Adam Stiers
Manager, Regulatory Applications
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Enbridge Gas Inc.
50 Keil Drive
Chatham, Ontario N7M 5M1
Canada

November 2, 2022

VIA EMAIL and RESS

Nancy Marconi
Registrar
Ontario Energy Board
2300 Yonge Street, 27th Floor
Toronto, ON M4P 1E4

Dear Ms. Marconi:

Re: Enbridge Gas Inc. (Enbridge Gas)
Ontario Energy Board (OEB) File: EB-2022-0086
Dawn to Corunna Replacement Project
Evidence Update

In the evidence filed on March 21, 2022, Enbridge Gas explained that the Ministry of Energy ("MOE") had delegated the procedural aspects of consultation with potentially impacted Indigenous communities to Enbridge Gas.

The OEB's Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Pipelines and Facilities in Ontario, 7th Edition, 2016 ("Guidelines") state "…the Ministry of Energy will provide a letter to the applicant expressing its view on the adequacy of the Indigenous consultation based on materials provided to the Ministry of Energy." The Guidelines further state, "…the applicant is expected to file with the OEB the letter from the Ministry of Energy and keep the summary of the consultation record up to date until the OEB renders its decision." Exhibit H, Tab 1, Schedule 1, Attachment 3 of Enbridge Gas's pre-filed evidence explained that the Company would file the MOE's letter of opinion regarding the sufficiency of consultation once it had been received.

Further to the evidence filed by Enbridge Gas on March 21, 2022, please find enclosed a letter of opinion from the MOE dated November 2, 2022. In the letter, the MOE confirms its opinion that the procedural aspects of consultation undertaken by Enbridge Gas to date for the Dawn to Corunna Replacement Project are satisfactory.

Please contact the undersigned if you have any questions.

Yours truly,

(Original Digitally Signed)

Adam Stiers
Manager, Regulatory Applications - Leave to Construct

cc.: C. Keizer (Torys)
R. Murray (OEB Staff)
EB-2022-0086 (Intervenors)

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Enbridge Gas Inc.
50 Keil Drive
Chatham, Ontario N7M 5M1
Canada

July 26, 2022

VIA EMAIL and RESS

Nancy Marconi
Registrar
Ontario Energy Board
2300 Yonge Street, 27th Floor
Toronto, ON M4P 1E4

Dear Nancy Marconi:

Re: Enbridge Gas Inc. (Enbridge Gas)
Ontario Energy Board (OEB) File: EB-2022-0086
Dawn to Corunna Replacement Project
Evidence and Interrogatory Response Updates

Further to the application and evidence and interrogatory responses filed on March 21 and June 30, 2022 in the above noted proceeding, Enbridge Gas is filing an update to the following exhibits:

Exhibit	Update / New
Exhibit G, Tab 1, Schedule 1, Page 1, Paragraph 4.	Updated description of land rights required for the Project to approximately 95.68 hectares (236.44 acres) of easement and temporary land use.
Exhibit I.CKSPFN.2, parts a) & m) and Exhibit I.CKSPFN.8 part k), line 2.24.	Updated the date of the meeting between Enbridge Gas and CKSPFN representatives to May 30, 2022.
Exhibit I.CAEPLA-DCLC.2, parts b) and c).	Updated the approximate width of easement for both TR 1 and TR 2 to 50 feet.
Exhibit I.SEC.10.	References to pages within the QRA report have been corrected.

Please contact the undersigned if you have any questions.

Yours truly,

(Original Digitally Signed)

Adam Stiers
Manager, Regulatory Applications - Leave to Construct

cc.: C. Keizer (Torys)
R. Murray (OEB Staff)
EB-2022-0086 (Intervenors)

EXHIBIT LIST

A – ADMINISTRATION

Exhibit	Tab	Schedule	Contents of Schedule
A	1	1	Exhibit List
		2	Glossary of Acronyms and Defined Terms
	2	1	Application
			Attachment 1 – Project Map

B – PROJECT NEED

Exhibit	Tab	Schedule	Contents of Schedule
B	1	1	Project Need
			Attachment 1 – Letters of Support
			Attachment 2 – RAM Study
	2	1	Market Dynamics

C – ALTERNATIVES & PROJECT DESCRIPTION

Exhibit	Tab	Schedule	Contents of Schedule
C	1	1	Alternatives & Project Description
			Attachment 1 – NPV Assessment of Alternatives
			Attachment 2 – ICF Report

D – COST & ECONOMICS

Exhibit	Tab	Schedule	Contents of Schedule
D	1	1	Costs & Economics

E – ENGINEERING & CONSTRUCTION

Exhibit	Tab	Schedule	Contents of Schedule
E	1	1	Engineering & Construction
			Attachment 1 – Construction Schedule
	2	1	General Techniques and Methods of Construction

F – ENVIRONMENTAL MATTERS

Exhibit	Tab	Schedule	Contents of Schedule
F	1	1	Environmental Matters
			Attachment 1 – Environmental Report
			Attachment 2 – OPCC Comments
			Attachment 3 – Aamjiwnaang Comments
			Attachment 4 – Walpole Island Comments

G – LAND MATTERS

Exhibit	Tab	Schedule	Contents of Schedule
G	1	1	Land Matters
			Attachment 1 – PR Drawings
			Attachment 2 – Landowner Line List
			Attachment 3 – Pipeline Easement Form
			Attachment 4 – TLU Agreement

H – INDIGENOUS CONSULTATION

Exhibit	Tab	Schedule	Contents of Schedule
H	1	1	Indigenous Consultation
			Attachment 1 – Duty to Consult Letter
			Attachment 2 – Delegation Letter
			Attachment 3 – Sufficiency Letter
			Attachment 4 – Indigenous Peoples Policy
			Attachment 5 – ICR Summary Table
			Attachment 6 – ICR Log and Correspondence

