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June 28, 2013

Mr. H. Singh
The Public Utilities Board
400 - 330 Portage Avenue
WINNIPEG, Manitoba R3C 0C4

Dear Mr. Singh:

**RE: MANITOBA HYDRO NFAT TERMS OF REFERENCE
MEANING OF “MACRO ENVIRONMENTAL AND “SOCIO-ECONOMIC”**

In Public Utilities Board’s (PUB) Order 67/10 the PUB requested Manitoba Hydro and any approved Intervenor submit its definition of the terms “macro-environmental” and “socio-economic” as such terms are used in the Terms of Reference for the Needs For and Alternatives To (NFAT) Review. The PUB also requested Manitoba Hydro provide a detailed list of the items the Corporation intends to include in its evidence on each topic.

The NFAT Terms of Reference provide that the PUB’s Report to the Minister will address:

2. An assessment as to whether the Plan is justified as superior to potential alternatives that could fulfill the need. The assessment will take the following factors into consideration:

...

- h. The socio-economic impacts and benefits of the Plan and alternatives to northern and aboriginal communities;
- i. The macro environmental impact of the Plan compared to alternatives;
- j. If the Plan has been justified to provide the highest level of overall socio-economic benefit to Manitobans, and is justified to be the preferable long-term electricity development option for Manitoba when compared to alternatives.

Definitions of Macro Environmental and Socio-economic

During the May 16, 2013 Pre-Hearing Conference Manitoba Hydro provided its understanding of the meaning of macro environmental and socio-economic in the context of the NFAT:

Macro environmental: high level summary of environmental impacts and benefits sufficient to compare resources (not detailed evaluations such as in EIS)

Socio-economic: high level summary of potential effects to people in Manitoba, including such things as employment, training and business opportunities; infrastructure

and services; personal, family and community life; resource use; and heritage resources.

It is of note that the Terms of Reference identifies certain areas which are not in the scope of the NFAT including:

The environmental reviews of the proposed projects that are part of the Plan, including Environmental Impact Statements (these will be conducted through individual processes by the Manitoba Clean Environment Commission (“CEC”), and where possible the impacts of the matters to be considered by the CEC are included in the costs of the projects that are part of the Plan)

Manitoba Hydro submits that the intent of this provision is to avoid duplication of efforts of the PUB in carrying out its duties under the NFAT Terms of Reference with those of the CEC in carrying out its mandate, notably its review of the Keeyask Generation Project. It is imperative that the definition applied to the term “macro environmental” and scoping of the NFAT proceeding with respect to this item be mindful of this directive not to duplicate efforts.

It is of note that the CEC’s review of Keeyask is scheduled to conclude in November of 2013 such that the CEC’s recommendations should be available for PUB review prior to the PUB issuing its recommendations under the NFAT Terms of Reference.

Manitoba Hydro Processes and Information To Be Filed

An understanding of the processes utilized by Manitoba Hydro when determining its Preferred Development Plan and the information relied upon for this purpose provides insight into the meaning of the terms macro environmental and socio-economic as used in the NFAT Terms of Reference.

Manitoba Hydro undertakes a systematic, progressive analysis of resource technologies, then of specific resource options, and then of development plans. Through this process, a preferred and alternative development plans are identified. The final step is a multiple accounts benefit-cost analysis. This process will be explained in detail in Manitoba Hydro’s NFAT filing; however, for the purposes of scoping the meaning of the terms macro environmental and socio-economic it is useful to understand that the level of environmental and socio-economic information utilized at each stage of this process varies.

1. Screening Level Analysis

Manitoba Hydro monitors a wide range of resource supply options and maintains an inventory of options which are potentially available to meet future Manitoba needs. For the NFAT Review, 16 resource technologies were screened against over 15 technical, economic, environmental and socio-economic criteria at a very high level. From those 16 technologies, the following seven were “screened in” for further consideration and study: additional demand-side management, conventional hydro, run-of-river hydro, on-shore wind, simple-cycle gas turbine, combined-cycle gas turbine, and contractual import agreements. The template used for conducting this high level screening is attached as Appendix A. To assist in understanding the type of information used for

the screening analysis, Manitoba Hydro is attaching the template for its summary data sheets which illustrates the type of information relied upon at the screening process (Appendix B). As part of its NFAT filing, Manitoba Hydro will be filing approximately 40 completed summary data sheets for various technologies considered. It should be noted that environmental and socio-economic factors utilized in this analysis are generally qualitative in nature.

2. Preferred and Alternative Development Plans

Specific resource plans are developed from the technologies which are “screened in” following the screening level analysis. In addition to its Preferred Development Plan, during the May 16, 2013 Pre-Hearing Conference Manitoba Hydro identified a number of plausible alternative plans which were created and studied. The potential environmental and socio-economic impacts of the specific resource options in the preferred and alternative plans are included in this analysis which is again qualitative in nature.

In addition to the information available from the screening exercise, Manitoba Hydro draws from its existing understanding of the Keeyask, Conawapa and Manitoba-Minnesota Transmission Projects and from past environmental impact statements and licenses for the gas turbine and wind projects. This information is summarized and entered in to a Resource Comparison Table, a sample template of which is attached as Appendix C.

