NEWFOUNDLAND AND LABRADOR HYDRO

SUPPLEMENTARY EVIDENCE OF ROBERT J. HENDERSON

Q. What is the purpose of this supplementary testimony?

A. The purpose of this testimony is to address the issue raised by Mr. Brockman in his supplementary evidence where he is recommending a 30-year rolling average inflow record for forecasting hydraulic generation rather than the full historic record recommended by Hydro.

Q. Why is Hydro using the full historic inflow record?

A. Hydro is using the same method to determine the average hydraulic production as used in previous filings, which is to use the longest record available for each plant. In this way all historical variability is recognized and appropriate operational planning is made. For instance, the driest historic period for the Bay d'Espoir system was in the late 1950's and early 1960's. If this period was discarded we would not be planning operation of our system storage levels to ensure our firm loads could be met with a repeat of a known historic occurrence. This would not be considered prudent, particularly on an island system such as ours where there is not an alternative to purchasing energy from a neighbouring system during a shortfall. For a utility such as Newfoundland Power this would not be a concern if they assume a shorter period as their shortfall would be expected to be supplied by Hydro.

Q. Are you familiar with the practice of other Canadian utilities with regards to forecasting average hydraulic production?

A. Yes, we recently contacted a number of utilities with significant hydroelectric generation to confirm their practices. We contacted Manitoba Hydro, Ontario Power Generation, Hydro-Quebec, and BC Hydro, along with

several other large Canadian hydroelectric generators. In all instances they use their full historic reliable data record. Therefore the length of record depends on the particular facility with the length of records varying from 90 to 20 years. In no case did the utility intentionally reduce its hydrological record to reflect only recent periods for climate change considerations or to calculate rolling averages.

Q. Has Hydro calculated the average hydraulic production using a 30-year period as proposed by Mr. Brockman? If so, what was the result?

A. Yes, Hydro calculated the average using the 1970 to 1999 record, corresponding to the last year of hydrologic data in Hydro's pre-filed evidence. The result indicates an annual average production of 4,370 GWh for the 30-year period, a 98 GWh increase over 4,272 GWh filed by Hydro.

We have also calculated a new 30-year average ending with the 2000 data. The results of this review give an annual average production of 4,425 GWh. This latter result is somewhat lower than Mr. Brockman's result as the data provided in response to NP-204 was for the purpose of reflecting variability of inflows, and does not reflect the complete analysis normally performed by Hydro as described in NP-44. For comparison, the long-term average based upon the full available historical record up to and including 2000 information is 4,285 GWh per year, for a difference of 140 GWh from the 30-year average of 4,425 GWh. Hydro will be changing its hydraulic production forecast to 4,285 GWh for the final cost of service filed at the end of the Hearing. This will result in approximately a $400,000 decrease in revenue requirement.

Q. What is the impact on Hydro's revenue requirement of the 140 GWh difference between the 30-year rolling average proposed by Mr. Brockman and the available record applied in Hydro's forecast?

A. The impact would be a reduction in the revenue requirement of approximately $4.6 million dollars as opposed to the $6.6 million in Mr. Brockman's supplementary evidence.

Q. Is Hydro recommending a change to a 30-year rolling average?

A. No, Hydro believes it is prudent to use and reflect all reliable inflow records in determining average hydraulic generation. If we did not use all years of record we would be:

1. Planning operation of the power system ignoring the driest period of inflows, which would place energy supply at an increasing risk;

2. Introducing additional volatility in the forecast as indicated by the increase in the 30-year rolling average of 55 GWh by simply moving the average period by one year (as opposed to the 13 GWh increase by adding 2000 to the long term record); and

3. Forecasting our power system energy supply under conditions contrary to the accepted practices of other predominantly hydroelectric power producing utilities in Canada.

Q. Does this conclude your supplementary testimony?

A. Yes.