Glossary of Acronyms and Defined Terms	
AA	Archaeological Assessment
Act	The *Ontario Energy Board Act, 1998*
AHI	Asset Health Index
AHR	Asset Health Review
AIPM	Asset Investment Planning and Management
AMP	Asset Management Plan
Applicant	Enbridge Gas Inc.
Application	Enbridge Gas Inc.'s application requesting: (i) an Order or Orders of the Ontario Energy Board under Section 90 of the *Ontario Energy Board Act, 1998*, granting leave to construct approximately 20 km of NPS 36 pipeline from the Dawn Operations Centre in the Township of Dawn Euphemia to the Corunna Compressor Station in St. Clair Township; and (ii) an Order under Section 97 of the *Ontario Energy Board Act, 1998*, approving the form of Pipeline Easement agreement and Option for Temporary Land Use agreement.
CCS	Corunna Compressor Station
Company	Enbridge Gas Inc.
DCF	Discounted Cash Flow
Delegation Letter	Letter indicating delegation of the procedural aspects of Indigenous consultation to Enbridge Gas for the Project
DFO	Department of Fisheries and Oceans
EGD	Enbridge Gas Distribution Inc.
Enbridge Gas	Enbridge Gas Inc
EPP	Environmental Protection Plan
ER	Environmental Report
ETEE	Enhanced Targeted Energy Efficiency
Guidelines	The OEB's *Environmental Guidelines for the Location, Construction, and Operation of Hydrocarbon Pipelines and Facilities in Ontario, 7th Edition, 2016.*
HDD	Horizontal Directional Drill Method
hp	Horse Power
ICM	Incremental Capital Module
ICR	Indigenous Consultation Report
IDC	Interest During Construction
IPP	Enbridge Inc. Indigenous Peoples Policy
IRPA	Integrated Resource Planning Alternative
IRP Framework	Integrated Resource Planning Framework
LCU	Loss of Critical Unit
LP	Low Pressure
MAADs	Mergers, Amalgamations, Acquisitions and Divestitures
MECP	Ministry of Environment, Conservation and Parks
MENDM	Ministry of Energy, Northern Development and Mines
MHSTCI	Ministry of Heritage, Sport, Tourism and Culture Industries
MNDMNRF	Ministry of Northern Development, Mines, Natural Resources and Forestry
MOE	Ministry of Energy
MOP	Maximum Operating Pressure
MP	Mid-range Pressure
NGTL	Niagara Gas Transmission Limited
NPS	Nominal Pipe Size
NPV	Net Present Value
NGEIR	Natural Gas Electricity Interface Review
OEB	The Ontario Energy Board
OEM	Original Equipment Manufacturer
OPCC	Ontario Pipeline Coordinating Committee
PI	Profitability Index
PLL	Potential Loss of Life
PMOP	Planned Maximum Operating Pressure
PR	Preferred Route
Project	20 km of NPS 36 XHP ST natural gas pipeline from the Dawn Operations Centre in the Township of Dawn-Euphemia to the Corunna Compressor Station in St. Clair Township, by November 1, 2023.
QRA	Quantitative Risk Assessment
RAM Study	Reliability, Availability and Maintainability Study
SCRCA	St. Clair Region Conservation Authority
SHI	Storage Health Index
SMYS	Specified Minimum Yield Stress
Specifications	Specifications outlined in Enbridge Gas's Construction and Maintenance Manual
ST	Steel
Stantec	Stantec Consulting Ltd.
TR 7	20 km of NPS 36 XHP ST natural gas pipeline from the Dawn Operations Centre in the Township of Dawn-Euphemia to the Corunna Compressor Station in St. Clair Township
WCSB	Western Canadian Sedimentary Basin
XHP	Extra-high pressure
Union	Union Gas Limited

ONTARIO ENERGY BOARD

IN THE MATTER OF the Ontario Energy Board Act, 1998, S.O. 1998, c. 15, Schedule B, and in particular, sections 90 (1) and 97 thereof;

AND IN THE MATTER OF an Application by Enbridge Gas Inc. for an Order or Orders granting leave to construct natural gas pipelines and ancillary facilities from the Township of Dawn-Euphemia to St. Clair Township;

AND IN THE MATTER OF an Application by Enbridge Gas Inc. for an Order or Orders approving the proposed forms of agreements for Pipeline Easement and Options for Temporary Land Use.

ENBRIDGE GAS INC.

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1. Enbridge Gas Inc. ("Enbridge Gas", the "Company" or the "Applicant")[1] has identified the need to abandon, remove and replace up to seven (7) reciprocating compressor units located at the Corunna Compressor Station ("CCS") due to identified reliability, obsolescence and safety concerns. The compressor units to be abandoned are proposed to be replaced with approximately 20 km of Nominal Pipe Size ("NPS") 36 natural gas pipeline from the Dawn Operations Centre in the Township of Dawn-Euphemia to the Corunna Compressor Station in St. Clair Township (the "Project") by November 1, 2023.

2. Accordingly, Enbridge Gas hereby applies to the Ontario Energy Board ("OEB"), pursuant to Section 90 (1) of the *Ontario Energy Board Act, 1998, S.O. 1998, c.15, Schedule B* (the "Act"), for an Order or Orders granting leave to construct the Project.

[1] Enbridge Gas is an Ontario corporation with its head office in the City of Toronto, in the business of selling, distributing, transmitting, and storing natural gas within the province of Ontario.

3. Enbridge Gas also applies to the OEB, pursuant to Section 97 of the Act, for an Order or Orders approving the form of Pipeline Easement agreement and form of Temporary Land Use agreement found in the pre-filed evidence at Exhibit G, Tab 1, Schedule 1, Attachments 3 and 4, respectively.

4. For ease of reference and to assist the OEB with preparation of the Notice of Application for this Project, a map of the proposed facilities is included at Attachment 1 to this Exhibit.

3. The route and location for the proposed facilities associated with the Project were selected by an independent environmental consultant through the process outlined in the OEB's *Environmental Guidelines for the Location, Construction, and Operation of Hydrocarbon Pipelines and Facilities in Ontario, 7th Edition, 2016* (the "Guidelines").

4. The parties affected by this Application are: (i) the owners of lands, government agencies and municipalities over which the pipeline will be constructed; and (ii) Enbridge Gas's customers resident or located in the municipalities, police villages, Indigenous communities and Métis organizations served by Enbridge Gas, together with those to whom Enbridge Gas sells gas, or on whose behalf Enbridge Gas distributes, transmits or stores gas. It is impractical to set out in this Application the names and addresses of such persons because they are too numerous.

