

1 Q. Page 1, lines 16-20: *"It is anticipated that completion of this work will increase the*
2 *current de-rated capacity of Units 1 and 2 by 10 MW per unit. In addition, the boiler*
3 *air heaters serving Unit 3 will also be refurbished to improve reliability. Boiler*
4 *fouling, another contributor to unit de-rating, is already scheduled to be addressed*
5 *this summer as part of the 2017 boiler maintenance work."*

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7 (a) What impact does Hydro anticipate the boiler fouling will have on the de-
8 rating of Units 1 and 2?

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10 (b) Please confirm the expected de-ratings of Units 1 and 2 for the winter of
11 2017/18 if Hydro completes the boiler fouling but does not complete the
12 proposed supplemental capital project.

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15 A. (a) At the time that this proposal was prepared, Hydro anticipated that
16 approximately 10 MW of the 35 MW de-rating could be attributed to air
17 heater and expansion joint leakage and the remaining approximately 25 MW
18 could be attributed to boiler fouling. Since that time, boiler fouling has
19 increased and further de-ratings below 135 MW are also attributable to
20 boiler fouling. Unit 1 is currently capable of 120 MW, of which
21 approximately 40 MW of the total 50 MW de-rating is expected to be
22 related to boiler fouling.

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24 (b) In April of 2017, Hydro completed a 2 week cleaning outage on Unit 2 to
25 remove boiler fouling. During a load test completed just after this outage,
26 Unit 2 was capable of 165 MW. Based on this result, if Hydro completes the
27 boiler fouling but not the proposed supplemental capital project then an

1 initial de-rating to 165 MW would be expected at the start of the operating
2 season for each of Unit 1 and Unit 2. There is a possibility that this de-rating
3 could get worse throughout the winter peak operating season. Boiler fouling
4 normally accumulates during operation and the boiler is designed to
5 accommodate a certain level of fouling. When the impacts of fouling are
6 combined with air leakage, the design allowance can be exceeded leading to
7 additional de-ratings. It is expected that the combined impact of
8 refurbishing the air heaters and expansion joints, and removing the boiler
9 fouling will restore Unit 1 and Unit 2 to full load capability of 170 MW.