

MANITOBA HYDRO

2012/13 & 2013/14 ELECTRIC GENERAL RATE APPLICATION

MANITOBA HYDRO'S INFORMATION REQUESTS WITH RESPECT TO THE PRE-FILED EVIDENCE OF PAUL CHERNICK, RESOURCE INSIGHT, INC.

ON BEHALF OF THE GREEN ACTION CENTRE ("GAC")

MH/GAC (Chernick)-1

Reference: Direct Testimony of Paul Chernick, page 3, lines 12-15. "...the Board, in a letter of November 6, 2012, moved all rate-design issues to a 'separate process in 2013 when Cost of Service Study matters will be reviewed' **following an opportunity for Hydro to discuss its approaches with the parties, provide information, and possibly reach consensus on some issues.**"

Question:

- a) Please explain the process that Mr. Chernick would propose to take place prior to the Cost of Service Study and Rate Design review.

Response:

- a) As the Board stated in its letter of November 6, 2012,

In the interim, and until the separate hearing is held, Parties are encouraged to meet with each other to review and explain their Cost of Service and rate design proposals (including developing specific proposals) to allow for a more efficient process in the spring of 2013.

Mr. Chernick looks forward to meeting with Hydro to review its rate design and cost of service analyses, including input data, and reaching as full an understanding as possible "to allow for a more efficient process in the spring of 2013."

GAC has asked Hydro to start the consultation process requested by the Board, in a letter from Peter Miller to Robin Weins, attached as Attachment MH/GAC-1.

MH/GAC (Chernick)-2

Reference: Direct Testimony of Paul Chernick, page 5, lines 6-7. "Even with discovery, Hydro provided only PDF tables of billing data and unit charges, but no calculations."

Question:

- a) Please confirm that Manitoba Hydro provided by email an Excel spreadsheet containing bill frequency data for the residential class in response to GAC/MH I-4(a).

Response:

- a) Hydro provided the residential bill frequency. Hydro has been willing to share a few spreadsheets. Sharing the rest of its workpapers in this format would “allow for a more efficient process in the spring of 2013.”

MH/GAC (Chernick)-3

Reference: Direct Testimony of Paul Chernick, page 8, lines 15-27. “Relying on Hydro to recalculate its spreadsheets with alternative inputs and rate designs is not an adequate solution, for the following reasons:... Intervenors would still have to divulge their work product.”

Question:

- a) Please clarify what is meant by intervenor “work product” in this context.

Response:

- a) Mr. Chernick uses the term “work product” in this context to refer to the products of intervenors’ preliminary investigations of issues and initial positions which would have to be revealed to Hydro if Hydro were to perform all computations.

MH/GAC (Chernick)-4

Reference: Direct Testimony of Paul Chernick, page 10-11. Avoided Energy Supply Costs in New England: 2009 Report

Question: The evidence references the means by which forecasts of avoided costs are derived and made publicly available in other jurisdictions. Manitoba Hydro wishes to gain a better understanding of this process and the use of its end product.

- a) Please identify each of the utilities participating in the referenced study, their energy type and source of energy supply
- b) For each of the utilities identified in a), please describe the market in which they operate in general terms, and
 - i. identify each utility's primary customer market; and,
 - ii. identify all of each utility's secondary customer markets.
- c) The Avoided Energy Supply Costs in New England study is described as a "regional" study. Please define the region and describe the purpose of the study within the region, in particular how it is used collectively by parties in the region and how it is utilized by each individual utility in the region.
- d) Please describe the nature of the input information provided by each utility.
- e) For each of the input information types described in d), please advise if the information is considered confidential by the utility providing same.
- f) Please identify which parties/consultants are provided access to the utilities' confidential input information.
- g) Please identify the terms, if any, under which the persons identified in part f) receive the individual utilities' confidential input information identified in e).
- h) Please confirm whether the Avoided Energy Supply Costs in New England study is the only avoided cost study utilized by each utility in the region or whether individual utilities produce their own avoided cost studies and if so, describe the purpose/use of such studies.
- i) If in answer to h) it is determined that individual utilities produce their own avoided cost studies, please advise whether participants to the Avoided Energy Supply Costs in New England study are provided access to these studies (and if so, under what terms) and whether these studies are made publicly available.

