



NEWFOUNDLAND AND LABRADOR
BOARD OF COMMISSIONERS OF PUBLIC UTILITIES
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2018-06-12

Mr. Geoff Young
Newfoundland and Labrador Hydro
P.O. Box 12400
St. John's, NL A1B 4K7

Dear Mr. Young:

Re: Investigation and Hearing into Supply Issues and Power Outages on the Island Interconnected System - Newfoundland and Labrador Hydro - Near-Term Generation Adequacy Report - May 2018 - Follow up

On May 30, 2018 Newfoundland and Labrador Hydro submitted its *Near-Term Generation Adequacy Report*. The report has been reviewed and the Board requests that Hydro provide further information by responding to the attached questions.

The Board requests that Hydro submit this information by no later than June 25, 2018.

If you have any questions, please do not hesitate to contact the Board's Legal Counsel, Ms. Jacqui Glynn, by email, jglynn@pub.nl.ca or by telephone 709-726-6781.

Yours truly,

Cheryl Blundon
Board Secretary

CB/cj
Enclosure

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Newfoundland and Labrador Hydro
Near-Term Generation Adequacy Report - May 2018

1. Page 1, lines 7-9. With respect to Recapture Energy and contracted supply from external markets, please identify the source of supply, the amounts of capacity and energy on which Hydro can reliably count from each source during the coming winter period. Also provide the same information for as many subsequent years as available.
2. Page 1, lines 11-12. With respect to the statement that the Maritime Link “has not been included in this analysis given the conservative focus of this report” please provide all analyses that Hydro has performed of Maritime Link contribution for the coming winter.
3. Page 1, lines 11-14. With respect to the report statement that, “...access to markets via the Maritime Link also bolsters system reliability...”, please describe in detail qualitatively how the Maritime Link is expected to do so in the coming winter. Also provide the sources available this coming winter, and describe those formal arrangements existing and any other required to provide such availability.
4. Page 1, lines 13-14. With respect to the statement that, “Through 2018, Hydro has been successful in using the Maritime Link to both reduce thermal generation at Holyrood and avoid gas turbine production” please describe how Hydro has done so in detail, and provide by month the amounts by which Hydro has accomplished such reductions and avoidance. Also provide a detailed description of how the ability to do so across the coming winter period may differ from experience to date in 2018.
5. Page 6, lines 11-12. Please identify the amount of capacity and/or energy deliverable across the Maritime Link to the extent available through the coming winter from existing agreements, the parties to such agreements and a summary of the terms of each such agreement. Also provide a forecast of the minimum and maximum amounts of capacity and/or energy over the Maritime Link available this coming winter, and explain the basis for the differences between those minimum and maximum amounts.
6. Page 6, lines 11-12. Further to question # 5 describe all additional options under consideration now or planned for consideration for deliveries across the Maritime Link to the extent available through the coming winter. Provide the same information for as many years following as available, and provide an estimate of their potential maximum and minimum contribution during the coming winter period.
7. Page 6, lines 18-21. With respect to the LIL, please provide the most current status of activities required to support first power date, the post-first power activities necessary for completion before the LIL can be considered a reliable source for transmitting supply this coming winter, and a detailed summary of status with respect to those activities. In the response include the time that single, versus bipole operation is assumed.

