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May 2, 2018

Ontario Energy Board
2300 Yonge Street
P.O. Box 2319
Suite 2700
Toronto, ON M4P 1E4

Attention: Ms Kirsten Walli
Board Secretary

Dear Ms. Walli:

Re: Enbridge Gas Distribution Inc.
Application for Renewable Natural Gas Enabling Program and Geothermal Energy
Service Program
Enwave Energy Corporation (“Enwave”) Interrogatories
File No. EB-2017-0319

In accordance with Procedural Order No. 2, please find attached the interrogatories of Enwave Energy Corporation (“**Enwave**”) in the above-noted application.

Sincerely,

signed in the original

George Vegh

c. Applicant and Intervenors of record in EB-2017-0319 (email)

Enbridge Gas Distribution Inc.
RNG Enabling and Geothermal Energy Service Programs
EB-2017-0319
ENWAVE Interrogatories
May 2, 2018

Issue 1.2: Should the new business activity – Geothermal Energy Service Program – be considered as part of the utility’s regulated business?

Enwave-IR1

1. Please confirm that regulated utility businesses are typically marked by market failure.
2. Please identify the market failure that this Program is meant to solve.
3. Subsection 36(1) of the OEB Act, 1998 provides that the Board may “make orders approving or fixing just and reasonable rates for the sale of gas ...and for the transmission, distribution and storage of gas.” Please confirm that the imposition of a charge on customers to pay for the geothermal energy service program does not pay for the sale, transmission, distribution and storage of gas.
4. Are there any other statutory provisions that Enbridge relies upon for the position that the Board can impose charges on Ontarians to pay for Enbridge’s geothermal energy service program?
5. The evidence states that the geothermal market has experienced “low market penetration and less than desirable levels of customer satisfaction with this technology” (B-1-1, p.23).
 - i. Please confirm that geothermal is one technology for heating and cooling which competes with a number of other technologies, including air sourced heat pumps, solar heating, and other types of waste heat recovery systems which may be district based (“Competing Technologies)
 - ii. Please provide all materials that is relied upon to support the statement that the geothermal market has experienced “low market penetration and less than desirable levels of customer satisfaction with this technology”
 - iii. Please advise whether Enbridge has the same opinion with respect to Competing Technologies and provide all materials that Enbridge relies upon to support that opinion.
 - iv. Please provide evidence on low market penetration and, in particular, whether there is excess capacity among service providers. Please respond with reference to both geothermal and Competing Technologies.
 - v. Please provide any information, including internal studies, that addresses how Enbridge’s rate-payer funded participation in this market will increase market

penetration. Please respond with reference to both geothermal and Competing Technologies.

- vi. Please provide all materials that Enbridge has with respect to the state of competition in the market and how this proposal is likely to impact competition. Please respond with reference to both geothermal and Competing Technologies.
- vii. Please confirm that the market for geothermal services would be less competitive if commercial providers are unable to compete with Enbridge's rate-payer funded market offering and therefore will have to exit the market. Please respond with reference to both geothermal and Competing Technologies.
- viii. Please advise whether Enbridge intends to participate in the geothermal market or the market for Competing Technologies through an unregulated affiliate.
- ix. Please advise whether Enbridge or an affiliate has participated in an RFP or similar competitive processes for the provision of geothermal or other energy solutions using Competing Technologies.
- x. Please advise how the Board can ensure that its proposal will not provide a competitive advantage to Enbridge or an unregulated affiliate through increased understanding/knowledge/experience or procurement advantage/leverage when participating in larger energy procurement processes that may include geothermal as a part of a solution other than for single family homes/loops?
- xi. Please confirm that this scenario would be worse for customers of geothermal services. Please respond with reference to both geothermal and Competing Technologies.
- xii. Please advise how Enbridge's rate-funded option would increase customer satisfaction with geothermal technology. Please respond with reference to both geothermal and Competing Technologies.
- xiii. The evidence states that the "Program is initially targeted to single family homes (both new and retrofit). In the future, the Program may be expanded to multi-residential and commercial markets." (B-1-1,p. 28).
- xiv. Please confirm that, if Enbridge did seek to enter into the multi-residential and commercial markets for geothermal services, it would have to seek specific Board approval for same.
- xv. Please advise whether Enbridge is aware of geothermal solutions being pursued at a scale larger than single residential loops for single family home marketplace homes through district heating with, for example, community energy loops.
- xvi. Please advise how, if the Board approves Enbridge's proposal, it can ensure that, Enbridge is not given a pricing or network advantage that disadvantages competing district heating alternatives.

6. The evidence states that Enbridge “will ensure uniform standards are applied to the safety, design, sizing and installation of geothermal systems to achieve a high level of quality assurance...”(B-1-1, p. 24).

Please confirm that there are government standard setting authorities and that market participants already comply with such standards.

Issue 2.3: Are the service fees for the Geothermal Energy Service Program reasonable and appropriate?

Enwave-IR2

1. Please confirm that in the first year of the Program, gas rate payers will be making a contribution of \$7,226,130. Has Enbridge conducted any customer surveys to indicate whether customers are supportive of providing this subsidy? Please provide customer surveys relating to concerns respecting the cost of gas utility services.
2. The Board's *Final Report: Marginal Abatement Cost Curve for Assessment of Natural Gas Utilities' Cap and Trade Activities* (EB2016- 0359) states that “heat pumps are considered a fuel switching initiative and are not comparable to energy efficiency alternatives, and are also currently very high cost compared to other energy efficiency options for space heating” (at pp. 23-24).

Please provide any studies that Enbridge has carried out that compare both the societal costs and benefits and the costs and benefits to Enbridge of pursuing other geothermal program as opposed to other options for space heating.

Issue 2.4: What are the appropriate terms and conditions of the Geothermal Energy Service Program?

Enwave-IR2

1. Please advise whether Enbridge would be willing to have the Board impose the charge that Enbridge is proposing but make the proceeds of those charges available for other providers of geothermal or other Competing Technologies that can also result in carbon abatement.
2. If Enbridge would not be agreeable, why not?