Response:

- a) The Study's utility sponsors include the gas distribution companies:

- Berkshire Gas Company;
- New Hampshire Electric Co-Op
- NSTAR Electric & Gas Company
- Columbia Gas of Massachusetts;
- Unitil (Fitchburg Gas and Electric Light Company and Northern Utilities);
- Northeast Utilities (Yankee Gas);
- New England Gas Company;
- Southern Connecticut Gas;
- Connecticut Natural Gas

And the following electric distribution utilities:

- National Grid USA;
- NSTAR Electric & Gas Company;
- Northeast Utilities (Connecticut Light and Power, Western Massachusetts Electric Company, Public Service Company of New Hampshire);
- Unitil (Fitchburg Gas and Electric Light Company and Unitil Energy Systems);
- United Illuminating;

The sponsors also include the Cape Light Compact, which provides generation and energy-efficiency services to Cape Cod and the Islands; Efficiency Maine, which provides energy-efficiency services in that state; and the State of Vermont, which provides energy-efficiency services in that state through the Energy-Efficiency Utility (currently Efficiency Vermont).

The gas and electric utilities and the Cape Compact purchase their energy supplies in the competitive markets.

- b) The utility service territory maps are generally available on line. If Hydro has difficulty finding those maps, Mr. Chernick will assist them on request.
 - i. It is not clear what Hydro means by primary and secondary markets. Data on sales by customer class are readily available from public sources.
 - ii. See (i).
- c) The region is New England. The avoided costs are used in determining the cost-effectiveness of energy-efficiency programs. Mr. Chernick has not reviewed “how it is utilized by each individual utility in the region.”
- d) Several of the utilities provided data on marginal transmission and distribution investments, O&M, and load growth. The utilities and other sponsors reviewed the consultants’ analyses and suggested approaches and sources more generally.
- e) Some of the utilities considered their T&D data to be confidential.

- f) So far as Mr. Chernick is aware, only Resource Insight and Synapse staff had access to the allegedly confidential information.
- g) Utilities that so desired executed confidentiality agreements with the consultants.
- h) Yes, so far as Mr. Chernick knows, the AESC study is the only estimate of avoided supply costs used by the sponsors. He believes that the Connecticut municipal utilities, which are not sponsors, also use the AESC values. The Massachusetts municipal utilities are not covered by that state's energy-efficiency regulations, and may use AESC, their own estimates of avoided costs, or nothing at all.
- i) Mr. Chernick knows of no such competing studies. Since AESC provides avoided cost for measures installed in the subsequent two years, some sponsors may extrapolate avoided costs for later installations for some longer-term planning purposes. Mr. Chernick is not aware of any such analyses that are non-public.

MH/GAC (Chernick)-5

Subject: Generation Source that Manitoba Hydro Exports Displace

Reference: Direct Testimony of Paul Chernick, page 20, lines 18-21. “The major sources of marginal energy in MISO are coal (at about 900 kg CO₂e/MWh), combined-cycle gas (at about 350 kg/MWh) and gas-fired combustion turbines (about 500 kg/MWh).”

Question:

- a) What is the data source for the quoted emissions rates?
- b) Do these emissions rates represent emissions from a single unit of the specified type or a group of units over a range of expected operating conditions?

Response:

- a) See Table C–1 to subpart C of part 98—Default CO₂ Emission Factors and High Heat Values for Various Types of Fuel in:

<http://www.epa.gov/ghgreporting/documents/pdf/2009/GHG-MRR-FinalRule.pdf>.

Mr. Chernick assumed heat rates of about 10 MMBtu/MWh for the coal and combustion turbine plants, and about 7 MMBtu/MWh for the combined-cycle plants..

- b) The emission rates are typical, whether for individual units or in aggregate. Efficiency varies among units, by unit operating level, cycling requirements, and season. Emissions per MWh also vary among coal units depending on the composition of the fuel.

MH/GAC (Chernick)-6

Subject: Generation Source that Manitoba Hydro Exports Displace

Reference: Direct Testimony of Paul Chernick, Page 22, lines 3-6, “the avoided output would be essentially all coal, and the avoided emissions would be on the order of 900 kg of CO₂ per MWh”.

Question:

- a) Assuming the stated emissions rate of 900 kg of CO₂ per MWh represents a range of existing coal units within the MISO market, would the emissions of an older less efficient coal unit that may be a candidate for retirement have an emissions rate higher than 900 kg of CO₂ per MWh?

Response:

- a) Yes.

MH/GAC (Chernick)-7

Reference: Direct Testimony of Paul Chernick, page 25, lines 13-14.
Manitoba Hydro's response to CAC-GAC/MH I-6(b).

Question:

- a) Other than commercial ice machines, which as outlined in Manitoba Hydro's response to CAC-GAC/MH I-6(b) had a MRC/TRC greater than 1 but for which prior to implementing a program the federal government implemented minimum performance standards at the level being proposed for Power Smart, please identify which programs or opportunities Manitoba Hydro knew met the Total Resource Cost test, but due to implicit non-TRC screens is not pursuing in the Manitoba marketplace.
- b) For each opportunity identified above please identify the "implicit non-TRC screen" alleged to have been used and the basis (or source of information) for concluding that the non-TRC screen was used.

