



**PUBLIC
INTEREST
LAW
CENTRE**

▲
**CENTRE
JURIDIQUE
DE
L'INTÉRÊT
PUBLIC**

▲
**AN INDEPENDENT
SERVICE OF
LEGAL AID
MANITOBA**
▲
**L'AIDE JURIDIQUE
DU MANITOBA**

▲
**SUPPORTED BY
LEGAL AID MANITOBA
THE
MANITOBA LAW
FOUNDATION
AND MEMBERS
OF THE
MANITOBA
BAR
ASSOCIATION**

▲
**300 - 287 BROADWAY
WINNIPEG, MANITOBA
R3C 0R9**

**TEL: 204.985.8540
FAX: 204.985.8544**

▲
E-MAIL: centre@pilc.mb.ca

Email: memen@pilc.mb.ca

February 4, 2014

The Public Utilities Board of Manitoba
Attention: Mr. Hollis Singh, Executive Director and Board Secretary
400 - 330 Portage Avenue
Winnipeg, MB R3C 0C4

Dear Mr. Singh:

**Re: Public Utilities Board's Needs For and Alternatives To (NFAT)
Review of Manitoba Hydro's Preferred Development Plan –
Evidence of CAC MB**

Thank you

CAC MB is grateful for the opportunity to present the attached evidence for consideration in the Needs For and Alternatives To (NFAT) review of Manitoba Hydro's Preferred Development Plan.

In addition, CAC MB appreciates the accessibility both of fellow interveners and of the Independent Expert Consultants. CAC MB is confident these conversations have lead to a better and less duplicative record.

Overview

By this letter, CAC MB files the 7 expert reports of:

Dr. Doug Gotham and Dr. Wayne Simpson
Dr. Doug Gotham
Mr. Bill Harper
Dr. Wayne Simpson
Mr. Harvey Stevens and Dr. Wayne Simpson
Dr. Jill Gunn¹
Dr. Robert Gibson and Dr. Kyrke Gaudreau

In addition, enclosed in this letter are the biographies of each report writer as well as a consolidated set of their *Curriculum Vitae*.

¹ In addition to the reports for which budgeting approval was received, CAC MB is submitting additional evidence by Dr. Jill Gunn relating to TOR factor 2(i); "[t]he macro environmental impact of the Plan compared to alternatives". As per the TOR and Board Order 67/13, the evidence of Dr. Gunn is well within scope of the proceedings. No costs above the existing budget are sought for this report.

Introduction to expert reports

CAC MB will be filing two additional reports under separate letter:

1. The expert report of Mr. Philippe Dunskey, presented in collaboration with GAC;
2. The expert report of Dr. Roger Higgin, to be filed later on today.

Overview of CAC MB's evidence

Load Forecast

Standard Approaches to Load Forecasting and Review of Manitoba Hydro Load Forecast for Needs For and Alternatives To (NFAT) – Dr. Wayne Simpson & Dr. Doug Gotham

- Structured in a manner so as to be read as a companion piece to the report submitted by the Independent Expert Consultant, Elenchus, Dr. Simpson and Dr. Gotham's evidence provides two distinct perspectives on load forecasting. The first, a general overview of load forecasting techniques and the significance of forecast accuracy for resource planning purposes and, the second, a more focused analysis of Manitoba Hydro's load forecasting in the NFAT review. The evidence presented ultimately concludes by identifying a number of omissions in the methodology used.

Demand Side Management

The Role and Value of Demand-Side Management in Manitoba Hydro's Resource Planning Process – Mr. Philippe Dunskey

- Mr. Dunskey's report examines the demand-side management component of Manitoba Hydro's proposed resource plan. Based on a review the evidence available – including Manitoba Hydro's recent potential study and its planned DSM savings – Mr. Dunskey explains how, as a result of the current planning framework, Manitoba Hydro's approach can lead to sub-optimal investments in demand side management and, inversely, to over-investment in new supply. Finally, he develops a set of DSM scenarios, including specific energy (GWh) and capacity (MW) values, as well as unit costs (\$/kWh), to help in the selection of the least-cost path for meeting Manitoba's long-term electricity needs.

Export Revenue

Review of Manitoba Hydro Export Price Forecast for Needs For and Alternatives To (NFAT) – Dr. Doug Gotham

- Dr. Gotham's evidence on the export revenue looks at the export price forecast from three sources: the supporting information provided by Manitoba Hydro, the inclusion of carbon costs in the export price forecast, and the export price forecast from The Brattle Group. Based on a comparison with other studies and an analysis of the information available, Dr. Gotham concludes that there exists a number of uncertainties in Manitoba Hydro's export price forecast which could have considerable impacts on the reliability of Hydro's projections.

Economic Evaluation

Needs For and Alternatives To (NFAT) Review of Manitoba Hydro's Preferred Development Plan – Mr. Bill Harper

- Mr. Harper's evidence addresses Manitoba Hydro's economic evaluation of the Preferred Development Plan (PDP) and focuses primarily on the approach taken by Hydro in performing its economic evaluation and the interpretation of the results. Mr. Harper closes his report by drawing out key comments and conclusions regarding the economic benefits of Manitoba Hydro's PDP, particularly as they apply to the key decisions that the government must make later this year.