5. Enbridge Gas requests that the OEB's review of this Application proceed by way of written hearing in English.

6. Enbridge Gas requests that the OEB issue the following Orders:
   i. Pursuant to Section 90 (1) of the Act, an Order granting leave to construct the Project.

ii. Pursuant to Section 97 of the Act, an Order or Orders approving the form of Pipeline Easement agreement found at Exhibit G, Tab 1, Schedule 1, Attachment 3, and the form of Temporary Land Use agreement found at Exhibit G, Tab 1, Schedule 1, Attachment 4.

7. Enbridge Gas requests that all documents relating to the Application and its supporting evidence, including the responsive comments of any interested party, be served on Enbridge Gas and its counsel as follows:

Enbridge Gas Inc.

Attention:	Adam Stiers Manager, Regulatory Applications – Leave to Construct
Mailing Address:	P. O. Box 2001 50 Keil Drive North Chatham, ON N7M 5M1
Telephone:	(519) 436-4558
Fax:	(519) 436-4641
Email:	adam.stiers@enbridge.com; egiregulatoryproceedings@enbridge.com

-and-

Attention:	Tania Persad Senior Legal Counsel Enbridge Gas Inc
Mailing Address:	P. O. Box 650 Scarborough, ON M1K 5E3
Telephone:	(416) 495-5891
Fax:	(416) 495-5994

Email: tania.persad@enbridge.com

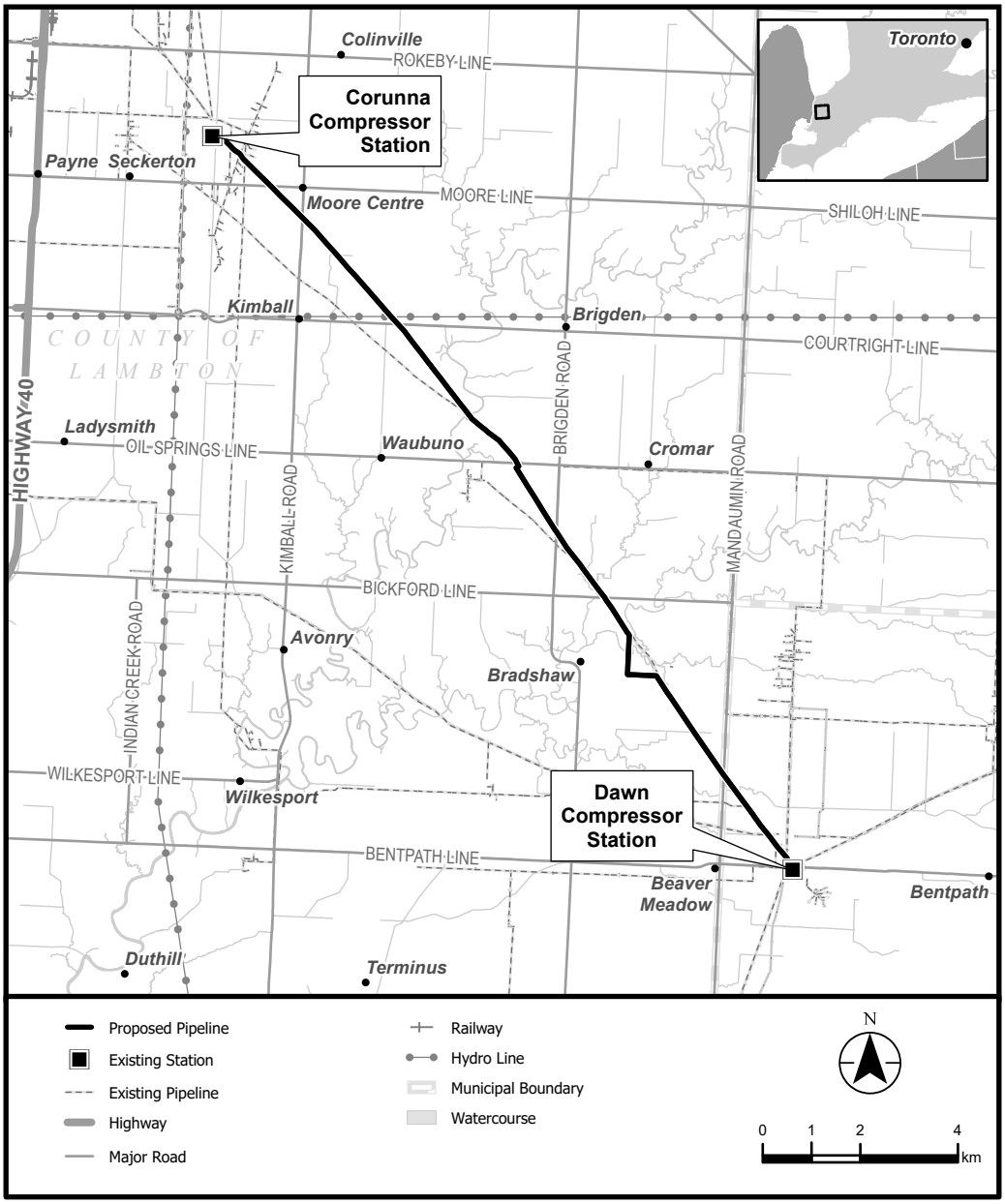
Dated: March 21, 2022

Enbridge Gas Inc.

[original signed by]

_____

Adam Stiers
Manager, Regulatory Applications – Leave to Construct


Colinville
ROKEBY LINE
Corunna Compressor Station
Payne
Seckerton
Moore Centre
MOORE LINE
SHILOH LINE
Toronto
Kimball
Brigden
COUNTY OF LAMBTON
COURTRIGHT LINE
HIGHWAY 40
Ladysmith
OIL SPRINGS LINE
Waubuno
BRIGDEN ROAD
Cromar
MANDAUMIN ROAD
KIMBALL ROAD
BICKFORD LINE
INDIAN CREEK ROAD
Avonry
Bradshaw
WILKESPORT LINE
Wilkesport
Dawn Compressor Station
BENTPATH LINE
Beaver Meadow
Bentpath
Duthill
Terminus
Proposed Pipeline
Existing Station
Existing Pipeline
Highway
Major Road
Railway
Hydro Line
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PROJECT NEED

