



Ontario  
Energy  
Board | Commission  
de l'énergie  
de l'Ontario

**BY EMAIL**

June 10, 2022

Ms. Nancy Marconi  
Registrar  
Ontario Energy Board  
2300 Yonge Street, 27<sup>th</sup> Floor  
Toronto ON M4P 1E4

Dear Ms. Marconi:

**Re: Enbridge Gas Inc.  
Dawn to Corunna Replacement Project  
OEB Staff Interrogatories**

**Ontario Energy Board File Number: EB-2022-0086**

In accordance with Procedural Order No. 1 please find attached the OEB Staff interrogatories for the above proceeding. This document has been sent to Enbridge Gas Inc. and to all other registered parties to this proceeding.

Enbridge Gas Inc. is reminded that its responses to interrogatories are due by June 24, 2022.

Yours truly,

Ritchie Murray  
Sr. Advisor, Applications - Natural Gas

Encl.



## **OEB Staff Interrogatories**

### **Dawn to Corunna Replacement Project**

#### **Enbridge Gas Inc.**

**EB-2022-0086**

**June 10, 2022**

## 1-Staff-1

**Ref.:** Exhibit A, Tab 2, Schedule 1, Page 1  
Exhibit B, Tab 1, Schedule 1, Page 11  
Exhibit E, Tab 1, Schedule 1, Page 3

### Preamble

Enbridge Gas has applied for leave to construct approximately 20 kilometres of 36-inch diameter natural gas pipeline from its Dawn Operations Centre in the Township of Dawn-Euphemia to its Corunna Compressor Station in St. Clair Township to retire a number of compressors at its Corunna Compressor Station (Project). The Project also includes the installation of an in-line inspection tool launcher and receiver, and station work to tie-in the new pipeline at each of the Dawn Operations Centre and the Corunna Compressor Station.

Enbridge Gas says the proposed project is needed to address reliability, obsolescence and safety concerns associated with a number of compressors at its Corunna Compressor Station. Enbridge Gas says that installing a new pipeline to replace the equivalent capacity of the compressors will increase overall system reliability, resiliency, and efficiency.

### Questions

- a) Please quantify the total amount of surplus compression capacity currently available at the Dawn Operations Centre.
- b) Please explain why there is surplus compression capacity at the Dawn Operations Centre and how long the surplus has existed.
- c) Please explain who paid for the surplus compression capacity currently available at the Dawn Operations Centre. Is the surplus capacity part of Enbridge Gas's regulated or unregulated storage operations? If both, how is the surplus allocated between regulated or unregulated storage operations?
- d) Please confirm that the Project does not necessitate any kind of compressor upgrades at the Dawn Operations Centre. If this cannot be confirmed, then please explain the scope, cost and timing of any compressor upgrades at the Dawn Operations Centre, how the costs will be allocated between regulated and unregulated operations for ratemaking purposes, and whether the costs were included in the Project budget (and if not, why not).

## 1-Staff-2

Ref.: Exhibit A, Tab 2, Schedule 1, Page 1  
Exhibit B, Tab 1, Schedule 1, Page 3

### Preamble

Enbridge Gas states that it has identified the need to abandon, remove and replace up to seven reciprocating compressor units located at the Corunna Compressor Station due to identified reliability, obsolescence and safety concerns. [Emphasis added.]

Enbridge Gas also states that the scope of the project includes the retirement and abandonment of 7 of the 11 existing reciprocating compressor units at the Corunna Compressor Station. [Emphasis added.]

### Questions

- a) Please confirm that Enbridge Gas proposes to retire seven compressor units at the Corunna Compressor Station.
- b) Please confirm that the units that will remain at the Corunna Compressor Station are natural gas fueled reciprocating compressor units.
- c) Does Enbridge Gas currently have any reciprocating compressor units in any of its other compressor stations? If so, please provide a table that summarizes the station names, station locations, and the number and approximate vintage of the reciprocating compressors at each station.
- d) Does Enbridge Gas have future plans to replace any reciprocating compressor units its other compressor stations? If so, are the future replacement plans part of any kind of Asset Management Plan? If so, please provide excerpts from the plan that explain the scope of the future replacement plan and its timing. If not, why not? Also, if not, please provide an explanation for the scope and timeline for the future replacements.
- e) Does Enbridge Gas have plans to retire any other compressor units and replace their capacity using pipelines? If so, please describe the plans and at a minimum include in the response the compressor station names, the numbers and locations of compressor units to be retired, approximate timelines, and estimated capital costs.

