

1 Q. **Reference: Supply Cost Deferrals 2015, 2016 and 2017 Application Evidence,**  
2 **Appendix B, Specific Examples of the Requirement for Standby Generation, page**  
3 **3, lines 5-10.**

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5 *“As such, in consideration of the examples provided in this section, there are times*  
6 *when gas turbines have been dispatched on a forecast basis when on an actual basis*  
7 *the spinning reserve limit was not violated. There are also instances when the*  
8 *evidence would suggest additional generation should have been placed online based*  
9 *on actual spinning reserve, and this can also be as a result of changes in actual load*  
10 *compared to forecast.”*

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12 Has Hydro reviewed these instances to ensure, to the extent possible, unnecessary  
13 cost is not incurred through the operation of standby generation when it is not  
14 needed? Have any process changes been implemented to ensure spinning reserve  
15 is provided at the lowest cost consistent with reliable service?

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18 A. Hydro continues to operate the power system to provide for least cost reliable  
19 service. Generating units are dispatched in order of economic priority (in real time)  
20 by Hydro’s ECC Operators to maintain online reserves. The power system is  
21 dynamic and there are a number of factors that the ECC operators consider when  
22 dispatching units, including but not limited to the following:

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- Utility load forecasts<sup>1</sup> (typically conforming in nature);
- Industrial load forecasts (non-conforming in nature);
- load trends (increasing/decreasing and rate of change);

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<sup>1</sup> Includes consideration for storm days and holidays which result in less predictable load patterns

- 1           • short term weather forecasts (including wind and cloud cover forecasts);
- 2           • status of other generating units<sup>2</sup> and transmission equipment; and
- 3           • status of non-dispatchable generation (e.g. fluctuations in wind production
- 4           and run-of-river hydro generation).

5           If a standby unit is dispatched and the generation requirements do not materialize,  
6           the unit is shut down again (within the asset constraints). These instances are  
7           reviewed to ensure that any contributing factors are understood to minimize the  
8           potential of similar instances in the future.

9  
10          Hydro continues to review and modify its existing process, as required, to ensure  
11          that spinning reserve is provided at the lowest cost consistent with reliable service.  
12          There is an operating instruction which is reviewed periodically that provides for an  
13          economic dispatch order for ECC Operators in maintaining reserve requirements.  
14          Reserves are regularly assessed and standby requirements are communicated to  
15          the stakeholders. In early 2018, Hydro implemented available and spinning reserve  
16          forecast charts (outlook for upcoming seven days) which are available for viewing  
17          by all stakeholders. These dynamic charts are updated hourly and reflect changes  
18          in load forecasts and/or unit availability/derating, thereby allowing for the  
19          adjustment of the spinning reserve target based on the largest unit online. The  
20          recent in-service of the Maritime Link has provided for an opportunity to import  
21          power from off-island to reduce Holyrood production and to defer gas turbine  
22          operation that would have otherwise been required to support spinning reserves.  
23          Imports are considered as part of the daily generation planning process and have  
24          been utilized when the spinning reserve forecasts have indicated that gas turbines  
25          would be required. In addition to the above enhancement, Hydro is evaluating if

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<sup>2</sup> Includes consideration of unit operational constraints and potential issues such as frazil ice.

- 1 additional technical tools can be implemented to further support the decision
- 2 making for start and stop times of stand by generation.