

1 Q. At page 3 of RJH supplemental evidence, Mr. Henderson states that use of a
2 30-year moving average would result in Hydro “Planning operation of the
3 system ignoring the driest period of inflows, which would place energy supply
4 at increasing risk”.

5

6 (a) Please quantify the increased risk to the system of setting rates based
7 on a 30-year average of inflows rather than a 51-year average.

8

9 (b) How will the setting of rates based on a 30-year average affect how
10 Hydro plans the operation of the system?

11

12 A. (a) Hydro does not propose setting rates based upon a 51-year average
13 *per se*, but rather setting rates using the expected energy capability of
14 its hydroelectric facilities using their full reliable record, as detailed in
15 IC-155 and IC-169.

16

17 Regarding the risk that is imposed in using a 30-year average, it is
18 difficult to quantify the risks associated with operating the system
19 under one set of rules and setting rates under a different set.
20 However, as noted in part (b) below, introducing inconsistency
21 between the averages used to estimate hydraulic production as used
22 in rate setting and those used for operating poses problems and may
23 introduce systemic uncertainty into the operation of the power system.

24

25 (b) It will not have a significant impact upon the system. However, rates
26 are a key input into the determination of the load forecast. Higher
27 rates discourage consumption and hence reduce the amount of
28 energy to be generated. Assuming that rates are based upon the 30-

1 year average, the expected hydroelectric production used in the rate-
2 setting process will be higher, assumedly reducing the general rate
3 level to customers. Everything else being equal, load will be
4 marginally higher than if Hydro's existing methodology were used.

5
6 In operating the system, Hydro would continue to use its full historic
7 record in order to plan and dispatch its various generating units. The
8 average expected production for operating purposes would be less
9 than that currently envisaged for the 30-year average. In turn then,
10 Hydro would operate its reservoirs higher in order to maintain more
11 storage to meet the additional loads, thereby relying upon more
12 thermal production. Everything else being equal, introducing an
13 inconsistency between the hydroelectric production estimates used for
14 rate setting and operating may result in higher required reservoir
15 levels, and more thermal production in the short term to maintain
16 these levels.

17
18 Also, as reservoirs are operated higher, there is less flexibility in
19 accommodating significant precipitation or runoff conditions. The
20 requirement for higher levels, particularly in the early winter months
21 will mean that in the event of early runoff, Hydro may be unable to
22 accommodate the water, resulting in spill and thereby additional
23 thermal production.