August 16, 2024

VIA RESS

Ontario Energy Board
P.O. Box 2319,
2300 Yonge Street, 27th Floor
Toronto, ON M4P 1E4
Attention: Registrar

Dear Ms. Marconi,

Re: Enbridge Gas Inc. ("EGI")
Review of Enbridge Gas Inc.'s 2023 Utility Earnings and Disposition of Deferral and Variance Account Balances
Board File Number: EB-2024-0125

We are counsel to Minogi Corp. ("**Minogi**") in the above-noted proceeding. Pursuant to Procedural Order No. 1, please find attached interrogatories of Minogi to EGI.

Sincerely,

DT Vollmer

c. Richard Wathy, EGI
David Stevens, Aird & Berlis LLP, Counsel for EGI
Dr. Don Richardson, Minogi

Encl.

ONTARIO ENERGY BOARD

IN THE MATTER OF the Ontario Energy Board Act, 1998, S.O. 1998, c.15 (Schedule. B);

AND IN THE MATTER OF an Application by Enbridge Gas Inc. for an order or orders clearing certain commodity and non-commodity related deferral or variance accounts.

EB-2024-0125

INTERROGATORIES

OF

MINOGI CORP.

(“MC”)

August 16, 2024

Question: **D-MC-1.**

Reference:
- Exhibit D, Tab 1, p. 10
- Exhibit D, Tab 1, pp. 29-44, 58-66
- Exhibit D, Tab 1, Attachment 1, "EGI Fugitive Emissions Measurement Report" (the "**Highwood Report**")

Preamble: EGI states that total system unaccounted-for gas ("**UFG**") in 2023 amounted to approximately 201,845 103m3 (79,232 103m3 in the EGD Rate Zone and 122,613 103m3 in the Union Rate Zones) compared to total system throughput for that same year of approximately 56,645,986 103m3 (0.36%).

EGI notes that fugitive emissions were understood to mean the unintended release of natural gas due to leaks or third-party damages. They do not include emissions from venting, combustion, or flaring.

a) Please provide details on the sample area selected by EGI for measuring fugitive emissions.

b) Please discuss all testing, monitoring, and measurements of UFGs that has occurred or will occur as a result of the application on First Nations reserves that are serviced by EGI. If no such testing, monitoring, and/or measurements have occurred or are expected to occur, please explain why not.

c) How can EGI be confident that the sample areas it has selected are (or are not) reflective of the emissions and relevant circumstances of First Nations reserves that are serviced by EGI?

d) Please describe and discuss all initiatives EGI is developing, has or is in the process of implementing to reduce UFG. In your response, please discuss the expected reduction in fugitive emissions from such initiatives.

e) Please discuss the applicability of all such initiatives to emissions taking place on First Nations reserves serviced by EGI, as well as any analysis that EGI has conducted towards reaching those conclusions.

f) Please discuss all initiatives EGI has identified and is evaluating to reduce UFG.

g) What is EGI's main source of fugitive emissions?

h) Is EGI required to report its UFG in their GHG emissions reporting?

Question: **D-MC-2.**

Reference:
- Exhibit D, Tab 1, p. 6

Preamble: EGI provides historical UAF volumes for EGD Rate Zone.

a) Please provide a map of the EGD Rate Zone and the Union Rate Zone.

b) What accounted for the extreme drop in UAF Volumes in 2023 compared to the previous five years?

Question: **D-MC-3.**

Reference:
- Exhibit D, Tab 1, pp. 14-15
- Highwood Report, 48

Preamble: EGI provides information on customer meter sets and notes that it investigates any monthly volume variance between custody transfer and check metering volumes that exceeds +/- 2%.

