

October 25, 2017

Ms. Patricia J. Ramage  
Legal Counsel  
Manitoba Hydro  
22<sup>nd</sup> Floor, 360 Portage Avenue  
Winnipeg, MB R3C 0G8

-and-

Approved Interveners  
(per attached list)

**Re: Manitoba Hydro 2017/18 & 2018/19 General Rate Application – Independent Expert Consultants’ Scopes of Work**

The Public Utilities Board (“Board”) has retained Independent Expert Consultants to provide independent expert evidence with respect to identified key issues in the 2017/18 & 2018/19 General Rate Application (“GRA”).

By letter dated October 5, 2017, the Board adjudicated requests respecting the Scope of Work for MGF Project Services Inc. (“MGF”), the Independent Expert Consultant retained to review Manitoba Hydro's capital expenditures and provide an expert opinion on Manitoba Hydro's updated costs for its major generation and transmission projects currently under development or construction. Further to the Board’s decisions, the revised Scope of Work for MGF and corresponding revisions to the Scope of Work for both Amplitude Consultants Pty Ltd and Klohn Crippen Berger were made publicly available on the Board’s website at [www.pubmanitoba.ca](http://www.pubmanitoba.ca)

By this letter, the Board adjudicates requests for revisions to the Scope of Work for Daymark Energy Advisors (“Daymark”) and for Dr. Adonis Yatchew.

### Daymark Scope of Work

Daymark has been retained by the Board as an Independent Expert Consultant in the GRA proceeding to review and provide an expert opinion on Manitoba Hydro's export price and revenue forecasts and electricity load forecasts.

By letter dated August 9, 2017, the Manitoba Industrial Power Users Group made two requests regarding the Daymark Scope of Work: (1) that the public report filed by Daymark include the summary findings, opinions and recommendations for items deemed confidential, and (2) that Daymark be asked to provide an opinion on the reasonableness of export price forecasts and "where in the zone of reasonableness the forecasts fall".

On September 26, 2017, the Consumers Coalition ("Coalition") filed a Motion under Rule 13 of the Board's Rules of Practice and Procedure seeking access to documents claimed by Manitoba Hydro as confidential. Among other documents and information, the Coalition's Motion seeks access to the latest Capital Project Justification with the most recent Net Present Value calculation for the Manitoba-Saskatchewan Transmission Line, along with information regarding any changes in the underlying assumptions for the most recent Net Present Value. The Coalition submits that it requires access to this information to facilitate its expert's work in conducting a reasonableness of the capital project.

Manitoba Hydro has responded to the positions of the Manitoba Industrial Power Users Group and the Coalition. Manitoba Hydro supports the Manitoba Industrial Power Users Group's suggestions, but is not confident that a change to the Scope of Work is necessary. While Manitoba Hydro supports having Daymark provide confidence in forecasts as the forecasts cannot be fully disclosed to Interveners due to confidentiality issues, the Utility does not agree that the forecast should be assessed against a "zone of reasonableness". Manitoba Hydro submits that this could harm Manitoba Hydro's ongoing efforts to negotiate new export contracts.

With respect to the Coalition's position regarding the Manitoba-Saskatchewan Transmission Line documents, Manitoba Hydro states that disclosure would release commercially sensitive information and that Saskatchewan Power does not consent to sharing such information with an Intervener. Manitoba Hydro suggests that the Coalition review its concerns with the Independent Expert Consultant.

The Board has considered the comments of Manitoba Hydro, the Manitoba Industrial Power Users Group and the Coalition. The Board does not accept that the revisions sought by the Manitoba Industrial Power Users Group are necessary. However, the Board has revised the Daymark Scope of Work to include an assessment of the economic case for the Manitoba-Saskatchewan Transmission Line and export sale to Saskatchewan Power. The revised Scope of Work is attached to this correspondence and is publicly available on the Board's website at [www.pubmanitoba.ca](http://www.pubmanitoba.ca).

### Dr. Adonis Yatchew Scope of Work

Dr. Adonis Yatchew has been retained by the Board as an Independent Expert Consultant to examine the economic impacts of the proposed electricity rate increases.

In its August 9, 2017 letter, the Manitoba Industrial Power Users Group requests a revision to Scope Item 5, which currently requires that Dr. Yatchew "Review, assess and provide an explanation of any implications for the economy of the Province of Manitoba arising from the impact of any rate increase or lack thereof on the fiscal health of the Utility."

The Manitoba Industrial Power Users Group submits that implicit in this item seems to be an assessment of the impact of a rate increase or lack thereof on the fiscal health of the Utility as a precursor to assessing the impact on the economy. The Manitoba Industrial Power Users Group states that the parties likely materially disagree on the level of rate increase. It suggests that the item be dropped from the Scope of Work or be revised as follows:

5. Review, assess and provide an explanation of any implications for the economy of the Province of Manitoba arising from the impact of any rate increase or lack thereof on uncertainty generated by current competing claims regarding the fiscal health of the Utility and consequent rate increase proposals.