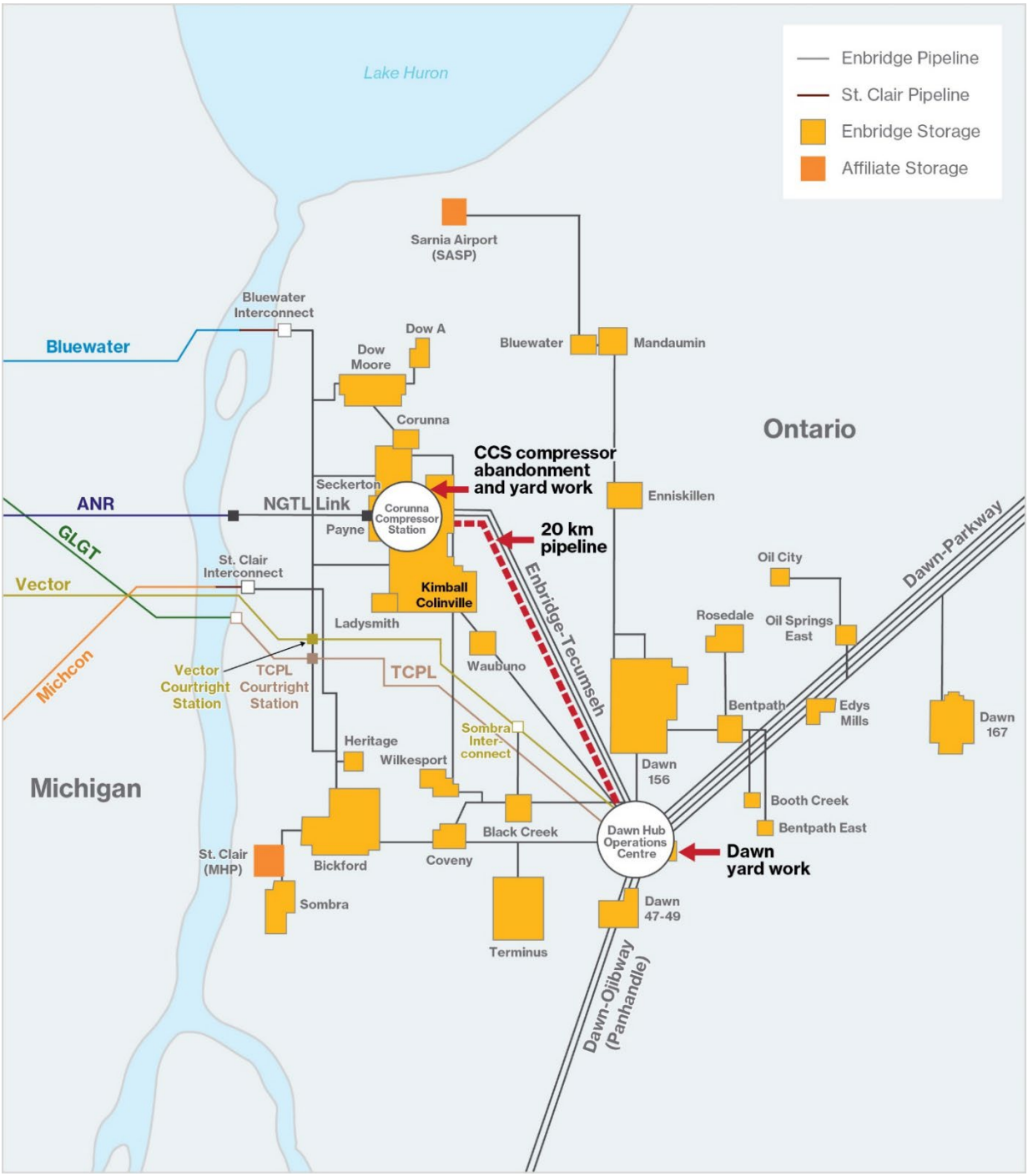
1. The purpose of this section of evidence is to review the need for and to provide an overview of Enbridge Gas Inc's[1] ("Enbridge Gas" or the "Company") application (the "Application") requesting an Order or Orders under Section 90 of the *Ontario Energy Board Act, 1998* (the "Act") granting leave to construct approximately 20 km of NPS 36 pipeline from the Dawn Operations Centre ("Dawn") in the Township of Dawn Euphemia to the Corunna Compressor Station in St. Clair Township (the "Project"). Enbridge Gas is also proposing to retire and abandon 7 reciprocating compressor units located within the Corunna Compressor Station ("CCS") site. Enbridge Gas is also requesting an Order under Section 97 of the Act, approving the form of Pipeline Easement agreement and Temporary Land Use agreement for the Project. A map of the proposed Project is shown in Figure 1.

2. This Exhibit of evidence is organized as follows:
   - Project Summary
   - System Overview
   - Purpose and Need
     i. Obsolescence and Reliability Risks
     ii. Personnel Safety Risk
     iii. Risk Mitigants Considered
     iv. Conclusions

3. For ease of reference, a Glossary of Acronyms and Defined Terms is provided at Exhibit A, Tab 1, Schedule 2.

[1] Enbridge Gas Distribution Inc. ("EGD") and Union Gas Limited ("Union") were Ontario corporations incorporated under the laws of the Province of Ontario carrying on the business of selling, distributing, transmitting and storing natural gas with the meaning of the *Ontario Energy Board Act, 1998*. Effective January 1, 2019, EGD and Union amalgamated to become Enbridge Gas Inc.

Figure 1: Map of the Dawn to Corunna Replacement Project



A. PROJECT SUMMARY

4. The scope of the Project includes the retirement and abandonment of 7 of the 11 existing reciprocating compressor units at the Corunna Compressor Station and the construction of approximately 20 km of NPS 36 pipeline from the Dawn Operations Centre in the Township of Dawn Euphemia to the Corunna Compressor Station in St. Clair Township. The Project will also include station work at the Dawn Operations Centre and the Corunna Compressor Station required to tie-in the new pipeline.

5. As detailed at Exhibit D, the total estimated cost of the Project is approximately $250.7 million. No discounted cash flow ("DCF") assessment was completed as the Project:
   (i) is designed to maintain design day storage capacity/deliverability and equivalent injectability;
   (ii) is being driven by system reliability, obsolescence and employee safety concerns; and
   (iii) will not create any incremental design day space and/or deliverability.

6. The OEB approved the use of the Incremental Capital Module ("ICM") for Enbridge Gas as a mechanism to fund incremental capital investments during the current deferred rebasing period.[2] If the Project meets the criteria for rate recovery through the ICM mechanism then an ICM request for the costs of the same may form part of the Company's 2023 Rates (Phase 2) application.

