

1 Q. (February 19, 2016 Report to Board “*Purchase 12 MW of Diesel Generation*  
2 *(Revised) Holyrood*”) In the previous November 22, 2015 application that has since  
3 been withdrawn, Hydro’s response to CA-NLH-003 states (page 2 of 2, lines 2 to 5)  
4 “*having additional generation provides benefits to the system, but as it is not*  
5 *required to meet Hydro’s generation reliability criteria, the economic benefit was*  
6 *not included in the cost-benefit analysis.*” In the February 19, 2016 report attached  
7 to the current application, Hydro states (page 7, lines 19 to 21) “*The results of the*  
8 *analysis indicate that the Holyrood diesel generators are required to supply a P90*  
9 *peak loading condition in the event of a single worst case contingency.*” What  
10 happened in the 3 month period since the filing of the November 22, 2015  
11 application (that has since been withdrawn) that changed Hydro’s view relating to  
12 the need for the diesel units to meet its system planning criteria? Are the system  
13 planning criteria used in the current application appropriate for use in short-term or  
14 long-term planning, and if long-term, why was this need not identified last  
15 November?

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18 A. There has been no change in Hydro’s view relating to the need for the diesel units  
19 to meet its System Planning Criteria in the three month period since the filing of the  
20 November 22, 2015 application (that has since been withdrawn).

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22 As discussed in the report, Hydro filed its most recent Generation Adequacy Report  
23 in September of 2015. The adequacy report introduced new generation planning  
24 criteria specifying that capacity must be sufficient to maintain a reserve of at least  
25 240 MW based on a P90 peak load forecast for the Island Interconnected System.

1 The adequacy report demonstrated that these requirements were met and this  
2 continues to be the case<sup>1</sup>.

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4 Since Hydro filed the original application, Hydro expanded its operational reviews of  
5 capability and reserves to include a dedicated assessment of system conditions on  
6 the Avalon Peninsula. The report attached to the current application included a  
7 review of supply to the Avalon Peninsula under P50 and P90 peak loading  
8 conditions and indicated a risk of transmission line overloading for the P90 case.  
9 Including the P90 case represents an enhancement to conventional transmission  
10 planning practices where only P50 peak loading conditions were considered in the  
11 past<sup>2</sup>.

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13 No such risk exists for the P50 case and therefore there is no strict violation to  
14 Transmission Planning criteria. However, the P90 analysis indicates that there is a  
15 risk of a capacity shortfall for the Avalon Peninsula for a single contingency.

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17 It must be noted that Hydro's Transmission Planning analysis is deterministic and  
18 that any violations to criteria, including transmission line overloads, are not  
19 acceptable for P50 peak loading conditions. Hydro does not currently utilize a P90

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<sup>1</sup> As noted in the report, Hydro is currently performing a review of the reliability and availability of thermal generating units. While this review is ongoing and the impacts of thermal unit reliability and availability are beyond the scope of this submission, it is noted that any outcome of that review that recommends a reduction in capacity of the thermal units would correspondingly increase reliance on standby generation, such as the diesel generators.

<sup>2</sup> Hydro has not modified its Transmission Planning Criteria to include assessments of P90 peak loading conditions. This is due to the fact that transmission planning involves a deterministic assessment of the system impacts of specific contingencies. This is significantly different from generation planning where a probabilistic analysis is performed on the basis of the capacity and reliability of all generating units. It is Hydro's view that Transmission System Criteria be strictly tested for P50 loading conditions while any undesirable operating conditions under P90 loading conditions are to be noted. The risk of overload of TL202 or TL206, as documented in the report, is the first such condition to be identified under P90 peak load conditions.

1 transmission line loading criteria. Therefore, while not a violation of criteria, the  
2 risk of a transmission line overload under a P90 peak loading condition is  
3 noteworthy. The risk of overload should be considered in combination with Hydro's  
4 increased reliance on standby generation to ensure the reliable operation of the  
5 transmission system, as summarized in the report.