By letter dated September 15, 2017, the Business Council of Manitoba requests that Dr. Yatchew's Scope of Work be expanded to address a list of issues that it has identified as being related to macro-economic impacts and bond rating considerations. This list of issues is available in the Business Council of Manitoba's correspondence, labelled Business Council of Manitoba exhibit BCoM-3, on the Board's website.

By letter dated September 22, 2017, the Coalition indicates that it is supportive of the Scope of Work for Dr. Yatchew. In further correspondence in response to the Business Council of Manitoba, the Coalition advises that the list of issues identified by the Business Council of Manitoba appear to be generally consistent in content with the questions that will be addressed by Morrison Park, the expert jointly retained by the Coalition and the Manitoba Industrial Power Users Group.

Also in response to the Business Council of Manitoba, the Manitoba Industrial Power Users Group agrees that a number of the issues will be addressed by Morrison Park, as well as the Manitoba Industrial Power Users Group's expert, Intergroup Consultants.

Manitoba Hydro does not agree with the Manitoba Industrial Power Users Group's suggested revision to Scope Item 5.

The Board does not accept the requests for revision of the Manitoba Industrial Power Users Group and the Business Council of Manitoba. However, the Scope of Work for Dr. Yatchew requires revision to bring clarity to Scope Item 5. The Board's expectation is that Dr. Yatchew's work under this item will review and assess the implications for the economy of the Province of Manitoba arising from the impact of the proposed or alternative rate increases. The revised Scope of Work is attached to this correspondence and is publicly available on the Board's website at [www.pubmanitoba.ca](http://www.pubmanitoba.ca).

Should any party have questions of clarification, please contact our office.

Board decisions may be appealed in accordance with the provisions of Section 58 of The Public Utilities Board Act, or reviewed in accordance with Section 36 of the Board's Rules of Practice and Procedure ("Rules"). The Board's Rules may be viewed on the Board's website at [www.pubmanitoba.ca](http://www.pubmanitoba.ca)

Yours truly,

*"Original Signed By:"*

Kurt Simonsen  
Associate Secretary

Encl.

cc: Board Counsel  
Counsel to the Independent Expert Consultants

## Schedule 2

### Scope of Work – Daymark Energy Advisors

#### Export Pricing and Revenues Review

1. Review Manitoba Hydro's electricity export price forecast and third party consultant forecasts, including the low and high case forecasts, in the context of current MISO market conditions and factors influencing future MISO prices. The third party consultant forecasts are to be taken as a "given" and are to be assumed to be reasonable and accurate with respect to the other tasks in this Scope of Work. Notwithstanding that the third party consultant forecasts are to be accepted for the purposes of this review, if the IEC identifies significant issues or inconsistencies with the third party consultant forecasts in the course of its general review, those issues or inconsistencies are to be identified in the IEC's reports.
2. Review and assess Manitoba Hydro's forecast of exportable surplus energy and capacity by on-peak and off-peak period, taking into account expected inflow conditions, reservoir levels, and tie line capacities.
3. Review Manitoba Hydro's forecast for export revenues and fuel & power purchases for the next twenty years and assess whether the forecast of net extraprovincial revenue is reasonable. As an independent review of the extraprovincial revenues arising from contracted energy and capacity sales was undertaken at the 2014 NFAT (Exhibit LCA-5 in response to CSI Undertaking UT-34), a review of Manitoba Hydro's export contracts and estimation by the IEC of firm energy revenues and capacity revenues is not required for any contracts that were contemplated and assessed at the NFAT. Manitoba Hydro's updated export revenues, volumes, and unit prices by contract and by year will be provided as part of PUB MFR-84. The firm energy and capacity revenues in PUB MFR-84, for those contracts evaluated by the IEC at the NFAT, are to be taken as "given", so long as the firm energy and capacity revenues are aligned with the independent analysis from the NFAT after adjusting for changes in forecast exchange rates and escalation.
4. Assess the reasonableness of changes in Manitoba Hydro's forecasting methodology that eliminates the assumed premiums for surplus dependable energy and capacity sales.

5. Provide comments on the factors influencing the MISO market and trends that are affecting market prices, including but not limited to:
  - (a) state and federal policies on electricity generation and emissions;
  - (b) existing generation mix;
  - (c) expected new generation to be installed in the next 20 years;
  - (d) forecasted generation retirements in the next 20 years;
  - (e) supply and demand balance in the northern MISO region; and
  - (f) factors that may affect Manitoba Hydro's ability to export energy and capacity into the MISO market.
6. Provide a report to be placed on the public record that provides the Consultant's findings, opinions, and non-commercially sensitive supporting information.
7. Provide a non-public report to the PUB that provides commercially sensitive information and additional calculations supporting the findings.
8. Review and assess the economic justification for the SaskPower 100MW power sale and Manitoba-Saskatchewan Transmission Project and provide an opinion on the merits of this project and whether it is in Manitoba Hydro's and ratepayers' interests to proceed.

#### Public and Commercially Sensitive Load Forecast Review

9. Review Manitoba Hydro's 2017 Load Forecast and assess the changes with respect to the 2014 Load Forecast.
10. Assess Manitoba Hydro's load forecasting methods for Residential, Mass Market, and Top Consumers segments and compare to industry best practices with respect to:
  - (a) the econometric and end-use forecasting methodology;
  - (b) the elasticity methodology used to evaluate how Manitoba Hydro evaluates the implications of rate increases and new technology on electricity demand.

