

APPrO INTERROGATORY #3

INTERROGATORY

Issue 1

Reference: Exhibit B1, Tab 1, Schedule 1

“Enbridge has been working with the Ontario Geothermal Association (“OGA”), the MOECC, and the MOE to find solutions that will overcome these barriers faced by the geothermal industry which will lead to further the adoption of ground source heating and cooling systems. The solution that Enbridge has developed is a utility service that combined with financial support from the MOECC’s Greenhouse Gas Reduction Account (“GGRA”) administered by the Green Ontario (“GreenON”) Fund will make this technology cost competitive compared to more traditional building heating and cooling alternatives. Enbridge will own and maintain the geothermal loops while customers will own and maintain the heat pump system.”

Preamble: APPrO members are engaged in the generation of electricity, including through use of combined heat and power systems. Enbridge’s geothermal proposal would create a risk for existing CHP systems and technologies.

Questions:

- (a) Is Enbridge proposing to have a monopoly franchise over the ownership and maintenance of geothermal loops?
- (b) Describe the competitive environment in Ontario related to (i) installation, ownership and operation of geothermal systems as a whole; or (ii) ownership and maintenance of geothermal loops in particular?
- (c) Approximately how many geothermal systems have been installed in Ontario? To the extent possible, differentiate between individual homeowner systems, moderate systems for commercial (or farm) use, and larger systems for industrial use.
- (d) Provide a list of the risks that the individual or business that chooses to install a geothermal energy system (the “Benefiting Customers”) would be exposed to if the OEB does not approve Enbridge’s proposal to undertake this new business activity, together with a qualitative, and if possible quantitative, description of the risk.

- (e) Provide a list of any and all risks ratepayers will be exposed to if the OEB approves Enbridge's proposal to undertake this new business activity, together with a qualitative, and if possible quantitative, description of the risk.
- (f) Provide a list of any and all risks ratepayers will be exposed to if the OEB does not approve Enbridge's proposal to undertake this new business activity, together with a qualitative, and if possible quantitative, description of the risk.
- (g) Describe any and all potential alternative sources of funding (other than ratepayers) available from the Provincial Government, the Federal Government, granting agency, or an alternative source, that could support the proposed business activity. Why is ratepayer funding needed?
- (h) Describe any precedents whereby the OEB has previously permitted the ownership and operation of geothermal loops to be included in ratebase and operations of a regulated utility in Ontario. If there are none, say so.
- (i) Describe any precedents whereby a utility regulator in another jurisdiction in North America that is similar in nature and function to the OEB has previously permitted ownership and operation of geothermal loops to be included in ratebase and operations of a regulated utility. Pay particular attention to other jurisdictions that are also members of the Western Climate Initiative (WCI). If there are none, say so.

RESPONSE

- (a) No.
- (b) Please see the response to SEC Interrogatory #11, filed at Exhibit I.1.EGDI.SEC.11. Please also see Exhibit B, Tab 1, Schedule 1, paragraph 65.
- (c) Based on available data from the Canadian Geo-exchange Coalition, the company estimates there were 30,000 systems installed in Ontario from 2007-2011 with the majority of installations in single family residential homes. Prior to 2007, the number of installations Nation-wide ranged from 1000-5000 per year with available data dating back to 1996. Please see Attachment 1 to this response for further information.
- (d) Due to the lack of inspection and quality assurance requirements for geothermal systems, a potential homeowner is exposed to risk involving both in the design and installation and commissioning stage including: under-sizing of the system relative to the home, under-sizing of the loop relative to the heat pump system installed causing an imbalance in the surrounding ground temperate and freezing of the loops which leads to bad performance. Enbridge's Geothermal Energy Services

program will address these risks through appropriate standards and installation practices.

- (e) The proposed geothermal energy service program is designed using principles of EBO188 in a manner to minimize risk to existing ratepayers.
- (f) If the Geothermal Energy Services (GES) program is not approved, then current ratepayers will miss the opportunity identified in the response to OGA Interrogatories #6 and #9, filed at Exhibit I.1.EGDI.OGA.6 and 9. Additionally, current or future ratepayers who wish to take advantage of geothermal heating / cooling service under the GES model will lose that option. Please see response to Board Staff Interrogatory #2a) filed at Exhibit I.1.EGDI.STAFF.2 which outlines the market transformation aspects of the GES proposal.
- (g) The Ontario government has already announced Green Ontario Fund grants that are now available to homeowners up to \$20,000 defray the cost of a geothermal heating / cooling system. Even with these grants, the typical homeowner will still be faced a greater initial cost for this type of system compared to a conventional natural gas electric air conditioner combination. The Company is not aware of any other currently available source of government or other funding that would further reduce the initial cost of a geothermal heating / cooling system. Under the Company's Geothermal Energy Service proposal, the capital investment is funded by shareholders not ratepayers, ratepayer impact is only temporary to cover early year revenue deficiencies of the program just as it is today with respect to the addition of new natural gas distribution customers. The proposed GES service fee is set to provide a sufficiency back to ratepayers in the future years.
- (h) The Company is not aware of any situations where the OEB has previously permitted the ownership and operation of geothermal loops to be included in ratebase and operations of a regulated utility in Ontario.
- (i) Please see response to Board Staff Interrogatory #3, filed at Exhibit I.1.EGDI.STAFF.3.