Risk Analysis

Report on Risk Analysis in the NFAT - Dr. Wayne Simpson

- Dr. Simpson's report looks critically at the methodology underlying the risk analysis in the NFAT and then examines how the risk analysis has been used to assess the prospective development plans. He concludes that the methodology takes tentative steps in the direction of a full statistical analysis of risk, limiting the analysis to three factors and the associated probability distributions to three outcomes (low, reference and high). Keeping in mind the limitations of the risk analysis, the results produced by Dr. Simpson are presented as a possible means by which to compare the risks and returns associated with the various plans and to illustrate the trade-off between plans that have higher returns according to Hydro's calculations (plan 14, the preferred plan) and plans that have less risk (plan 4).

Vulnerable Consumers

Impact of Increases in Electricity Rates on Low and Non Low Income Households in Manitoba – Mr. Harvey Stevens & Dr. Wayne Simpson

- The work of Mr. Stevens and Dr. Simpson addresses the impact of the proposed electricity rate increases on the low and non low income households in Manitoba. Based on 10 years of annual data from Statistics Canada's Survey of Household Spending and supplementary data provided by Manitoba Hydro, the report analyzes 1) how the spending patterns of low income households compare to those of the near and non low income households, 2) how real, inflation-adjusted, electricity rates in Manitoba have varied between 2000 and 2013 and 3) the impact of variations in electricity rates on the consumption patterns of Manitoban households. Ultimately, the report provides a projection, based on the evidence, of the expected effect of the proposed rate increases on low and near low income households in Manitoba.

Macro-Environmental

Manitoba Hydro's Needs For and Alternatives To (NFAT) Review of Keeyask and Conawapa Generating Stations: Macro Environmental Impact Assessment Guidance – Dr. Jill Gunn

- Dr. Gunn's report presents a high-level overview of the potential macro environmental impacts and benefits of the power supply options associated with Manitoba Hydro's

preferred development plan for the Keeyask and Conawapa Generating Stations, their associated domestic AC transmission facilities and a new Canada-USA transmission interconnection (the Plan), and three other major power supply options (the alternatives). Her report also offers guidance to the PUB on how to assess the macro environmental impacts of the Plan and its alternatives, structure choices about a preferred future energy development strategy for Manitobans and, ultimately, assist in decision making.

Sustainability Analysis

Framework for Sustainability-based Assessment for the Public Utilities Board's Needs For and Alternatives To (NFAT) Assessment of Manitoba Hydro's Preferred Development Plan and Alternatives – Dr. Kyrke Gaudreau and Dr. Robert Gibson

- Dr. Gaudreau and Dr. Gibson's work outlines a sustainability-based framework for the NFAT review, consistent with the requirements of Manitoba law and policy, the terms of reference for the review, and the underlying objective of decision making in the long as well as short term public interest. Their framework includes an explicit set of sustainability criteria that have been specified for the particular case and context while the criteria set provides a comprehensive and integrated basis for the key PUB tasks: a comparative evaluation of Manitoba Hydro's preferred development plan and alternative portfolios of supply and demand options and power system configurations, and determination of which package is likely to make the most significant positive contributions to progress towards sustainability while avoiding risks of serious adverse effects.

Recommendations

Policy Observations Related to the Cost/Benefit of Preferred Plan – NFAT Review – Dr. Roger Higgin

- Dr. Higgin's report provides a big picture review of the Needs For and Alternatives To of Manitoba Hydro's Preferred Development Plan. In three stages, Dr. Higgin 1) provides a strategic policy review of the Manitoba Hydro Business Case, comparing and contrasting his observations with the evidence provided by Manitoba Hydro and the Independent Expert Consultants; 2) Directly addresses the policy considerations of affordability and intergenerational equity; and 3) offers observations, considerations and suggestions related to the NFAT Terms of Reference and potential outcomes for the NFAT Review.

Final caveat

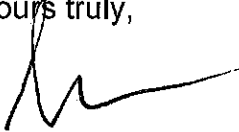
While CAC MB recognizes the great efforts that have been made by all parties to the proceeding, the delays in filings and the incomplete status of the record have, to one degree or another, limited our experts' abilities to fully examine the record in producing their evidence. Based on the incomplete record and in order to ensure the provision of fully informed and complete expert evidence, CAC MB's expert team reserves the right to make amendments to

its evidence based on updated filings.

Conclusion

Thank you again for the opportunity to submit this evidence and for your consideration of these comments. Should you have any questions please feel free to contact Meghan Menzies at 204-985-8540.

Yours truly,



MEGHAN MENZIES
Counsel to CAC MB

/sk

cc. CAC Manitoba
Interveners
PUB Counsel
Manitoba Hydro

Enclosures