REFERENCE: General

QUESTION:

For what major resource developments has the CEAA or provincial regulator used this approach as the foundation for their EIS guidelines issued to the proponent (i.e., issued for EIS development by a proponent, as opposed to being used by panel reviewers)?

RESPONSE:

The approach has not been adopted as the basis for structuring the any detailed federal or provincial EIS guidelines for proponents to our knowledge, though we have not done a comprehensive review of provincial and territorial EIS guidelines to check. Very broadly, the approach has evidently influenced basic initial guidance in some cases. See, for example the “contribution to sustainability” principle set out in the *Environmental Impact StatementTerms of Reference for the Mackenzie Gas Project* (August 2004), pages 3-4. Less detailed requirements for consideration of sustainability or sustainable development effects have been included in EIS guides in many other cases – e.g. Whites Point Quarry and Mariine Terminal EIS Guidelines (2005), Kemess North Mine EIS Guidelines (2005), Donkin Coal EIS Guidelines (2012). The extent to which the drafters had in mind the approach we have developed and applied is not known.

REFERENCE: General

PREAMBLE: The bulk of Gaudreau and Gibson's report appears to be a repeat or re-packaging of their report for the CEC hearing on Keeyask with one section being notably different. In some places PUB/NFAT has simply replaced Keeyask; in others, they have changed the lead in sentence but kept the same paragraph. The first 24 pages (out of 34) are a repackage of the CEC report; the only new section is Section 4 (pgs. 24-34)• Several appendices are identical.

QUESTION:

Why did the reference list at the outset of your paper fail to recognize your comparable paper presented at the Keeyask hearings? Please confirm (yes or no) that this report and its recommendations are in fact the same as those presented by these authors during the course of the CEC Process.

RESPONSE:

The suggestion cannot be confirmed.

We recognize there is clearly overlap between the report submitted to the CEC and the one we have submitted to the PUB. There are good reasons for this. As noted in our report to the CEC, we believe that a decision regarding approval of the Keeyask Dam would be inappropriate prior to completion of the Need For and Alternatives To assessment review because Manitoba Hydro's filing to the CEC provided neither a justification of need nor an assessment of alternatives. Furthermore, the sections that Manitoba Hydro identifies as being repackaged relate to describing the basic framework for

sustainability assessment, which was specified for the Keeyask/NFAT context. Even so, our NFAT report expands on the basic framework presented in the CEC to match the purposes of the NFAT review.

The recommendations in our NFAT report are not the same as those in our CEC report. First, the sustainability criteria set proposed in the NFAT report differs from the criteria set proposed in the CEC report. This should be evident based on the themes and criteria presented. Second, as noted above, our recommendations to the CEC (beyond the proposed criteria set) were the following:

> Based upon the above, we recommend the following to the Clean Environment Commission:
>
> 1. that the CEC suspend or defer its decision about the acceptability of the proposed Keeyask project until these deficiencies and those noted by other experts have been addressed and the overall analysis revisited.
> 2. that for future assessments the CEC require proponents to adopt from the outset an integrated sustainability assessment framework that includes a full justification of need, a full and fair analysis of alternatives, and application of an explicit set of sustainability criteria specified for the case and context.
> 3. that the CEC apply an explicit sustainability criteria set in its assessment of the Keeyask proposal as a first step would be beneficial, although it cannot provide a basis for concluding that the project is acceptable, because the review does not include comparative evaluation of alternatives. A full criteria set included in Appendix 5 of this report is provided as an option for this purpose, with a summary of the set provided at the end of the Executive Summary.

> Given that Manitoba Hydro has been required to justify the need for and alternatives to the proposed Keeyask dam (as well as the proposed power systems plan of which the Keeyask project is a component), it is reasonable to expect that this information could be included within the CEC hearings. These arguments are the foundation upon which the EIS rests.

By contrast, the primary recommendation provided in our NFAT report is the following:

> The adoption and application of an explicit sustainability-based framework for analyses and decision making should be the foundation for the PUB's judgements in this case, and should be entrenched generally in planning and decision making in Manitoba. This is best accomplished through a comprehensive and participatory assessment that:
>
> - clearly establishes the purpose and need (in this case for the services provided by electricity) through an open and democratic process;
> - develops an explicit set of sustainability criteria that have been specified for the particular case and context;
> - applies these criteria in a comparative evaluation of the full suite of alternative supply and demand options and power system configurations in a portfolio approach, to determine which package is likely to make the most significant positive contributions to progress towards sustainability while avoiding risks of serious adverse effects; and
> - anticipates and prepares plans for necessary change.