EGI provides a breakdown of customer meter sets by emissions and activity factor.

a) Do industrial customer meter sets (large consumers) emit more fugitive emissions than small household meter sets?

b) If yes to a), could the industrial/commercial meter sets be prioritized based on Enbridge's knowledge of customer consumption? For example, is a high volume customer likely to have a higher volume of fugitive emissions at the meter set?

c) Please provide a list of all variances exceeding +/- 2% in 2022 and 2023, including component type, estimated gas emitted, and whether a repair was completed.

d) Does Enbridge have the data to rank commercial/industrial customers from highest consumption to lowest consumption?

e) Would Enbridge be willing to conduct a pilot study focused on measuring meter sets at the highest consumption commercial/industrial customer sites?

Question: **D-MC-4.**

Reference:
- Exhibit D, Tab 1, p. 25

Preamble: EGI notes that on a monthly basis, the determination of Sendout includes an entry to record operational blowdowns or flaring associated with compressor facilities as noted in the discussion on Sendout above. By accounting for the volumes associated with these operational blowdowns or flaring, these volumes are removed from Sendout and as such do not contribute to calculated UFG volumes. A similar entry is recorded, where necessary, for blowdowns or flaring associated with capital projects.

a) Where are emissions from blowdowns or flaring recorded?

b) Are emissions from blowdowns or flaring reported in any regulatory filings?

c) Please provide details on who pays for the lost gas from blowdowns or flaring.

Question: **D-MC-5.**

Reference:
- Exhibit D, Tab 1, p. 31

Preamble: EGI notes that going forward, all class-C leaks will be monitored every 12 months and will be repaired within 18 months of discovery, in accordance with the new integrated Enbridge Gas Leak Standard.

a) Please provide a copy of the new EGI Leak Standard.

b) Please describe the difference between each “class” of leak.

Question: **D-MC-6.**

Reference:
- Exhibit D, Tab 1, p. 38

Preamble: EGI indicates that it is committed to Advanced Metering Infrastructure ("**AMI**") and advised that it plans to file a stand- alone AMI application as soon as practicable that will request approval from the OEB for funding and to implement an AMI solution.

a) Please describe what AMI is and whether it will assist in addressing fugitive emissions.

Question: **D-MC-7.**

Reference:
- Exhibit D, Tab 1, pp. 29-44, 55-68

Preamble: EGI indicates that it has taken the initial steps to establish a team with the express mandate to investigate root causes, make recommendations to reduce and monitor, and to implement a sustainment and governance model for UFG.

EGI outlines the key details of its Investigation Plan to help inform next steps in the development of a broader fugitive emissions measurement program to support the development of a measurement-informed inventory as proposed by the Highwood Report.

a) Please discuss all initiatives EGI has identified and is evaluating to reduce fugitive emissions.

b) Please describe and discuss all initiatives EGI is developing, has or is in the process of implementing to reduce fugitive emissions. In your response, please discuss the expected reduction in fugitive emissions from such initiatives.

c) Did EGI engage with any of EGI's First Nations customers in relation to UFGs? If yes, please discuss how the application and the UFG section of the application was informed by such engagement. If no, please explain why not.

d) Did EGI consider the unique concerns of First Nations regarding UFGs, including fugitive emissions on and near First Nation reserve communities? If yes, please discuss and explain how EGI will address these concerns. If no, please explain why EGI is not aware of the unique concerns of its First Nations customers that live on reserves serviced by EGI.

e) Are there any opportunities for First Nations and/or Indigenous-owned organizations to participate in the initiatives identified by EGI related to monitoring, measuring, and reducing UFG? If yes, please provide details of opportunities specifically targeted to First Nations and/or Indigenous-owned organizations. If no, please explain why EGI is not providing opportunities for First Nations and/or Indigenous-owned organizations to participate in these initiatives and what types of opportunities EGI would be open to enable First Nations and/or Indigenous participation.

f) Are there any opportunities for First Nation training and employment related to emissions monitoring? If yes, please provide details. If no, please explain why no such opportunities exist.

g) What opportunities exist for First Nation and/or Indigenous representatives to participate in the oversight of initiatives relating to the monitoring or reduction of UFGs in First Nation communities and elsewhere?

h) Why is there no specific reference to the considerations of First Nation or Indigenous customers (or their communities) in the sections of EGI's application setting out its proposed Fugitive Emissions Measurement Plan project – i.e., paragraphs 117-132?

i) Why is there no specific reference to the considerations of First Nation or Indigenous customers (or their communities) in the Highwood Report?