### 1-Staff-3

**Ref.:** Exhibit B, Tab 1, Schedule 1, Page 8

#### **Preamble**

Currently, there are two NPS 30 pipelines (TR1 and TR2), approximately 20 km in length, that connect the Corunna Compressor Station to Dawn for Injection and Withdrawal Modes. The Sombra Compressor Station is also connected to the Corunna Compressor Station through a series of NPS 16 pipelines.

#### **Questions**

- a) Please quantify any surplus compression capacity currently available at the Sombra Compressor Station? How is any surplus at this station allocated between regulated and unregulated storage operations?
- b) Please explain why the existing NPS 16 and 30 pipelines are not capable of providing the capacity for which the new NPS 36 pipeline has been proposed to provide.
- c) When sizing the proposed NPS 36 pipeline, did Enbridge Gas account for any ability for the Sombra Compressor Station and the existing NPS 16 and 30 pipelines to provide support such that the proposed pipeline could be downsized? If not, why not?

### 1-Staff-4

**Ref.:** Exhibit B, Tab 1, Schedule 1, Pages 11, 23

#### **Preamble**

Enbridge Gas has undertaken comprehensive studies, including a site-wide quantitative risk assessment (QRA) to determine the severity of the increasing safety risks at the Corunna Compressor Station, and has determined that the current configuration of compressor units (which includes multiple compressor units in close proximity within a single building), results in an excessive level of process safety risk. The QRA applied industry best practices as recommended by Enbridge Gas's consultant, DNV. The key inputs of the QRA are the amount of equipment on site, operating conditions, locations of buildings, and time spent on-site by various employees.

## Question

Is the current configuration of compressor units out of compliance with any applicable legislation or any code/standard adopted by an applicable regulatory authority. If so, please explain.

### 1-Staff-5

**Ref.:** Exhibit B, Tab 1, Schedule 1, Page 21

#### Preamble

Enbridge Gas states that the combined compressor downtime during Injection Mode across a 5-year assessment period is 606 days and that this means that at least one compressor is down for maintenance or repair 77% of the time during the injection season.

Enbridge Gas states that the combined compressor downtime during Withdrawal Mode across a 5-year assessment period is 695 days and that this means that at least one compressor is down for maintenance or repair 90% of the time during the withdrawal season.

#### Questions

- a) Please provide an explanation for how the 77% was calculated.
- b) Please provide an explanation for how the 90% was calculated.

### 1-Staff-6

**Ref.:** Exhibit B, Tab 2, Schedule 1, Page 5-7  
Exhibit C, Tab 1, Schedule 1, Attachment 2, Page 12

#### Preamble

Enbridge Gas states that in accordance with the OEB's Natural Gas and Electric Interface Review<sup>1</sup> and Enbridge Gas's Mergers, Amalgamations, Acquisitions and Divestitures proceedings<sup>2</sup>, total underground storage capacity reserved for the legacy EGD rate zone in-franchise customers is 99.4 PJ. The physical storage capacity reserved for legacy EGD rate zone customers has the following injection and withdrawal characteristics:

---

<sup>1</sup> EB-2005-0551, NGEIR Decision with Reasons, November 7, 2006, pp. 74 & 83

<sup>2</sup> EB-2017-0306/EB-2017-0307, MAADs Decision and Order, August 30, 2018, p. 51

- a) In-franchise storage withdrawals are limited to 1.9 PJ/d at storage capacities between 99.4 to 43.5 PJ. Below 43.5 PJ the deliverability decreases linearly until reaching a lower limit of 0.5 PJ/d at 0.5 PJ.
- b) In-franchise storage injections are limited to 0.84 PJ/d at storage capacity between 0 PJ to 74.5 PJ. Above 74.5 PJ, injectability decreases linearly until reaching a lower limit of 0.297 PJ/d at 99.1 PJ.

