Régie de l'énergie, R-3864-2013

Demande d'approbation du Plan d'approvisionnement 2014-2023 d'Hydro-Québec

Complementary Evidence Further to the Hearing of June 16-20, 2014

Expert report of

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Prepared for:
Regroupement des Organismes Environnementaux en Énergie (ROEÉ)

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Dr Weis, you are informed of the direct evidence of Hydro-Québec's Panel 2, of the cross-examinations of that panel by the attorney for the GRAME and by the attorney for the ROEÉ, as well as the direct evidence of the GRAME as regards the prospects for renewables and especially wind-diesel systems for the autonomous grids, do have additional comments that you wish to bring to the attention of the Régie?

Hydro-Québec is clearly most concerned with the economic viability of any wind-diesel project and I am encouraged to see that they indicate that the avoided costs are being re-examined and that a revised view of the situation may be made public in the context of the filings for the annual rate case later this summer.

In my view, the evidence of Hydro-Québec points to inadequate accounting for the environmental, health and social costs of relying on and indeed increasing diesel generating capacity and therefore also transportation and storage of fuel. Simply complying with minimum environmental regulations does not capture these real costs, nor does it capture fuel cost volatility risk.

More generally, in Hydro-Quebec's step-by-step development model, the first project is required to be economic on its own merits. In my view, this sets up a viscous circle of not being able to bring costs down. As indicated in my evidence, the Alaska data is pretty clear that the cost of the subsequent projects can be reduced significantly as actual experience and operational expertise are developed. A more appropriate and forward-looking approach that provides a real prospect of successful transition to renewables is to allow first projects to have some accepted level of "uneconomic-ness", say 10%.

Additionally, if Hydro-Quebec still does not think JED projects are economic, perhaps a reasonable solution is to put out a standing offer to independent power producers (IPP) for power as a long-term PPA to anyone who can deliver clean power at the avoided cost and see what results are obtained. The Northwest Territories Power Corporation has issued a similar standing offer around 2008[1]. There were no takers as they offered a pretty low avoided cost. But at current diesel fuel prices, and if you do have a 6-7% inflation factor as suggested by the GRAME or even 4% as suggested by the witness for Hydro-Québec, rather than 2%, combined with the technological gains that have been made by alternatives, I am pretty sure that there would be some proponents who could develop projects. In the treatment of the submissions there should ideally be some modest accounting for carbon (including bundled carbon reductions between multiple communities) and some real value afforded to wind (with no fuel costs) for the

[1] Northwest Territories Power Corporation (2008) *Wind Generation in the Northwest Territories; Request for Proposals*, RFP No. 20804, Hay River, Northwest Territories.

portion of fuel costs that it de-risks. Also through this lens Hydro-Québec may itself conclude that it wishes to go forward with JED.