7. To ensure area residents and other key stakeholders were made aware of the Project, Enbridge Gas implemented a stakeholder outreach plan. As further detailed in Exhibits F, G and H, to inform and solicit input from Indigenous communities,

[2] EB-2017-0306/0307, Decision and Order, August 30, 2018, pp. 30-34

municipalities, landowners, tenants and the public with respect to the proposed Project, Enbridge Gas:

(i) met with affected stakeholders;

(ii) held public information sessions in the Project area; and

(iii) mailed a letter summarizing the Project to affected stakeholders.

8. Enbridge Gas has subsequently received letters of support for the Project from the Township of St. Clair, the Township of Dawn-Euphemia, the Sarnia Lambton Economic Partnership, the Sarnia Lambton Chamber of Commerce, and the County of Lambton (please see Attachment 1 to this Exhibit). Enbridge Gas will continue public consultation throughout the construction of the Project.

9. As discussed in Exhibit F, there are no environmental concerns that cannot be mitigated and there are no significant cumulative impacts resulting from the Project.

10. As discussed in Exhibit G, as of the date of this filing, Enbridge Gas is in continuing negotiations with landowners regarding land rights required for the Project and has not identified any strong opposition to the Project. The Company expects to have all required land rights in place prior to commencing construction.

11. As discussed in Exhibit H, Enbridge Gas has engaged affected Indigenous communities in meaningful consultation regarding the Project on behalf of the Ministry of Energy ("MOE") and has not identified any opposition to the Project.[3]

[3] On June 18, 2021, the Ontario government implemented changes to several ministries. The MOE will continue to handle matters pertaining to delegation of Duty to Consult, while the rest of the former Ministry of Energy, Northern Development and Mines ("MENDM") has been combined with the former Ministry of Natural Resources and Forestry to become the Ministry of Northern Development, Mines, Natural Resources and Forestry ("MNDMNRF").

B. SYSTEM OVERVIEW

12. The purpose of this section of evidence is to provide an overview of the Dawn Hub, the CCS, and the characteristics of storage capacity connected to the CCS.

13. Enbridge Gas serves approximately 3.8 million customers in over 500 communities in Ontario through an integrated network of over 84,000 km of natural gas pipelines.[4] Enbridge Gas operates storage and transmission assets that include approximately 320 PJ (199.4 PJ utility and 117.0 non-utility) of integrated underground natural gas storage at the Dawn Hub and throughout Ontario, as well as the Dawn Parkway System,[5] which effectively connects the Dawn Hub to consuming markets in Ontario, Québec, the Maritimes and the U.S. Northeast. For further detail regarding the Dawn Hub and how it serves EGD rate zone customers please see Exhibit B, Tab 2, Schedule 1.

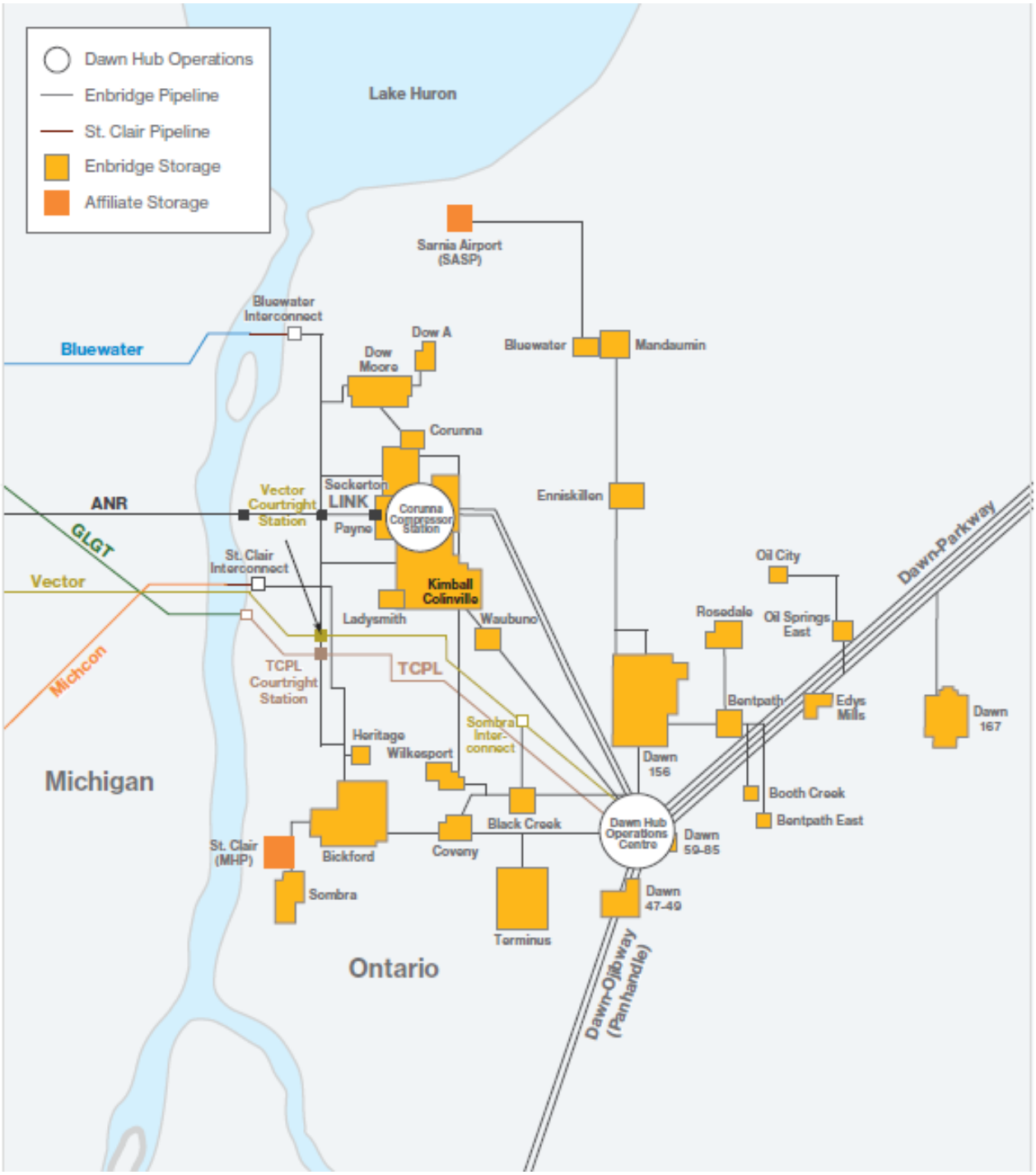
14. The Dawn Hub is one of the largest and most important natural gas market hubs in North America and consists of a combination of interconnecting natural gas pipelines and underground storage facilities. The depth and liquidity of the gas market at the Dawn Hub provides Ontario natural gas customers access to affordable energy supply and competitive commodity prices. The Dawn Hub also provides access to critical infrastructure to meet Ontario's peak energy demand. Importantly, the location and amount of underground natural gas storage at the Dawn Hub provides highly reliable service year-round, including during the times it is needed most (e.g. during design conditions such as recent winter Polar Vortex weather events that left other North American jurisdictions without natural gas services).

