

1 Q. **Tab 14; Volume II: Diesel Genset Replacements Port Hope Simpson and**  
 2 **Charlottetown, Labrador**

3 Hydro notes the total capacity of Charlottetown is 3,205 kW yet Hydro states the  
 4 firm capacity, as defined in Section 3.1.1, is 845 kW. Please explain why the 910 kW  
 5 and the 725 kW mobile gensets are not considered when determining firm capacity.  
 6

7

8

9 A. The firm capacity for the Charlottetown diesel plant should have included the 910  
 10 kW and the 725 kW mobile gensets. Therefore Table 4 associated with this  
 11 proposal has been revised as follows:

12

**Table 4: Charlottetown Diesel Plant Generating Capacity Summary<sup>1</sup>**

Diesel Generators	Unit #	Existing Installed Capacity (kW)	Unit #	Proposed Installed Capacity (kW)
G2	2087	500	2087	500
G3	NEW**	725	NEW**	725
G4	2034	300	NEW*	300
Mobile	2089	725	2089	725
Mobile	2088	910	2088	910
<b>Total Generation Capacity</b>		3,160		3,160
<b>Firm Generation</b>		2,075		2,075

13

14 As defined in Section 3.1.1, the firm capacity is the total installed prime capacity on  
 15 the system minus the prime capacity of the largest unit. The firm capacity of  
 16 Charlottetown diesel plant reflects the definition stated above, but with a slight

<sup>1</sup> Unit 2087 has a prime rating of 545kW, but is de-rated to 500kW due to the limitations of the unit breaker.

1 variation due to the limitation of the substation transformers. Although the total  
2 generation capacity inside the diesel plant is 1,525kW<sup>2</sup>, the substation transformer  
3 can only support 1,350kW<sup>3</sup> of demand during peak conditions in Charlottetown.  
4 Therefore the firm capacity is the capacity of the plant (1,350kW) plus the capacity  
5 of the mobiles (910kW + 725kW) minus the capacity of the largest unit (910kW).  
6 This equates to a firm capacity of 2,075kW for the Charlottetown diesel plant.

---

<sup>2</sup> 300kW + 500kW + 725kW

<sup>3</sup> The substation transformer bank arrangement consists of three 500kVA pole-mounted transformers, which translates into a total capacity of 1,500kVA (or 1,350kW at a 90% power factor).