

Presentation to the PUB Hearing on Manitoba Hydro's NFAT Submission

Thank you Mr. Chairman - on behalf of the Lake on the Pembina Committee I would like to thank the Public Utilities Board for the opportunity to present some of our views on Manitoba Hydro's future electricity development plan and to the cost effective benefit that plan could derive from customers switching to natural gas heat.

The building of natural gas pipeline infrastructure is indispensable to the future economic development of the Pembina Valley and surrounding area. It is essential for this area to have a gas pipeline in order to maintain a competitive position in industry. In fact, the Pembina Valley and surrounding area in south central Manitoba is one of the largest populated geographic areas of the Province without the ability to access natural gas. It has been neglected in terms of investment in natural gas infrastructure, despite the fact that private investment has considered it sufficiently attractive to build natural gas pipeline a few miles across the border in North Dakota, in an area with similar demographics to the Pembina Valley.

Manitoba Hydro has, in the past, indicated that there is an insufficient economic business case to build a gas pipeline into the Pembina Valley. We believe that Manitoba Hydro's business case needs to better consider the synergies between natural gas and electricity. Therefore we would request that, in its business case model, Manitoba Hydro determine the economic value of reducing electric demand by moving electric heat customers over to natural gas heat. This reduction in electric demand would be very similar to the demand reduction created through Manitoba Hydro's Power Smart programs. Further, we would request that from this evaluation, that Manitoba Hydro determines the amount that would be justified to invest in gas pipeline infrastructure to reduce electric demand. This analysis would be similar to the determination of the investment justified for Power Smart Programs that similarly reduce electric demand.

We note that several years ago, it was decided that there would be no geographic differences in electricity rates for Manitoba residents on the electricity grid regardless of local differences in the cost of providing electricity service. There, undoubtedly, would have been some critics that would have considered this a subsidy from consumers in low cost areas to consumers in high cost areas. The Lake on the Pembina Committee, however, applauds this rate equalization as a way in which all Manitobans can equitably benefit from the Province's natural resources.

When Manitoba Hydro invests in energy saving programs such as free insulation for consumers, there may have also been critics who narrowly and mistakenly viewed these programs as subsidies for those individual consumers. In fact these programs provide a net economic benefit to all Manitoba consumers. Similarly, for Manitoba Hydro to fund investment in gas pipeline infrastructure would also provide Manitoba electric consumers with a net economic benefit. And, investment in gas pipeline would, like rate equalization, allow Manitobans to more equitably benefit from the Province's natural resources. However, unlike rate equalization this could never be considered as a transfer in costs from some Manitobans to others.

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It was some 25 years ago that Manitoba Hydro, in keeping with industry trends current at the time, started to examine the potential to economically reduce the demand for electricity. Referred to in the industry as Demand Side Management or DSM for short; measures taken to reduce electricity consumption ultimately developed into Manitoba Hydro's very successful Power Smart program. The reduction in system capacity and energy requirements delivered by this program have very effectively both deferred the need for new generating plants as well as provided for the economic delivery of additional electricity from existing generating plant into Manitoba Hydro's export markets.

The Lake on the Pembina Committee commends Manitoba Hydro for this economic reduction in the demand for electricity. However, the Committee is of the opinion that Manitoba Hydro needs to explore further opportunities for cost effective reduction of Manitoba's electricity consumption. Specifically Manitoba Hydro needs to consider the role that natural gas heating can play in reducing electricity requirements. Such opportunities have the potential to provide a gas pipeline into the Pembina Valley resulting in the increase in socio-economic development.

So what are the characteristics of conversion to natural gas heating that make it economically attractive as a replacement to existing electric heating? In the first case, Electricity is a higher value energy resource than natural gas. Electricity is generally considered a societal necessity. When electricity is produced from natural gas, the result is 4 to 5 times the energy loss for the same amount of energy consumed as compared to heating from natural gas. This situation is readily recognized in jurisdictions outside Manitoba where electricity is produced from natural gas.