Question: **D-MC-8.**

Reference:
- Highwood Report, p. 13

Preamble: The Highwood Report defines fugitive emissions as “as leaks from the natural gas system or gas losses due to third-party damages.”

a) Does EGI agree with and use the Highwood Report’s definition of fugitive emissions. If yes, does EGI include any other type of UFG in its definition of fugitive emissions? If no, please provide EGI’s definition of fugitive emissions.

Question: **D-MC-9.**

Reference:
- Exhibit D, Tab 1, p. 62
- Highwood Report, pp. 44, 50, 57

Preamble: Compressor stations, and meter/receipt stations are surveyed three times per year using ground-based OGI, and quantification of leak rates is performed using hi-flow sampling.

The Highwood Report notes that the 2022 fugitive emissions from compressor station equipment leaks amounted to 35,308 tCO2e or 62% of 2022 storage and transmission (STO) fugitive emissions.

The Highwood Report states that fugitive emissions from compressor stations are calculated using direct measurement of leak rates obtained during regulatory LDAR surveys. The total leak volume for a given year is aggregated by taking the hourly leak rates from leak surveys and approximating the duration using the methodology provided in the Ontario GHG Guideline.

a) Please provide an EGI system map (including all compressor stations and other key point sources of fugitive emissions. Please provide the map in a GIS shapefile instead of in PDF format.

b) Please provide the three separate measurements of fugitive emissions for each compressor station over the most recent three years of data collection using the below table. If EGI measures data more or less frequently, please provide all available data for each year.

Compressor Station	Year 1 Fugitive Emissions (tCO2e)			Year 2 Fugitive Emissions (tCO2e)			Year 3 Fugitive Emissions (tCO2e)		
Dawn Compressor Station									
Parkway Compressor Station									
Tecumseh Gas Storage									
Hagar Compressor Station									
Iroquois Falls Compressor Station									

Gas Storage Meter Stations									
Sombra Compressor Station									
Bickford/Sombra Compressor Station									
Lobo Compressor Station									
Bright Compressor Station									
Sandwich Compressor Station									
167 Pool Compressor Station									
Parkway West Compressor Station									
Enniskillen Compressor Station									
Oil Springs East Compressor Station									
Chatham D Compressor Station									
Tipperary Compressor Station									
Waubuno Compressor Station									
Airport Compressor Station									
Dow A Compressor Station									
Heritage Compressor Station									

Edys Mills Compressor Station									
Crowland Compressor Station									
Payne Compressor Station									

c) Please discuss the impacts (both quantity of fugitive emissions and cost for EGI and ratepayers) related to fugitive emissions if the compressor stations with the most associated fugitive emissions were replaced with electric motor drive compression units.

Question: **D-MC-10.**

Reference:
- Highwood Report

Preamble: Highwood indicates that proposed amendments to regulations, introduced in early 2024, build upon the existing regulations to further reduce methane emissions through more frequent leak surveys, shorter repair timelines and more stringent venting and flaring requirements.

Highwood notes that continuous monitoring is location specific and will require multiple sensors depending on the size of the facility but allow for faster detection and response to leaks

It was recommended in several expert interviews conducted by Highwood Emissions Management that combining different technology types will result in more leak detection events than any one technology alone.

Most methane emissions from transmission systems come from compressor stations, which have unique complexities. For example, un-combusted methane (i.e., “slip”) is emitted in compressor exhaust that may introduce noise and obfuscate the ability of screening technologies to discern leaks

Highwood indicates that additional inputs into the calculations include annual equipment operating hours (used to extrapolate emission rates to the total emissions estimate for the year) and gas composition values (which represent the ratio of CH4 within the total natural gas).