[4] This amount does not include distribution service lines in the EGD rate zone (over 38,000 km) or the Union rate zones (nearly 28,000 km).
[5] EB-2017-0306/0307, Exhibit JT2.9 (April 6, 2018); EB-2017-0306/0307, Exhibit C.SEC.23 (April 25, 2018)

15. The Dawn Hub is a fully integrated storage system comprised of two main compression locations, the Dawn Operations Centre and the CCS. The CCS currently uses 11 reciprocating compressor units, totaling 36,750 hp to transport natural gas to and from underground storage facilities via the Dawn Operations Centre to transmission pipelines for eventual use in the Company's downstream distribution networks. The compressor units follow the naming convention K701 through K711 based on their sequence of installation dating from 1964 to 1995 and are housed within three separate buildings. Compressors K701-K705 are located within compressor building 1, K706-K710 in compressor building 2, and K711 in compressor building 3.

16. Each of the 11 compressors in the CCS are tied into the compression header system and into the storage pool pipelines, allowing natural gas volumes to be injected into or withdrawn from any combination of 9 underground storage pools (please see Figure 2): Black Creek, Coveny, Dow Moore, Mid Kimball-Colinville, South Kimball-Colinville, Wilkesport, Seckerton, Corunna, and Ladysmith.

Figure 2: Enbridge Gas Inc. Dawn Hub and Storage Facilities



17. CCS has two main modes of operation: (i) injection; and (ii) withdrawal.
    1. **Injection Mode –** receives natural gas volumes from the two NPS 30 transmission pipelines from Dawn through the CCS facility and into connected storage pools.
    2. **Withdrawal Mode –** draws natural gas volumes from the connected storage pools through the CCS facility and primarily into the two NPS 30 transmission pipelines leading back to Dawn (discussed in greater detail below).

18. Currently, there are two NPS 30 pipelines (TR1 and TR2), approximately 20 km in length, that connect the CCS to Dawn for Injection and Withdrawal Modes. In addition, there is approximately 7 km of NPS 16 pipeline, known as TSLE, that connects the Sombra Compressor Station to Dawn and is utilized to fill and empty all or a portion of the Wilkesport, Coveny and Black Creek storage pools. The Sombra Compressor Station is also connected to the CCS through a series of NPS 16 pipelines.

19. Based on the differential pressure that occurs in the pipeline systems connected to the CCS facility, natural gas volumes free flow without the use of compression, or when the pressure differential is too small, compression needs to be used to flow volumes of natural gas at higher pressures to fill and empty the reservoirs. On a storage design day, 10 of the 11 compressor units are planned to be operating to compress gas from CCS towards Dawn (K711 is held in reserve as a Loss of Critical Unit (“LCU”) asset).

20. The compressors at the CCS are grouped into 3 main functions, these are described in Table 1 below.

Table 1: CCS Compressor Unit Primary Functions

Function	Units	Description
Low Suction Pressure	K709, K710.	Units required to effectively access the lowest pressure gas in storage pools in Withdrawal Mode. These units are also utilized for Injection Mode.
Mid-range Pressure	K701, K702, K703, K705, K706, K707, K708.	Units required to provide mid-range compression for both Injection and Withdrawal Modes.
High Discharge Pressure	K704, K711.	Units required during Injection Mode to fill the top end of the storage pools. K704 is also utilized for Withdrawal Mode. K711 is held in reserve as LCU.

21. During storage Injection Mode units K701-K703 are initially relied upon at lower discharge pressures and smaller pressure differentials while units K705-K708 are relied upon at mid-range discharge pressures and slightly larger pressure differentials. During Injection Mode, units K705-K708 are key in supporting peak compression service. The CCS requires three of these four compressors in service simultaneously (i.e., typically occurring between mid-July to mid-September) to satisfy these conditions. Similarly, during Withdrawal Mode units K701-K703 are initially relied upon at higher suction pressures and smaller pressure differentials while units K705-K708 are relied upon at lower suction pressures and slightly larger pressure differentials.

22. K704, K709, K710 and K711 units provide a specific operational fit as part of the CCS injection and withdrawal seasonal cycles and cannot be replaced as part of the Project. On injection, units K704 and K711 will continue to be required after completion of the Project to compress gas arriving from Dawn to fill the top end of

the pools to their Planned Maximum Operating Pressure ("PMOP"). On withdrawal, units K709 and K710 will be required to provide a low suction pressure from the CCS to allow the storage pools to reach cushion pressure or minimum operating pressure. These compressors (or equivalent horsepower) will always be required at CCS to achieve a full cycle of the 9 storage pools connected to the CCS, including after the completion of the Project.[6]

C. Purpose and Need

23. Ontario's underground natural gas storage facilities (namely the Dawn Hub) provide ratepayers access to affordable and reliable natural gas supply. This access has become increasingly important due to the increased frequency and severity of extreme weather events experienced across North America in recent years. These extreme weather events have caused a variety of natural gas production, transmission and distribution system failures across the continent and are described in greater detail in Exhibit B, Tab 2, Schedule 1. To date, Enbridge Gas customers have been sheltered from significant short-term price increases and interruption of services due to their access to natural gas storage facilities at the Dawn Hub.

