

1 Q. **Transmission Losses**

2 References:

- 3 (i) NLH 2017 GRA, Evidence, chapter 5, page 5.27
- 4 (i) « For non-firm service, Hydro is proposing to retain the previously
- 5 approved calculation for the energy charge with an update to the loss
- 6 factors. The loss factor has been updated to the five-year average Island
- 7 Interconnected System losses, from 3.47% to 3.34%. »
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9 Please provide the detailed calculation; including assumptions, of the said

10 transmission loss factor. Please indicate if the calculation and methodology has

11 been presented to the Board by NLH? If so, please provide the reference to the

12 relevant filings.

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15 A. This reference to Hydro's evidence applies to the Island Interconnected System.

16 Table 1 provides the detailed calculations of the said transmission loss factor

17 (3.34%)<sup>1</sup> for the Island Interconnected System.

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19 The transmission losses are the difference between Island Interconnected System

20 Net Generation requirements<sup>2</sup> and Island Interconnected System bulk Distribution

21 requirements.<sup>3</sup> The losses are primarily related to bulk transmission and

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<sup>1</sup> Please note that the difference in loss factor in this table compared to the loss factor used in Hydro's Application is due to rounding.

<sup>2</sup> Net Generation is the production from Hydro generation sources (less station service requirements and synchronous condenser consumption) plus the deliveries from Power Purchase arrangements on the Island Interconnected System. It does not include customer owned generation at Newfoundland Power and Corner Brook Pulp and Paper Limited.

<sup>3</sup> Distribution is the bulk metered deliveries to Newfoundland Power, Hydro's Industrial Customers, and Hydro's Rural Customers on the Island Interconnected System.

1 transformer losses. The loss factor is determined for the most recent and complete  
 2 five-year period prior to the Test Year(s) used in Hydro’s Application.  
 3  
 4 This is consistent with Hydro’s approach for past General Rate Applications and  
 5 accepted by the Board.

**Table 1 Island Interconnected System Losses –  
 Five-Year Average System Losses (2012-2016)**

	<b>Net Generation (GWh)</b>	<b>Distribution (GWh)</b>	<b>Distribution (GWh)</b>	<b>System Losses (%)</b>
<b>2012</b>	6440.7	6214.6	226.1	3.51%
<b>2013</b>	6657.6	6415.0	242.6	3.64%
<b>2014</b>	6937.4	6707.5	229.9	3.31%
<b>2015</b>	7285.8	7047.3	238.5	3.27%
<b>2016</b>	7039.2	6832.0	207.2	2.94%
<b>5-Year</b>	34,361	33,216	1,144	3.33%