- (c) Manitoba Hydro's economic assumptions including population growth, GDP growth, and price elasticity;
  - (d) the reliability of the short and long-term domestic load forecast modelling;
  - (e) the extent to which Manitoba Hydro has used appropriate scenario planning to examine the potential impact of changes in the industry, the Manitoba and Canadian economies, available technology (generation and loads) and energy efficiency measures (costs and cost effectiveness);
  - (f) the appropriate use of probability analysis of projected load forecasts;
  - (g) the extent to which retrospective load analysis provides confidence in the load forecast;
  - (h) the reasonableness of peak demand and energy trends including seasonal variations in load forecasting; and
  - (i) impacts on load forecasts resulting from potential fuel switching, particularly in light of recent trends in the cost of natural gas and potential carbon taxes.
11. Assess other aspects of the load forecasting methodology including transmission and distribution losses.
  12. Evaluate the historical performance of Manitoba Hydro's load forecasting methodologies for Residential, Mass Market, and Top Consumers segments.
  13. Review the commercially sensitive load forecast for Top Consumers and assess the reasonableness of the forecasting methods and forecast.
  14. Coordinate with other IECs who are reviewing price elasticity impacts on electricity demand in order to minimize duplication of analysis.
  15. Provide a report to be placed on the public record that provides the Consultant's findings, opinions, and non-commercially sensitive supporting information.
  16. Provide a non-public report to the PUB that provides commercially sensitive information and additional calculations supporting the findings.

## Schedule 2

### Scope of Work – Dr. A. Yatchew

#### **For Microeconomic Issues:**

1. Review, assess and comment on the reasonableness of the price elasticity information incorporated in Appendix 7.1 of Manitoba Hydro's General Rate Application.
2. Provide a review of the relevant literature on the price elasticity of demand for electricity, drawing from the North American experience in particular. This should distinguish between how different customer classes ("Residential," "Commercial" and "Industrial") and how different sectors of the economy (including industry, small business, agriculture, manufacturing, and any other relevant sectors) respond to price changes in light of their different substitution possibilities and geographical mobility. This literature review should include consideration of any impacts on First Nations consumers, including residential and commercial and/or industrial First Nations ratepayers.
3. Review
  - Tab 9 and Appendix 9.13 (Survey of Canadian Electricity Bills) in Manitoba Hydro's General Rate Application; Manitoba Public Utilities Board's Needs For and Alternatives To Report with respect to ratepayer impacts;
  - Available information regarding consumption patterns of Manitoba industries, including PUB/MH I-54 and PUB II-58 from Manitoba Hydro's 2015/16 General Rate Application.



Provide analysis and comment on what, if any, inferences can be drawn from the general literature on the price elasticity of demand for electricity to the Manitoba context, specifically given:

- a) The history of the levels of electricity prices in Manitoba; and
  - b) substitution possibilities due to technological improvements in renewable energy sources.
4. In light of Manitoba Hydro's request for an annual increase in average electricity rates of 7.9%, including for the fiscal years of 2017/18 and 2018/19, as well as the proposed rate trajectory over the next 10 years, provide comment on how various domestic customer classes might be expected to respond to an increase of the proposed levels.
  5. Review, assess and provide an explanation of any implications for the economy of the Province of Manitoba arising from the impact of the proposed or alternative rate increases, including rate increases proposed for the years beyond the test years.
  6. Provide comment on issues of rate shock, pacing of rate increases and the intergenerational impacts of rate increases in the Manitoba context, including with reference to the rate increases sought by Manitoba Hydro in its General Rate Application.
  7. Review and assess Manitoba Hydro's General Rate Application Appendices 10.4, 10.5, 10.6 and 10.7 (Bill Affordability). Provide comment on the issue of "Energy Poverty", including as the issue applies to Indigenous and Northern communities, and an analysis of the experience in other Canadian jurisdictions as to measuring the extent of this problem and potential remedies that have been suggested. What lessons can be learned from other Canadian provinces as to measuring the extent of this problem and potential remedies that have been suggested.

**For Macroeconomic Aspects:**

8. Given your findings with respect to demand responses by various customer classes and sectors of the economy to electricity price increases, review, assess and provide analysis on the potential or probable implications for the Manitoba economy as a whole.
9. In the context of the proposed Manitoba Hydro rate increases, with the benefit of the latest Statistics Canada input-output tables for Manitoba (and/or other relevant sources), identify and provide comment on the “electricity intensive” sectors of the Manitoba economy, including the following:
  - a. Whether the province would be at risk of losing major electricity-consuming firms to other North American jurisdictions;
  - b. In light of the heavily export-oriented nature of key sectors of the Manitoba economy, what the implications would be for producers.
  - c. Place these issues in some quantitative perspective, both in terms of the aggregate provincial GDP and income distribution effects by key sectors and customer classes.
10. Provide a report on the Microeconomic Aspects and Macroeconomic Aspects to be placed on the public record that provides your findings and supporting information.