Accordingly, Enbridge Gas holds 43.5 PJ of inventory in storage annually in order to provide 1.89 PJ/d of in-franchise deliverability to serve EGD rate zone customers on February 28 design day (typically the peak of winter seasonal demand).

Enbridge Gas states that, according to its 2021 Annual Gas Supply Plan Update<sup>3</sup>, it continues to forecast storage requirements for bundled in-franchise customers in excess of the allocated cost-based storage space (most recently requiring the acquisition of an additional 26.5 PJ of storage capacity at market-based rates). Enbridge Gas states that forecast customer demand is projected to increase<sup>4</sup>, the requirement for storage space in excess of the allocated-cost based storage is expected to continue for the foreseeable future and indicates no reduction in space required at this time.

### **Question**

Please briefly explain how Enbridge Gas is currently able to meet its obligation to reserve 99.4 PJ of storage for legacy EGD rate zone in-franchise customers if it only holds 43.5 PJ of inventory in storage annually.

### **1-Staff-7**

**Ref.:** Exhibit B, Tab 1, Schedule 1, Attachment 2, Page 8  
Exhibit C, Tab 1, Schedule 1, Page 21

### **Preamble**

The RAM Study Report states that despite the expected increase in deterioration each year, which results in higher number of failures each year, it is forecasted that both the gas injection and gas withdrawal shortfall will *decrease* from 2022 to 2026 (the horizon of the five-year assessment). The report also states that:

---

<sup>3</sup> EB-2021-0004

<sup>4</sup> EB-2021-0004, 2021 Annual Gas Supply Plan Update, Table 1, p. 22

- The efficiency of the Corunna compressor facilities during injection mode is approximately 98% and the during the Withdrawal mode is approximately 99%
- There is a 95% chance of exceeding injection efficiency of approximately 95%, and that every 14.6 years, it is predicted that the gas injection shortfall will exceed 5%

### **Question**

Please explain the apparent contradiction between an increasing number of failures per year and a decreasing gas injection and gas withdrawal shortfall.

### **1-Staff-8**

**Ref.:** Exhibit C, Tab 1, Schedule 1, Page 1  
Exhibit C, Tab 1, Schedule 1, Attachment 2, Page 6 (ICF Report)

### **Preamble**

Enbridge Gas states that the Project would provide an equivalent amount of storage withdrawal/deliverability capacity as the existing Corunna Compressor Station compressor units proposed to be retired/abandoned, which is approximately 680 TJ/d.

Enbridge Gas states that the current withdrawal/deliverability capacity as the existing Corunna Compressor Station compressor units is:

- Withdrawal capacity of 1.89 PJ/d
- Injection capacity of 0.84 PJ/d

The ICF report says that decommissioning of the compressors at Corunna Compressor Station would reduce Enbridge Gas's access to storage working gas space from about 99.4 PJ to 84.7 PJ and would reduce the withdrawal capacity at full working gas inventory from 1.89 PJ/day to 1.23 PJ/day.

### **Questions**

- a) Please explain how the Project's capacity of 680 TJ/d is equivalent to the current capacity of between 0.84 and 1.89 PJ/d?
- b) Please reconcile Enbridge Gas's capacity numbers with those of ICF's.

### **3-Staff-9**

**Ref.:** Exhibit B, Tab 1, Schedule 1, Page 3



Exhibit C, Tab 1, Schedule 1, Pages 2, 18 and 20  
Exhibit D, Tab 1, Schedule 1, Page 2

### **Preamble**

Enbridge Gas states that because its storage facilities are fully integrated, the seven Corunna Compressor Station compressor units in question serve both EGD rate zone customers (regulated or cost-based storage) and non-utility customers (unregulated or market-based storage). Costs for all of the seven CCS compressor units were paid for by EGD rate zone customers.

The total estimated capital cost the proposed project is \$250.7 million, including indirect overheads and “loadings”. This total includes 13.6% contingency applied to all direct capital costs.

When assessing alternatives, it appears that Enbridge Gas compared the total costs of the alternatives without overheads and loadings.

