

1 Q. **Re: Page 31, Section 6.3.1**

2 With respect to the transition to Plexos, please provide the dates of the retirement
3 of Strategist, describe the timing and nature of applications of the Plexos model to
4 date, and describe the criteria applied and the efforts to verify Hydro's satisfaction
5 in deciding to place reliance on Plexos for modeling like that underlying this report.

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8 A. Hydro first discussed its transition to the PLEXOS (Plexos) modelling software in a
9 letter to the Board, dated August 4, 2017. At that time, Hydro informed the Board it
10 was developing a new interconnected system model in Plexos, expected to be fully
11 in-service to complete the modelling associated with Hydro's November 2018
12 planning criteria review.

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14 Hydro has used Strategist since 1998 in assessing system reliability and developing
15 expansion plans for the Island Interconnected System. In recent years there have
16 been few updates to the Strategist program or interface. Further, Hydro has been
17 informed by the vendor (ABB), that it plans to cease support for new modelling
18 undertaken in Strategist.

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20 In 2016, Hydro's Generation Planning department worked extensively with a senior
21 consultant from ABB to develop a model of the full interconnected system (i.e. the
22 Labrador Interconnected System, Island Interconnected System, Labrador-Island
23 Link, and Maritime Link) in Strategist. It was jointly determined that accurate
24 implementation of Hydro's system, including transmission constraints and the high
25 proportion of hydraulic generation on the system after Muskrat Falls is in-service,
26 would not be possible and to model the system in Strategist would require

1 significant simplification of Hydro’s system. Hydro decided that this level of
2 simplification was not appropriate.

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4 Following the determination that Strategist was no longer appropriate for Hydro’s
5 modelling requirements, Hydro sought a software package to replace Strategist.
6 The search ultimately identified Plexos as the preferred option. The decision to
7 adopt Plexos was based on several criteria including:

- 8 • the ability to perform the core system planning functions of reliability
9 assessment and expansion planning;
- 10 • the ability to incorporate additional functionality in the model including hourly
11 production planning, market transactions and hydrological analysis;
- 12 • the ability to integrate key transmission constraints in the generation planning
13 model; and
- 14 • its wide use in industry, especially in neighbouring utilities in Nova Scotia and
15 New Brunswick, enabling better sharing of information between utilities.

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17 Strategist was actively used by Hydro for analysis until November 2017. The last
18 report which was generated based on Strategist was the Near-Term Generation
19 Adequacy Report of November 2017, which can be considered its effective
20 retirement date. While Strategist will remain available for use, its primary use will
21 be for the analysis of historical models.

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23 Hydro has worked extensively with Energy Exemplar, the company that produces
24 the Plexos software, to develop a new model that accurately reflects the current
25 system. The current Near-Term Generation Adequacy Report is the first report
26 submitted to the board that contains analyses modelled in Plexos.

1 In addition to the Near-Term Generation Adequacy analyses, Hydro is actively
2 developing models in Plexos associated with Hydro’s planning criteria review, to be
3 submitted to the board on November 15, 2018. The purpose of these models is to
4 assess the reliability of the Interconnected Island and Labrador Systems and to
5 develop a new expansion plan based on this assessment.