> The sustainability assessment framework described in this report is designed to provide the integrated approach to evaluations and decision making that will ensure that the Manitoba energy strategy and power systems planning processes are undertaken in a way that promotes progress towards a better future for all. Such a framework, or its substantive equivalent, is also necessary to meet the Terms of Reference for the NFAT review, and legislative requirements set forth in the Manitoba *Sustainable Development Act* (Manitoba 1998), key sections of the Manitoba *Environment Act* (Manitoba 2012a) and the Canadian *Environmental Assessment Act* (CEAA 2012a).

Ultimately, while we are happy to note in our NFAT report that there are areas of overlap with our CEC report, we reject the claim that they make the same recommendations, beyond the basic recommendation that a sustainability assessment framework, or its substantive equivalent, be applied in both the CEC and PUB decision making processes.

REFERENCE: Page 3 & 25

PREAMBLE: **The authors reference input from "several stakeholders involved in the CEC and NFAT hearings, as well as experts in Canadian energy strategy and the Manitoba context."**

QUESTION:

Who are these stakeholders & experts?

RESPONSE:

The note quoted above was included to give some recognition to our advisors. They cannot be named because a condition of their recruitment was that their anonymity be protected.

PREAMBLE: **The authors reference input from "several stakeholders involved in the CEC and NFAT hearings, as well as experts in Canadian energy strategy and the Manitoba context."**

QUESTION:

Please provide expert CVs,

RESPONSE:

As noted in our response to IR 31a, our advisors cannot be named because a condition of their recruitment was that their anonymity be protected. We therefore cannot provide the CVs.

PREAMBLE: **The authors reference input from "several stakeholders involved in the CEC and NFAT hearings, as well as experts in Canadian energy strategy and the Manitoba context."**

QUESTION:

and please provide the expert's information used by the authors in their report.

RESPONSE:

As noted in our response to IRs 31a and 31b, we are not at liberty to provide the names of the stakeholders and experts, or their comments.

QUESTION:
Please describe the role and contribution of each of Dr. Simpson and Dr. Gotham with respect to the preparation of their report "Standard Approaches to Load Forecasting and Review of Manitoba Hydro Load Forecast for Needs For and Alternatives To (NFAT)"

RESPONSE:

Dr. Gotham and Dr. Simpson are jointly responsible for the report and its conclusions. Dr. Gotham was the primary author for PART 1. Dr. Simpson was the author for much of PART 2, with input from Dr. Gotham on examples from his experience in Indiana.

SUBJECT: Experience and Qualifications

QUESTION:

Has Dr. Simpson participated in the preparation of a load forecast for an energy utility? If so, please indicate in what capacity (eg. forecaster, researcher, advisor).

RESPONSE:

Dr. Simpson has extensive experience with econometric forecasting but has not participated in the preparation of a load forecast for an energy utility.

SUBJECT: Load Forecast

REFERENCE: Page 2, paragraph 3

PREAMBLE: **"…a load forecast based on the past five years, which saw a significant economic recession, would produce a very different result than one based on the last twenty years."**

QUESTION:
Does CAC feel that using a short recent period dominated by a recession would produce a better forecast than using a longer period that included both recession and high growth periods?

RESPONSE:
Not necessarily. The point here is that forecasts produced by trend models can be biased by the choice of data, not to say that one choice is better than another. In this case, if someone wanted to produce a low forecast, a model could be used based on only the recent data. If a high forecast was desired, a model using more data could be used.

SUBJECT: Residential Basic Forecast

REFERENCE: Page 6, paragraph 3

PREAMBLE: **"The number of occupants per household will be affected by not only the number of people but the relative ages of the population. For instance, if the fastest growing segment of the population is over 50 there will usually be fewer people per household in the future. Another factor affecting the number of ooccupants per household is personal income. As income increases, the number of occupants per household generally decreases."**

QUESTION:
Please confirm that the factors cited would result in a higher number of households for a given population projection.

RESPONSE:
For these particular examples, it is confirmed that these factors would result in a higher number of households. For the counter examples (the fastest growing segment of the population is under 18 or if income is decreasing), the factors would result in a lower number of households.

SUBJECT: Load Forecast

REFERENCE: Page 9, paragraph 4

QUESTION:
Please provide the basis for choosing Indiana as a comparable jurisdiction to Manitoba, specifically outlining how they compare in terms of degree days heating, % of electric space heating, % of electric water heating, forecast population growth, forecast GDP growth, per capita income, per capita GDP, current electricity rates and projected rate increases, primary industrial sub-sectors and number of customers within individual industrial sub-sectors.