No discounted cash flow assessment was completed because the project maintains design day storage capacity/deliverability and equivalent injectability and “will not create any incremental design day space.”

Enbridge Gas states that the cost estimate is a Class 4 estimate following its Cost Estimating and Management Standard.

### **Questions**

- a) Please provide a definition for the term “loadings”.
- b) For rate making purposes, how will the cost of the Project be allocated between Enbridge Gas’s regulated and unregulated storage operations?
- c) Please explain why Enbridge Gas chose to compare the alternatives based on costs that do not include overheads and loadings? To what extent would the costs of the alternatives have changed had overheads and loadings been included?
- d) Please confirm that the Project will not result in Enbridge Gas’s ability to offer any new or expanded market-based storage services. If this cannot be confirmed, the please explain the nature and extent of any new or expanded market-based storage services that may be offered.
- e) Please confirm that Enbridge Gas’s uses the American Association of Cost Engineers International Cost Estimate Classification System as part of its

Cost Estimating and Management Standard, and that, in effect, Enbridge Gas's Class 4 estimate is the same as an American Association of Cost Engineers Class 4 estimate. If not, please explain.

- f) Please describe any controls that will be used to help manage that capital costs of the Project, if it is approved by the OEB issues its decision (e.g., fixed bid contract, Owner's Engineer).

### 3-Staff-10

**Ref.:** Exhibit B, Tab 1, Schedule 1, Page 17

#### **Preamble**

The retirement of the seven compressors would allow the Enbridge Gas to avoid planned maintenance capital expenditures estimated at more than \$16 million from 2023-2032 as well as any unplanned maintenance costs resulting from unit failures.

#### **Questions**

- a) Please provide an explanation for how the \$16 million in avoided planned maintenance capital expenditures was estimated.
- b) Is it reasonable to assume that the Project will increase the planned maintenance, capital expenditures, or unplanned maintenance costs at the Dawn Operations Centre? If so, please explain and quantify the costs for comparison.

### 3-Staff-11

**Ref.:** Exhibit B, Tab 1, Schedule 1, Attachment 2, Table 4.4

Exhibit B, Tab 1, Schedule 1, Page 9

#### **Preamble**

Table 4.4 summarizes the results of a Weibull analysis to determine the risk of compressor failure. It is the understanding of OEB staff that the parameter beta represents the shape of the Weibull distribution. If beta is greater than 1 then the failure rate increases with time; if beta is equal to 1 then failure rate is constant.

Table 4.4 reports that:

- Compressors K701-708 & K711 have a beta of 1.4
- Compressor K709 & K710 have a beta of 2.03

The seven compressors that are proposed to be replaced are K701-K703 and K705-K708. Units K704, K709, K710 and K711 provide a specific operational fit and cannot be replaced as part of the Project.

### **Questions**

- a) Please confirm that K709 and K710, which are not proposed to be replaced, have a greater likelihood of failure than the compressors that are proposed to be replaced.
- b) Please confirm that part of Enbridge Gas's plans for K709 and K710 would be to keep them operational using spares for and salvaged parts from the compressors that are proposed to be abandoned.
- c) Please confirm that Enbridge Gas took into consideration the risks of K709 and K710 failure and the costs to keep these compressors operational in its economic assessment of the alternatives to the Project. If this cannot be confirmed, please explain why not.
- d) What are Enbridge Gas's long-term plans for units K709 and K710? Given the specific operational fit of these units, will these compressors eventually need to be replaced by new compressors? If not, what else could they be replaced with? If so, would those replacement units be natural gas fueled reciprocating compressors or some other type?

### **3-Staff-12**

**Ref.:** Exhibit E, Tab 1, Schedule 1, Page 1

#### **Preamble**

Enbridge Gas states that within the Dawn Operations Centre measurement facilities are no longer required and will be physically removed. The removal will involve demolition of the building, as well as removal of all measurement, associated equipment, piping and telemetry.

#### **Question**

Please confirm that the cost to physically remove the Tecumseh measurement facilities is included in the Project cost. If this cannot be confirmed, please provide a cost estimate for the work and explain how the cost would be allocated between Enbridge Gas's regulated and unregulated storage operations for rate making purposes.

