PUB-NLH-005(f), if the two-year review process determines that actual load requirements were lower than the 3,450 kVA, how will the difference be treated? Please explain.

c) Reconcile the breakdown of connected load of 3,450 kW provided by the customer in the request for service with the 3,450 kVA used in the CIAC calculation for load-based investment. Include the power factor assumption that was applied.

d) Given a high proportion of the customer load is to supply motors, did Hydro consider whether capacitors should be installed to manage the customer's power factor. If yes, would the cost of this equipment be borne by the customer.

e) Provide the computation of the load factor used in determining the load-based support provided including the forecast maximum demand and energy requirements by month.

f) Please explain the operating characteristics that would explain a 90% load factor for the 8 months of operation from April to November and the 300 kW peak load estimate for the months when the facility is not in operation.

g) Further to the response to PUB-NLH-004, did Hydro complete any independent analysis or request any further support from the customer to determine that a 35-year service life assumption was appropriate and should be used in computing the CIAC? If yes, please provide. If no, provide support for the 35-year service life assumption.

A. **a)** Given the expected 35-year life of the service, Newfoundland and Labrador Hydro ("Hydro") utilized the customer's expected demand of 3,450 kW as it more accurately represents the customer's demand over the life of the service. The customer has since indicated to Hydro that it anticipates that it could be at full load in three to five years. While the Contribution in Aid of Construction ("CIAC") review is generally done within 24 months from the date the

service is made available, Hydro could delay the CIAC review if necessary to coincide with full load operation.

b) Consistent with the CIAC Policy, if the CIAC review determines that the actual load requirements are lower than the 3,450 kW used in the original calculation, the CIAC will be recalculated. As stated in the CIAC quote letter, if there is a difference of more than $100 from the original CIAC, the difference will be applied to the electricity account for this service. Alternate arrangements can be made if there is a large difference in the CIAC.

c) For the CIAC calculation for load-based investment, the 3,450 kW provided by the customer was multiplied by an assumed power factor of 1.0, to conservatively determine the load in Kilovolt-Amperes ("kVA").

If a lower power factor was used, the peak load in the CIAC calculation would be higher, resulting in a higher load-based investment. The CIAC will be reviewed based on actual energy usage and the demand in kVA will be used in this recalculation.

d) As per Hydro's response to NP-NLH-001 of this proceeding, capacitor banks would not effectively address the identified low-voltage criteria violations.

The proposed customer will have a load greater than 1,000 kVA and will therefore be billed under Hydro's General Service Rate No. 2.4. Under this rate class, the customer will be charged based on their kVA demand, and therefore bear a higher demand charge should they have a lower power factor. In this circumstance, the customer would be expected to install capacitors at their own expense if they wanted the benefit of a lower demand charge.

e) The customer has indicated a 90% load factor with eight months of operation; however other mining operations have Annual Load Factors ("ALF") ranging from 50% to 60% with year-round operation. A conservative estimate of 20% to 25% ALF was used in determining the load-based credit for the CIAC. If the actual ALF is found to be higher when the CIAC is reviewed the load-based credit will be adjusted accordingly.

f) For the April to November operating season, a ~90% load factor is consistent with daily quarry operation. During this period, the site load is dominated by the crusher and conveyor

systems, which typically run for long intervals at near-constant demand, with only short interruptions for operational pauses and maintenance. This results in relatively stable demand and therefore a high load factor.

For the remaining months when the quarry is not in operation, the 300 kW peak load estimate reflects non-process electrical demands, primarily space heating and lighting, along with ancillary building services.

g) To assess the validity of the customer's 35-year service life assumption, Hydro reviewed publicly available information related to the project. Namely, Hydro assessed publicly available Environmental Assessment Registration documentation submitted by the proponent in 2006 and again in 2014, in which the cited project life was 50 years and 58 years respectively.[1] Hydro therefore accepted the customer's 35-year service life assumption as a conservative and appropriate service life assumption for the purposes of this application and associated CIAC calculations. Subsequent to the filing of this application, Hydro reviewed an Environmental Assessment Registration for the project registered in 2020 that confirmed a project life of 58 years.[2]

[1] Government of Newfoundland and Labrador, Environmental Assessment Committee Council. *Project 1767* and *Project 1247.* https://www.gov.nl.ca/ecc/projects/project-1767; https://www.gov.nl.ca/ecc/projects/project-1247.
[2] Government of Newfoundland and Labrador, Environmental Assessment Committee Council. *Environmental Assessment Projects Registration (2020-2112).* https://www.gov.nl.ca/ecc/files/env-assessment-projects-v2020-2112-registration.pdf.