RESPONSE:
Indiana is chosen as an example because of its experience with electricity prices. Indiana experienced a period of low, stable electricity prices until the early 2000s. From 2003 to 2011, real electricity prices increased by 21 % and are continuing to rise. Thus, Indiana has real life experience that is directly relevant to what Manitoba is projected to experience in the future – substantial electricity price increases after a period of low, stable prices.
The referenced paragraph acknowledges that Manitoba is different than Indiana. "While one would expect the actual price elasticities to be different in Manitoba than they are in Indiana, there still should be a dampening of electricity demand as real prices rise."

SUBJECT: General Service Top Consumers

REFERENCE: Page 7

QUESTION:
Please advise whether Dr Gotham and Dr Simpson agree that industrial load forecasting is more challenging when there is a small number of customers within each industrial sub-sector.

RESPONSE:
It is agreed and noted that separating the top customers from the rest of the general service customers results in a small sub-sector.

REFERENCE: Simpson and Gotham Page 9,

http://www.e3network.org/ElasticitySurvey2_Matt.pdf

QUESTION:

Please file a copy of the US estimate referred to at page 9.

RESPONSE:

Please see attached.

REFERENCE: Page 3

PREAMBLE: **The evidence of Mr. Stevens and Dr. Simpson states that it addresses the impact of proposed electricity rate increases (4%/year over a 17 year period from 2015-2032) (p.3).**

QUESTION:

Please confirm that the evidence of Mr. Stevens and Dr. Simpson does not provide any assessment of: the difference in the magnitude and significance of the estimated average annual rate impacts for low and near low income households in the Preferred Development Plan as compared to alternative resource development plans.

RESPONSE:

The evidence presented does **not** provide any assessment of the said differences.

REFERENCE: Page 3

PREAMBLE: **The evidence of Mr. Stevens and Dr. Simpson states that it addresses the impact of proposed electricity rate increases (4%/year over a 17 year period from 2015-2032) (p.3).**

QUESTION:

Please confirm that the evidence of Mr. Stevens and Dr. Simpson does not provide any assessment of: the impacts of rate increases for any development plan over the longer term (post 2032).

RESPONSE:

The evidence presented does **not** provide any assessment of the said differences.

SUBJECT: Low-Income

REFERENCE: Page 8-9

PREAMBLE: **The Response of Households to the Changing Real Cost of Electricity**

QUESTION:

Please provide the working papers used in the development of this analysis, including all model specifications, underlying data and calculations, for the regression analysis discussed in pages 8 to 9.

RESPONSE:

The output from the regression analyses are attached in hard-copy form.

SUBJECT: Low-Income

REFERENCE: Page 10-11

PREAMBLE: **At page 10 of the report "Impact of Increases in Electricity Rates on Low and Non Low Income Households in Manitoba", H. Stevens and W. Simpson indicate that the impact of annual electricity rate increases was estimated holding all other factors (including real household incomes) unchanged.**

QUESTION:

Please confirm if the analysis considered whether prices for some of the other Goods and Services identified in Table 1 may increase above the rate of inflation over the period 2015-2032. If not, please explain.

RESPONSE:

The analysis did **not** consider the said matter as the authors had no reliable information on what those price increases might be.

SUBJECT: Low-Income

REFERENCE: Appendix 2

PREAMBLE: **Appendix 2 – Methodology for Setting the Average Annual Electricity Rate**

QUESTION:

Please specify what data in Appendix 2, pages 23-26, was provided by Manitoba Hydro, including the specific source reference, and what data was calculated by Mr. Stevens and Dr. Simpson.

RESPONSE:

On page 23, **Item 1** - Hydro Rates - came from MH's website "Historical Residential Electricity Rates." **Item 2** - distribution of residential customers by monthy basic charge and energy use - came from the documents "CAC/MH II-124" and "CAC/MH II-125". **Item 3** came from the tables contained in CAC/MH I-191b & CAC/MH I-192b showing average annual usage along with the tables in CAC/MH I-193b showing number of electric and non-electric heat billed customers in Winnipeg and Total Province by ownership status. Item 3 in Appendix 2 are weighted averages. **Item 4** on page 23 comes from the Survey of Household Spending. The information on pages 24 to 26 are calculations of the weighted average costs of electricity based on the information presented on page 23.