#### 4-Staff-13

**Ref.:** Exhibit F, Tab 1, Schedule 1, Page 4

##### **Preamble**

Enbridge Gas states that a Stage 1 AA was completed by Stantec and submitted to the MHSTCI for review on September 21, 2021 and entered onto the Ontario Public Register on September 22, 2021.

Enbridge Gas states that a Stage 2 AA is required based on the findings of the Stage 1 AA.

Enbridge Gas states that it proposes to “complete the majority of the AA’s during the 2021/2022 field seasons” and, upon completion, the AAs will be submitted to the MHSTCI for review and entered onto the Ontario Public Register.

##### **Questions**

- a) Please confirm that when Enbridge Gas says that “the majority of the AA’s during the 2021/2022 field seasons” it is referring to Stage 2 AAs and not Stage 1 AAs. If this cannot be confirmed, then please explain for what parts of the Project Stage 1 AAs have been completed and when the balance of AAs will be submitted.
- b) What is the current status of the Stage 2 AA work?

#### 5-Staff-14

**Ref.:** Exhibit B, Tab 1, Schedule 1, Page 8  
Exhibit G, Tab 1, Schedule 1, Pages 1-4 and Attachment 1  
Exhibit H, Tab 1, Schedule 1, Attachment 1, Page 2

##### **Preamble**

There are currently two NPS 30 pipelines (TR1 and TR2), approximately 20 km in length, that connect the Corunna Compressors Station to Dawn Operations Centre for injection and withdrawal modes.

The proposed pipeline is approximately 20 km in length. Where possible, the proposed pipeline will be located within existing easements. Temporary working space, construction yards and laydown areas are required adjacent to these areas to facilitate the movement and storage of equipment necessary for construction.

The proposed pipeline will require approximately 95.68 hectares (236.44 acres) of permanent easement. Enbridge Gas plans to acquire the land rights to 42.14 hectares (104.13 acres) of the required permanent easement. Enbridge Gas will also require approximately 53.54 hectares (132.31 acres) of temporary land use for construction and topsoil storage purposes.

### **Questions**

- a) Please confirm that Enbridge Gas's use of the term "acquire" means purchase fee simple.
- b) Approximately what percentage of the length of the proposed pipeline would be located within existing permanent easements? Why was it not possible to locate the proposed pipeline entirely within existing permanent easements?

### **5-Staff-15**

**Ref.:** Exhibit G, Tab 1, Schedule 1, Page 1  
Exhibit E, Tab 1, Schedule 1, Attachment 1

### **Preamble**

Enbridge Gas has initiated meetings with landowners to inform them of the Project, to answer any questions that they may have, and to obtain early access to complete survey work. At the time of filing its application, formal land rights negotiations had not yet commenced.

### **Questions**

- a) Please provide an update on the status of land negotiations. Include in the response any concerns raised by landowners and Enbridge Gas's responses.
- b) The Project schedule lists "land expropriation". Does EGI anticipate the need for a subsequent expropriation application? Please explain.

### **6-Staff-16**

**Ref.:** Exhibit H, Tab 1, Schedule 1, Pages 1-2

### **Preamble**

In January 2021, Enbridge Gas provided the Ontario Ministry of Energy (MOE) with a description of the Project to determine if there are any duty to consult requirements. In February 2021, Enbridge Gas received a letter from the MOE indicating that it had delegated the procedural aspects of consultation to

Enbridge Gas for the Project. The Delegation Letter identified five Indigenous communities to be consulted in relation to the Project. At the time it filed its application, Enbridge Gas had not received a letter from the MOE with its opinion on the sufficiency of Indigenous consultation.

**Question**

Please provide a status update on any communication from the MOE regarding Indigenous consultation for the Project.

**7-Staff-17**

**Ref.:** Exhibit F, Tab 1, Schedule 1, Attachment 2

**Preamble**

In August 2021, Enbridge Gas submitted Project information to the Technical Standards and Safety Authority (TSSA) for its review.

**Questions**

a) Please provide a status update on the TSSA's review of the Project.