24. The Company recognizes its obligation to meet the firm demands of its customers and as a result, assets are continually evaluated to identify hazards and to assess risks in order to ensure that they remain reliable, suitable, and fit for continued service. To this end, an Asset Health Review ("AHR") was performed in 2018 and updated in 2021 (as part of the Company's comprehensive Reliability, Availability and Maintainability ("RAM") Study for the CCS, which was completed by DNV).[7] The

[6] It is anticipated that when these units reach their end of life they will be replaced with new compressor facilities at the CCS.
[7] Previously DNV GL: https://www.dnv.co.uk/news/dnv-gl-changes-name-to-dnv-as-it-gears-up-for-decade-of-transformation-194340. The CCS RAM Study is set out at Attachment 2 to this Exhibit. A RAM

results of this study indicate that the health and maintainability of certain compressor units at the CCS are in decline.[8] Reasons for this decline include, but are not limited to performance, functional issues with custom components (i.e., spare parts), and wear. As a result of these assessments the Company has identified serious and increasing obsolescence and reliability risks associated with certain CCS compressor units and is experiencing a need for increased maintenance and repair work to keep the units operational going forward.

25. Further, as a result of the compressor units' obsolescence and reliability issues, the Company has experienced continued and increasing compressor unit downtime and long lead repair time. This has created a need for increased maintenance and repair work performed by Enbridge Gas personnel at the CCS. Enbridge Gas has also undertaken comprehensive studies, including a site-wide quantitative risk assessment ("QRA") to determine the severity of the increasing safety risks, 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 safety risk and QRA study are described in greater detail below.

26. The proposed Project enables the Company to retire 7 compressor units at the CCS to address known obsolescence, reliability and safety risks and maintain equivalent capacity and deliverability, including satisfying all required Injection and Withdrawal

study is an assessment technique that is used to examine a current design to assess its ability to meet the objectives or demands placed on it. It considers design, redundancy, specific unit reliability as well as repair times for various types of failures. The RAM model employs a Monte Carlo simulation which provides an estimated shortfall against an expected or target demand. The Company retained DNV, an independent expert in risk management and assurance to complete the RAM Study report.

[8] The results of the AHR were updated in 2021 for the compressor assets at CCS. The reliability data was used to inform the reliability inputs in the Monte Carlo model used for the RAM Study.

Modes of operation described above, by constructing 20 km of NPS 36 pipeline from the Dawn Operations Centre to the CCS.

27. The Company's 2021-2025 Asset Management Plan ("AMP") identified the need to address the risk of obsolescence and declining reliability of compressor equipment at the CCS,[9] indicating that compressor units K701-K703, and the former meter/measurement facilities should be replaced due to declining operating reliability.[10] Compressor units K701-K703 account for 20% of the available compressor power at CCS and experience failure frequencies greater than other comparable units at site.[11] Reliability concerns related to K701, K702 and K703 translate directly into peak day deliverability risks, as all three units are required to achieve peak day flow rates.

28. As part of the Company's 2022 Rates (Phase 2) proceeding (EB-2021-0148), Enbridge Gas filed an AMP Addendum which highlighted that, since the 2021-2025 AMP was completed, the Company has also identified increasing reliability and obsolescence concerns with compressor units K705-K708 as well as employee safety concerns with the broader CCS site that must be addressed:[12]

> The Corunna Compressor Station (CCS) is comprised of 11 reciprocating compressors. With some units having been in service for more than 50 years, obsolescence, reliability and employee safety concerns have been identified. Further risk assessment has been completed and has confirmed that risks at this location must be addressed.

[9] EB-2020-0181, Enbridge Gas Inc. Asset Management Plan 2021-2015, Exhibit C, Tab 2, Schedule 1, pp. 194-195
[10] EB-2020-0181, Exhibit C, Tab 2, Schedule 1, p. 501
[11] K701-K703 are an earlier compressor model which has been out of production for 40 years (only a very small number of these units remain in operation around the world).
[12] EB-2021-0148, Exhibit B, Tab 2, Schedule 3, p. 8

29. Reliability, obsolescence, and employee safety risks associated with the CCS compressor units (K701-K703 and K705-K708) are described in greater detail below.

i. Obsolescence and Reliability Risks

30. Enbridge Gas provides essential services to its ratepayers. As the supplier of last resort, the Company is obligated to meet the firm demands of its customers during peak design conditions (coldest period of the year) safely and reliably. In order to meet this obligation, it is imperative that the Company maintain the operability and integrity of its critical assets and facilities, this is in-part accomplished via a rigorous and regular process to assess their condition and to identify risks. Through such assessment the Company has identified serious and increasing obsolescence and reliability risks associated with CCS compressor units K701-K703 and K705-K708. This is due to both the amount of repair downtime experienced and system shortfall that could result from their failure considering the Company's dependence upon these facilities to meet peak design conditions. Accordingly, these units should be retired and abandoned.

K701-K703

31. The K701, K702 and K703 compressor units account for 20% of the available compressor power at CCS. These 3 compressor units are of the same make, model (KVT) and vintage (1964). The KVT compressor model has been out of production for 40 years. As a result, there are only 19 of these units in operation globally and only 1 of those operating units is similar to K701-K703.[13] For casted components, such as crankshafts, spares are not stocked in inventory by the Original Equipment

[13] During the mid-1990's, Enbridge Gas embarked on an emissions abatement program, which retrofitted all units with low NOx combustion systems. The lean burn (low emissions) systems installed on the KVT compressor model (units K701-K703) are rare. Across North America, there are only four compressor units of this type remaining that have been retrofit with low NOx combustion systems, three of which are located at the CCS.

Manufacturer (“OEM”), resulting in long lead times when required for repairs as replacement components need to be cast, cured, and machined. Enbridge Gas is currently managing component availability via internally stocked critical spares, where deemed necessary and feasible. For a typical day’s demand, extended outages for a single unit are managed by operational adjustments or planned equipment downtime to work around operating needs. However, the operational flexibility of the system is compromised with every compressor unit that is removed from operations.

32. With respect to peak compression and design day:
    - 10 out of 11 units are required to meet demand; and
    - Units K701, K702 and K703 are operating at 100% capacity and K711 is held aside as LCU.