Response:

- a) Mr. Chernick is not privy to the planning that causes Hydro to limit its current and projected DSM savings. Hydro's preferred LUC screen would also limit measure within programs and incentive levels, both of which would erode TRC benefits.
- b) See (a).

MH/GAC (Chernick)-8

Reference: Direct Testimony of Paul Chernick, page 25, lines 3-4 and page 32, lines 4-5.
Appendix F of 2011 Power Smart Plan

Question:

- a) Please confirm that under the section Economic Effectiveness Ratios in Appendix F of the 2011 Power Smart Plan, Manitoba Hydro outlines the following approach in regards to assessing opportunities:
 - i) Under a) Marginal Resource Cost Test, the report states "In general, if an opportunity offers greater benefits relative to costs, then a program for pursuing the opportunity should be considered, however Manitoba Hydro will also consider supporting certain programs where the benefits are less than the costs."

- ii) Under b) Total Resource Cost Test, the report states “In general, if program offers greater benefits relative to costs, then a program for pursuing the opportunity should be considered, however Manitoba Hydro will also consider supporting certain programs where the benefits are less than the costs.”.
- b) Please confirm that for all other tests outlined under the section Economic Effectiveness Ratios in Appendix F of the 2011 Power Smart Plan, there are not specific directions that the measure or program should not be pursued if the benefits are less than the costs.

Response:

- a) Hydro appears to have correctly reproduced that section of Appendix F to Appendix 7.1.
- b) That is correct. Appendix F does not specify when programs, measures, enhancements or other options will go beyond “consideration,” or when they will be partially or fully implemented. Hydro’s willingness to “consider” a cost-effective program, measure, or enhancement does not benefit customers unless Hydro actually implements the option.

November 25, 2012

Hello Robin,

In its November 6th letter to Manitoba Hydro on scope and process, the PUB recommended:

In the interim, and until the separate hearing is held, Parties are encouraged to meet with each other to review and explain their Cost of Service and rate design proposals (including developing specific proposals) to allow for a more efficient process in the spring of 2013.

The following four topics (in order of priority to Green Action Centre) bear discussion.

1. Residential rate structure.
2. Non-TOU General Service rate structures.
3. General Service TOU rate structure.
4. Cost of Service issues.

Inclined ("inverted") residential rate structures have been under consideration for a decade, supported by repeated directives and recommendations from the PUB and Manitoba Hydro's Corporate Strategic Plan, which commits to the strategy to "Use rate design and targeted price signals to encourage energy efficiency." I believe that trying to develop rate structures through a ponderous, expensive dialogue in which rate proposals by MH and responses from the PUB occur at two-year intervals has been a dysfunctional process. The PUB's recommendation above provides a constructive alternative we should seize.

On residential rate structure, I propose that we follow the example of your consultation with MIPUG in developing a series of options for evaluation. We note that the MIPUG consultant was an active participant in the consultation process (which we had also requested to be). We also note that, once you arrived at the TOU model, you evaluated comparatively an array of 6 options (slide 28) using a number of criteria.

The same could be done by considering an array of options for residential rates generating the same revenue requirement, without prejudice to positions that the parties may ultimately wish to propose. Variables to be considered could include the amount of the basic charge, the size of the first block (including potential seasonal variation), and the spread between first and second blocks (including the current flat rate as a special case). We should also generate data and consider criteria for evaluating the options, such as conservation and alternative energy incentives, implications for fuel-switching, customer impacts, and mitigative options through rates or Power Smart or both. Issues

regarding identification of and mitigation of bill impacts for electric heat customers would also need to be addressed.

We would expect that CAC might wish to participate and that Power Smart and Affordable Energy personnel might contribute to the discussion of mitigation. In addition, PUB advisors might wish to participate, as they did in the TOU rates workshop in August and the export briefing workshops a couple of years ago.

The residential rate design is the simplest of the four issues and may warrant our most focussed initial attention. The technical experts may simultaneously be able to make progress on the quantitative analysis for the other issues. At the very least, we should all go into the spring proceedings with a common understanding of the facts and data, so the hearings can deal with the policy issues efficiently.

- For the non-TOU GS rates, the major issues will be the demand-energy rebalancing and a schedule for moving larger customers onto TOU rates.
- For the TOU rates, the major issue will be defining the seasonal and daily peak periods (e.g., recognizing the high summer on-peak prices and the variation in energy prices within the 16-hour peak trading period) which will then constrain the prices, as well as the demand-energy balance.
- For COSS, we have a number of questions about the causation of sub transmission, substation, lines and poles, as discussed in the testimony of Paul Chernick in the 2010/11 and 2011/12 GRA.

Please let me know your thoughts on this proposal. As the PUB process begins in two weeks, the sooner we get started the better. You can reach me at (204) 452-9017 or by return email.

Best wishes,

Peter