The Highwood Report notes that EGI annually reviews satellite and aerial imagery for any visual changes to the areas within their transmission system. Potential signs of leaks include dead vegetation (which often appear as large circles of dead vegetation, contrasted against otherwise healthy vegetation), melted snow (often appearing as circles of melted snow), and visual encroachment.

a) Please explain the existing regulatory requirements applicable to Enbridge and how the proposed amendments would modify those requirements.

b) Do industrial customer meter sets (large consumers) emit more fugitive emissions than small household meter sets? If yes, could the industrial/commercial meter sets be prioritized based on Enbridge's knowledge of customer consumption? For example, is a high volume customer likely to have a higher volume of fugitive emissions at the meter set?

c) Has Enbridge used drone technology to monitor lost gas (e.g. fugitive emissions, flaring, third party, etc.)?

d) Does Enbridge conduct continuous monitoring on any facilities?

e) Which combination of technologies does Enbridge intend to implement?

f) Does Enbridge measure un-combusted methane "slip" at compressor stations? If so, please share the data.

g) How does Enbridge discern between "slip" and leaks?

h) Does Enbridge have the data to rank commercial/industrial customers from highest consumption to lowest consumption?

i) Would Enbridge be willing to conduct a pilot study focused on measuring meter sets at the highest consumption commercial/industrial customer sites?

j) Please explain these calculations by providing an example that breaks down gas composition.

k) How many storage wells does Enbridge own, operate, or otherwise have site control over?

l) Would Enbridge be willing to conduct a pilot study focused on measuring storage well leaks?

m) Does Enbridge know the location of leaking buried pipes?

n) Does an annual review of satellite imagery capture the melted snow at the appropriate time?

Question: **D-MC-11.**

Reference:

- Highwood Report
- Highwood Report, pp. 95-101

Preamble:

a) Did Highwood engage with any of EGI's First Nations customers in preparing the Highwood Report? If yes, please discuss the engagements that occurred and how this informed the Highwood Report. If no, please explain why not.

b) Is Highwood aware of any concerns or issues specific to EGI's First Nations customers? If yes, please discuss the unique concerns and issues of First Nations and how the Highwood Report addresses and/or considers these concerns and issues. If no, please provide your opinion on the types of concerns and issues that may be of specific concern to EGI's First Nations customers and how these should be considered and addressed by EGI in developing its plans to monitor and reduce fugitive emissions.

c) Do Highwood's recommendations consider the realities of monitoring and measuring fugitive emissions on First Nation reserve communities? If yes, please discuss. If no, please explain how Highwood's recommendations may be updated to reflect the unique circumstances and realities of monitoring fugitive emissions in First Nations reserve communities.

d) Does Enbridge agree to implement all four recommendations from the Highwood Report?

Question: **E-MC-12.**

Reference:
- Exhibit E, Tab 1, p. 25.

Preamble: EGI notes that in the Union Rate Zones, 2023 OEB-approved rates included $11.6 million in UFG costs (based on forecasted throughput volumes). Based on 2023 actual throughput volumes, Enbridge Gas recovered $16.4 million in UFG costs through rates. In comparison, Enbridge Gas's actual 2023 UFG costs were $20.3 million.

a) Who pays the cost of UFG that is the result of fugitive emissions and what is the dollar value of the fugitive emissions over the system on an annual basis for the last three years?

b) What is the portion of the UFG costs to ratepayers in the Union Rate Zones that are attributable to fugitive emissions?

c) What are the UFG costs to ratepayers attributable to fugitive emissions in the EGD Rate Zone?

ALL OF WHICH IS RESPECTFULLY SUBMITTED THIS
16th day of August, 2024

Nicholas Daube
Resilient LLP
Counsel for Minogi Corp.