

1 Q. Can Hydro provide more information as to how the various reserve requirements
2 are allocated according to time-responsiveness? Eg. 5-10 seconds, under 1-2
3 minutes, 5-15 minutes.

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6 A. Hydro has two generation reserve requirements that must be met: spinning
7 reserves¹ and available reserves².

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9 From a real time perspective, Hydro has established a minimum spinning reserve
10 level equal to 70 MW. The Energy Control Centre maintains this level in order to
11 cover performance uncertainties in generating units, especially wind and other
12 variable generation, and unanticipated increases in demand.

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14 Hydro must also maintain sufficient available reserves to meet current and
15 forecasted demands under a contingency of the loss of the largest generating unit.
16 The available reserves includes Hydro's standby (non-spinning) generation that can
17 be synchronized to the power system within 10 minutes, which includes Hydro's
18 hydro-electric units that are available but not in operation and standby gas turbine
19 and diesel generation. In addition to Hydro's reserves, Hydro includes
20 Newfoundland Power's available generation, some of which may require one hour
21 to start.

¹ Spinning reserves are unloaded generation that is synchronized to the power system and is ready to serve additional demand.

² Available reserves are associated with generation that is in service (spinning) and generation that can be placed in service within one hour.