

1 Q. Further to CA-NLH-295: Please confirm that the Frequency Converter provides
2 benefit to all customers and Island Interconnected System when capacity assistance
3 is provided by CBPP or during system outages as experienced in January 2014.

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6 A. The Corner Brook Frequency Converter remains of primary benefit to Corner Brook
7 Pulp and Paper Limited (CBPP). The currently installed capacity of CBPP is
8 approximately 135 MW of total generating capacity, of which 81.1 MW is 60 Hz¹.
9 Further, the frequency converter converts 18 MW of CBPP's 50 Hz generation to 60
10 Hz for supply to the Mill. Therefore, CBPP has 99.1 MW of total 60 Hz supply
11 capability. CBPP also contracts 8 MW of power on order for 2015 from Hydro to
12 meet the remainder of its 60 Hz power requirements.

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14 The frequency converter allows CBPP to convert some of its 50 Hz generating
15 capability that would otherwise be trapped or unusable. This results in less
16 dependence on more expensive power purchases and utilization of inflows in the
17 Grand Lake and Corner Brook Lake watersheds that could otherwise be spilled. The
18 frequency converter also provides for the ancillary benefit of strengthening what
19 would otherwise be a weak 50 Hz CBPP power system.

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21 Under the piloted demand credit service agreement, Hydro will call on CBPP to
22 maximize its 60 Hz generation (including the frequency converter) prior to
23 increasing generation at Holyrood for system reasons and prior to starting its
24 standby units (i.e., a "capacity request"). However, capacity will only be made
25 available to the grid in this manner if Mill loads are reduced and CBPP is able to
26 generate in excess of what it requires for its own use. Otherwise, if the Mill is using

¹ Units 1-7 at the Deer Lake Powerhouse.

1 its maximum power requirements, there is no excess generation made available to
2 the grid under this provision. Savings are provided to CBPP for allowing this
3 additional capacity to the system by permitting CBPP to exceed its firm power
4 requirements and to avoid costs associated with thermal or standby energy rates.

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6 Hydro entered into capacity assistance arrangements with CBPP for the winter
7 periods of 2013-2014 and 2014-2015. Although the payment structure and usage
8 terms in each of these two winters differed, the basic principle remained the same
9 in that Hydro could call on CBPP to interrupt up to 60 MW of its Mill load in order to
10 provide a corresponding level of hydraulic generating capacity to the system. In the
11 theoretical absence of the frequency converter, the 60 MW of capacity assistance
12 could still be provided by the Mill's 60 Hz generation at Deer Lake Power with
13 enough generation remaining to provide for Mill essential service load.

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15 In the winter of 2014/2015 Hydro also entered into a Supplemental Capacity
16 Assistance Agreement with CBPP, under which Hydro could request an interruption
17 of up to 30 MW above what had already been provided under the Capacity
18 Assistance Agreement. In order to make capacity available under these
19 arrangements, the incremental generation provided by the frequency converter
20 would be required. However, the availability of capacity under these arrangements
21 was less certain and that was reflected in the contract terms. There were no fixed
22 fees or failure to deliver penalty clauses stipulated, and payments were to be based
23 on usage only. CBPP is compensated for any benefits derived from the frequency
24 converter and provided to the system through supplemental capacity assistance.