As one would expect, Keeyask is the most studied of the specific resource options. Manitoba Hydro and its four Cree Nation partners have completed a comprehensive environmental assessment of this project, the review of which is underway in the CEC process. No other option in the preferred or alternative plans has yet to undergo the same level of environmental or socio-economic study and assessment as Keeyask. For the other specific resource options, Manitoba Hydro will provide descriptions as they are currently understood at a level of detail sufficient to enable a reviewer to qualitatively compare their relative environmental and socio-economic merits.

3) Multiple-Accounts Analysis

At the third level of analysis, the overall socio-economic benefit to Manitobans of the main plans are evaluated utilizing a multiple account benefit–cost analysis (MA-BCA) approach which integrates project specific environmental and socio-economic considerations along with a host of other factors. MA-BCA is a disaggregated form of cost-benefit-analysis that is intended to assess the full range of economic, environmental and social advantages and disadvantages of the different plans to Manitobans.

The MA-BCA starts with the assessment of the alternatives from Manitoba Hydro’s perspective (the incremental revenues and expenditures the different plans entail) and then proceeds by analyzing benefits and costs to ratepayers, government, the economy, the environment and communities, not reflected in the revenues Manitoba Hydro receives or expenditures it incurs.

Specifically, the overall socio-economic benefit of the preferred and alternative plans will be assessed by examining their advantages and disadvantages in terms of the following accounts:

- 1) Market valuation:** This account assesses the net benefit or cost of the proposed and alternative plans to Manitoba Hydro and its project partners. The main indicator will be the present value of net revenues (market valuation of investment).
- 2) Manitoba Hydro ratepayer:** This account assesses the consequences of the different plans to Manitoba Hydro ratepayers. It analyzes the cumulative rate increases over the planning period that would be required to recover net system costs and meet corporate financial targets – how customers would be affected in the short medium and long term. It also addresses the extent and significance of differences in the reliability of supply under abnormal weather, water condition and other contingencies because of the different mix of assets and inertia capacity in the different plans.
- 3) Manitoba Government:** This account assesses the net benefit or cost of the different plans to the Manitoba government and therefore Manitoba taxpayers. It analyzes the incremental net revenues accruing to the government, as well as the amount of the additional Manitoba Hydro debt that the government guarantees. The present value incremental net revenues adjusted for any risks due to the additional Manitoba Hydro debt guarantee (for example the risk of increased costs or restrictions in the government's non-Hydro-related borrowing) measures the net benefit or cost from the point of view of taxpayers.
- 4) Manitoba economy:** This account assesses the consequences of the different plans for the Manitoba economy. It analyzes the amount and nature of employment generated by the projects in each plan and estimates the potential incremental income that employment offers for Manitobans. The present value of the incremental income is an indicator of the employment net benefit generated in the different plans.
- 5) Environment:** This account assesses the consequences of the different plans for the environment. It analyzes impacts on GHG emissions in Manitoba and elsewhere, criteria air contaminant (CAC) emissions in Manitoba, and natural resource and other bio-physical effects associated with the construction and operation of the projects in the different plans, and assesses the externality (net social cost) they represent. For GHGs this is done quantitatively; for other impacts it is done qualitatively.
- 6) Social:** This account assesses consequences of the different plans for aboriginal and non-aboriginal communities as well as other social effects not taken into account in the other accounts. Included in this assessment is the net benefits to Manitoba Hydro's partners, the impacts on other affected communities or interests and the long term 'bequest' values that may be affected by the different plans.
- 7) Risk:** This account addresses risks in terms of the range of possible outcomes and relative advantages of the different plans based on Manitoba Hydro's analysis of the net revenues and expenditures of the different plans and their rate implications under a wide range of assumptions. It also considers the risk mitigation potential of different plans in terms of their ability to be modified in light of unfolding events.

In the table attached as Appendix D, the multiple account framework is summarized. It demonstrates the criteria, nature of analysis and indicators that would be used to evaluate and compare the proposed versus alternative development plans.

The Multiple Account Framework has been developed using factors which enabled Manitoba Hydro to assess the socio-economic and environmental impacts of the various plans to the province as a whole. This framework can also be used to qualitatively assess the impact of these same factors on Northern and Aboriginal Communities.

Conclusion

The Terms of Reference for the NFAT make clear that the intent of providing the PUB with information related to macro-environmental and socio-economic impacts of the Preferred Development Plan and alternatives development plans is not to facilitate a detailed review of these factors. That function falls squarely within the mandate of the CEC. Rather, by explicitly directing that the NFAT Review is not to duplicate the work of the CEC and in selecting terms such as “macro”, it is clear that the intent of Cabinet was to seek the PUB’s recommendation regarding the Preferred Development Plan taking into account not only traditional economic and financial considerations but to also consider over-arching socio-economic and environmental impacts.

Yours truly,

MANITOBA HYDRO LAW DEPARTMENT

Per:



PATRICIA J. RAMAGE

Barrister and Solicitor

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Encls.

cc: R.F. Peters, Fillmore Riley LLP
Registered Intervenors