This also means that in the cases where a Manitoba customer moves from electric to natural gas heat and the resulting saved electricity is exported outside the Province there is less natural gas used in total as compared to the case where the Manitoba customer heats electrically and the customer in the neighboring area derives their electricity from natural gas. Less gas is used by a factor of about 40%!

Even though electricity production from natural gas is today the most viable option for new power generation in most jurisdictions, the lower end use efficiency of the gas turbine generator combined with the added requirement for financial investment in that generator demonstrate that added costs are required to convert natural gas energy into the more valuable electric energy.

The 40% reduction in overall natural gas use, when electricity freed up from a new natural gas heating customer displaces electricity produced from a high efficiency gas turbine, also means that there are 40% less overall carbon emissions and a corresponding 40% reduction in emitted greenhouse gases (GHGs).

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However, not all electricity outside the Province comes from natural gas. Manitoba Hydro has stated that it currently assumes that its exports will continue to displace a significant amount of coal-fired generation in the US. The resulting reduction in GHG's when considering the higher carbon content of the overall average displaced generation is much greater than when considering high efficiency gas turbines only, about 90% greater using Manitoba Hydro's estimates. This means that Manitoba customers switching to gas heating will, on a per unit energy basis, reduce carbon emissions and GHG's by an amazing overall 70%.

Manitoba Hydro's projections anticipate that the future markets will provide significant monetary incentives for energy that has reduced levels of GHG's. As energy displaced from DSM programs reduces global GHG's, Manitoba Hydro appropriately includes this added value in its DSM economic evaluations. It would be similarly appropriate to include this added value for reduced GHG levels in the switching of Manitoba consumers from electric heat to natural gas heat. When Manitoba Hydro has completed its evaluation of pipeline investment to switch consumers to natural gas heat it will be able to be more confident in its claim that its future development plan has the greatest contribution to the reduction of global GHG's.

Though recognizing that there are significant risks in its future development plan, Manitoba Hydro considers these risks to be manageable. Certainly, there would be concerns for any energy plans involving significant amounts of financial investment in these times when large cost overruns on any construction project seem to be more the rule than the exception, a situation from which Manitoba Hydro itself has not been immune in the recent past. Recent announcements about a 33% increase in Ontario power rates add fuel to this concern. For the Pembina Valley one of the best risk management strategies that Manitoba Hydro could invoke would be to be able to provide the option for consumers to heat with natural gas rather than with electricity. A good risk management plan at any time is not to have "all your eggs in one basket" and providing for the option of gas heat would provide the people of the Pembina Valley the additional energy "basket" that they so desperately need. Lack of access to natural gas for this area is a kind of double "whammy". It forces additional costs and prevents economic expansion in the short term and then presents the risk of even greater costs for heat energy in the future.

Currently in this south central area of the Province there are several major employers, 35 large farm operations and about 200 rural homeowners using coal for heating. Switching these customers to natural gas heat would provide an attractive opportunity for local and global GHG reductions. Otherwise when a provincial ban for burning coal takes effect in 2017 these consumers would be forced to switch to electricity, significantly adding to their costs and adding additional costs for all Manitoba power consumers as described earlier. And often for industries with large garage doors frequently opening and closing, electricity is a less effective heat source providing much slower heat recovery.

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Should Manitoba Hydro's future plans ever include gas fired electric generation, we would like to be on record stating that there would be advantages to siting a gas turbine in South Central Manitoba. These advantages include electricity support for the St. Leon wind farm and leveraging existing transmission infrastructure as well as any gas pipeline infrastructure that may be developed should access to natural gas heat ultimately be provided.

In summary, we request that Manitoba Hydro evaluate investment in natural gas pipeline to provide customers access to natural gas heat in south central Manitoba as an economic means of reducing Manitoba power demand. It would also serve as a means to provide socio-economic development to this part of the Province which to date has been neglected in the investment of natural gas infrastructure.

Mr. Chairman, we thank you for the opportunity to be heard at this hearing.

Respectfully Submitted,
The Lake on the Pembina Committee, February 4, 2014