8. Page 6, lines 18-21. Once the LIL is in operation will the HTGS units be limited to 150, 150 and 135MW or it is assumed for the purpose of the report that 170, 170 and 150MW will be available.
9. Page 6, lines 18-21. Provide the asset reliability level assumed for the LIL once it is in service, considering that early-stage reliability may be much lower than the guaranteed level.
10. Page 9, lines 10-11. State when the criteria of minimum reserve was added to Hydro's generation planning criteria and why it was added.
11. Page 10, lines 18-19. Hydro states that "while the results of the new model are consistent with those calculated in previous Near-Term Generation Adequacy reports ..." Please explain how Hydro determined that the results from the new Plexos model are consistent with previous results from the Strategist modelling platform.
12. Page 12, lines 27-29 and page 13, lines 1-22. With respect to penstock issues, please describe if and to what extent they pose risks to unit availability this winter and describe qualitatively and quantitatively how Hydro has incorporated that risk into its analysis of generation adequacy.
13. Page 13, lines 14-15. Hydro states that "the five-year inspection frequency has been re-established for steel penstocks." When and for what reason was the five year inspection frequency discontinued?
14. Page 16, section 4.1.2.1. With respect to Holyrood boiler tubes, please describe Hydro's view of the likelihood and consequence of tube failures in the coming winter season, and how qualitatively and quantitatively Hydro has incorporated that risk into its analysis of generation adequacy. Also describe the impacts on adequacy in the event of tube-related outages at the levels experienced in 2015-2016.
15. Page 21, section 4.1.3. With respect to the activities associated with improving CT reliability, please describe how Hydro considered the effects of those activities in forecasting availability and contribution for the coming winter, and identify quantitatively the magnitude of increased availability and contribution assumed as a result of those activities.
16. Page 23, line 9. This line indicates a footnote 29 is associated with it, however the footnote itself has been omitted. Please provide footnote 29.
17. Page 24, lines 7-9. With respect to the use of DAFOR as the metric for measuring Holyrood reliability, please describe any consideration given to additional or alternate metrics, and describe the reasons for not employing them.
18. Page 24, Table 1. Given the issues over the last couple of years with Penstock No. 1 and Penstock No. 2 along with the recent discovery of potential similar issues with Penstock No. 3, has Hydro given any consideration to increasing the DAFOR for the Bay d'Espoir hydraulic units? If not, please provide the rationale for not raising the DAFOR estimate.

19. Page 24, Table 1. For the upcoming 2018/19 winter season please provide the reserve margin, EUE, expected customer outage hours, and LOLH assuming that the DAFOR for the Bay d'Espoir hydraulic units is 10%, 15% and 20% using the Conservative Supply Case with Load Sensitivity I (similar format to Table 9 on Page 38).
20. Page 25, lines 9-14. Hydro states that “both Newfoundland Power’s and Hydro’s forecast load requirements for its retail customers currently indicate stagnant or declining energy requirements across the next five years, consistent with weakness in the provincial economic outlook.³⁶ However, given the conservative nature of this assessment, Hydro is not assuming the decline in forecasted energy sales translates into decreased demand requirements and, as such, considers utility peak demand requirements that do not decline.” Is Hydro’s decision not to reduce utility peak demand estimates despite anticipated energy sales declines or stagnation consistent with Hydro’s practice in previous years? Also is the conservative assumption of no reduction in peak utility demand despite anticipated sales declines or stagnation consistent with the practice of the Canadian electric utility industry overall?
21. Page 25, Footnote 36. This footnote indicates that Hydro’s forecast load requirements reflect “customer’s anticipation of significant retail price increases for electricity.” How were customer expectations of significant electricity cost increases incorporated into Hydro’s forecast load requirements?
22. Page 26, Section 5.1. Please compare actual winter peak loads for each of the past 3 winter periods with peaks forecasted at a time of year roughly comparable with that used in the current report, and explain and quantify where possible each source of variance.
23. Page 26, Section 5.1. Please describe all changes to peak forecasting methods employed in the current report versus those of last year’s reports.
24. Page 29, Section 6.1. Water availability for hydro generation was an issue in planning for last winter. Please detail the degree that, thermal unit operation this winter is expected to be affected by water availability. If thermal unit operation is expected to increase due to water availability, describe the nature and likely extent of any resulting reliability impacts on the thermal units, and operating and other steps planned to minimize reliability issues from increased operation of the units.
25. Page 31, section 6.3.1. With respect to the transition to Plexos, please provide the dates of the retirement of Strategist, describe the timing and nature of applications of the Plexos model to date, and describe the criteria applied and the efforts to verify Hydro’s satisfaction in deciding to place reliance on Plexos for modeling like that underlying this report.
26. Page 32, Footnote 50. This footnote states that “Hydro has contracted firm supply from external markets, the details of which will be shared confidentially with the Board.” When and how does Hydro intend to share this information with the Board?

27. Page 32, lines 17-19. Under Contracted Supply Case Parameters it is stated that analysis was completed assuming a one year delay in the in-service date of the LIL coupled with a 50% deration. Please indicate what case in Table 6 shows the 50% deration and one year delay.
28. Page 35, Table 6. Re-state this Table showing the break down in Capacity at Peak between Hydro IIS sources, Recapture and Other for the Contracted Supply Case and the Conservative Supply Case.
29. Tables 6, 7, 8 and 12. Re-state Tables 6, 7, 8 and 12 to show available capacity at peak without any Recapture.