

1 Q. **Project C-56, Replace Diesel Units**

2 If the 455kW unit in Port Hope Simpson is replaced with the 725kW unit as
3 proposed, is it anticipated that the other two 455kW units will need to be replaced
4 eventually as well, or, given the comment on page 21 of the report filed at Volume
5 II, Tab 21 wherein Hydro states that the 725kW unit could support the entire
6 demand of Port Hope Simpson for approximately 95% of the year, is it anticipated
7 that this replacement will be sufficient to satisfy demand in that area?

8

9

10 A. No, this replacement will not be sufficient to reliably meet demand in that area.
11 Allowance must be made for unit failure. To avoid outages at system peak demand
12 due to unit failure, the firm capacity of an isolated diesel plant must be greater than
13 the expected system demand. (Firm generation capacity is defined as the total
14 installed prime capacity on the system minus the prime capacity of the largest unit.)
15 Once the gross peak demand surpasses the firm capacity, if the largest unit is not
16 available, customer outages may result. Therefore, the other two 455 kW units are
17 required to satisfy demand.

18

19 As well, the other two 455 kW units will need to be replaced eventually. This will
20 occur either when they approach 100,000 operating hours, or when the peak
21 demand is forecasted to exceed the firm generation capacity.