    On design day or peak storage withdrawal day, if any 1 of the 10 operating CCS units is out of service for a prolonged period of time and replaced in function by K711, no LCU unit would be available should another unit be lost. This scenario could result in a high consequence event, which would compromise the reliability of the system and the Company’s ability to serve firm customers. Critically, this type of event can also create a real time operational challenge to serve customer demand since the compressor units that remain in operation at the time may not be suitable due to their unique functional capabilities as discussed in the System Overview section above. In other words, given the unique nature of each CCS compressor unit, its configuration, and the Company’s specific compression needs at the time (low, medium, or high pressure) during Injection and Withdrawal Modes, the remaining compressor units available may not be sufficient to avoid a shortfall. If the remaining operational assets cannot provide enough deliverability to meet customer demand, the system will run at a shortfall until replacement supply can be procured.

33. The obsolescence associated with compressor units K701-K703 reduces the Company's ability to maintain these units and/or increases the amount of time typically required to repair them. Further, the risk of obsolescence associated with these units is amplified by declines in their reliability as observed in the most recent AHR/RAM Study which indicates that units K701, K702 and K703 present the lowest engine and compressor reliability amongst all of the compressor units at CCS.

K705-K708

34. CCS compressor units K705-K708 account for 41% of the available compressor power at the CCS. These 4 units are of the same make, model (KVR) and range in vintage (1970-1974). Units K705-K708 provide compression to mid-range pressure. In Enbridge Gas's experience, the OEM is increasingly challenged to supply parts in a timely manner for units K705-K708. This was demonstrated very clearly in a recent instance where the Company sought to replace a broken crankshaft on unit K705 in 2018, which demonstrated a variety of risks and operational vulnerabilities associated with the aging units K705-K708, as outlined below:
    - The total cost of the repair was $4.25 million.
    - The replacement crankshaft needed to be sourced from England and took 8 months to be delivered. After delivery to site the new crank shaft needed to be installed in an elaborate, OEM approved repair process (including various tolerance/alignment checks and tests and adjustments at various stages of reassembly, and a final flushing of the reassembled compressor with lubricant to ensure that any and all debris that could cause damage or impede its operational performance was removed). In total, this process resulted in 18 months of compressor unit downtime.
    - While unit K705 was inoperable, units K706, K707, and K708 were operated at a greater number of hours in order to compensate for unit K705. Notedly, while K705 was unavailable unit K706 experienced more than double its

average annual run time. These additional run times have exacerbated the reliability risks and obsolescence issues previously identified for units K706-K708.

- Without unit K705 available, the CCS had no spare mid-range pressure units to support peak compression requirements as units K706-K708 (the only other CCS units able to provide the necessary pressures) were all required to satisfy peak injection demands.[14] In other words, the Company was forced to operate without spare compression during Injection Mode until unit K705 was repaired, exposing the Company and ratepayers to a higher risk of not achieving full storage inventory levels by the end of the 2018 injection season. Had another unit failed during this period, the Company would have been forced to consider other physical and/or market-based storage and supply alternatives at significant incremental cost and risk to ratepayers in order to compensate. For example, during withdrawal season, using the last 10 years of Dawn pricing data across January, February, and March, the loss of an additional CCS unit on a peak winter day (in addition to K705) would have ranged in cost for delivered supply between approximately $800,000 to $11 million for a single day.

35. Going forward, based on this experience with unit K705, the Company expects that similar repairs required on any one of units K705-K708 could expose storage operations to similar elevated risks and vulnerabilities and could further exacerbate reliability and obsolescence issues for the remaining units due to increased run time requirements. While unit K705 was eventually repaired and placed back into service, a longer-term and permanent solution to address these issues (with degrading

[14] CCS compressor units K705-K708 are interchangeable, and the Company requires that 3 of these units be available annually for late season Injection Mode.

mechanical equipment that is approximately 50 years old and at increasing risk of failure) is required.

36. The Company is able to demonstrate, through the supporting studies (e.g., AHR/RAM) and evidence, that retiring and abandoning CCS compressor units K701-K703 and K705-K708 and installing a new pipeline to replace their equivalent capacity will increase overall system reliability, resiliency, and efficiency. The retirement of these compressor units will also allow the Company 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.

37. Further, as CCS compressor units K705-K708 are of similar makes and models (KVR) as the remaining CCS units (K704, K709, K710 and K711) that cannot be retired at this time due to their specific operational fit (as discussed in the System Overview section above) their retirement will provide the Company with access to a variety of additional OEM spare parts that can be used to maintain the remaining units. By disassembling units K705-K708, salvaging interchangeable spare parts, and storing them within the Company's inventory for future use, the risk of experiencing extended downtime for future repairs to those units (as well as the cost of the same) is expected to be significantly mitigated.

AHR/RAM Study

38. The RAM Study evaluates the design, redundancy, specific unit reliability, and repair times for various types of failures. It relies on key inputs from the AHR to inform asset reliability, availability, and maintainability. The AHR methodology, developed and applied by Enbridge Gas, indicates that the compression asset sub-classes (Foundation, Crankshaft, Engine, Compressor, After Cooler, Heating & Cooling System, and Valving System) are more susceptible to failures due to multiple

mechanical parts and complex interdependencies. The result produced by the RAM Study and AHR inform lifecycle decisions that are reflected in the Company's AMP and the corresponding projects.

39. The AHR/RAM Study was conducted using the population and failure data of CCS units. The AHR considers failure data stored in the maintenance management system (Maximo). The probability of failure for individual assets is calculated via statistical analysis of very large technical data sets. A Storage Health Index ("SHI")[15] is the result of converting this highly technical asset failure probability information into an assessment rating to measure/compare asset health. SHI indicates the predicted time to failure for a specific asset and provides an efficient means of understanding the rate of change of an asset's health when projected to future time periods. SHI categories are set out in Table 2.

Table 2: Asset Health Index Categories (Storage)

HEALTH INDEX CATEGORY	TIME TO NEXT FAILURE
SHI1	Greater than 10,000 run hours
SHI2	Within 10,000 run hours
SHI3	Within 5,000 run hours
SHI4	Within 3,000 run hours
SHI5	Within 2,200 run hours

40. To illustrate the concept, SHI5 means that if this engine runs continuously for 2,000[16] run hours per year, it will most likely experience a critical component failure

[15] SHI is the methodology used to determine the health of assets in storage compressor stations. Many failure modes related to the asset sub classes within compression stations are usage dependent (run hours) instead of age as the failure parameter. The SHI displays time to the next failure in run hours, while the AHI used for pipeline and distribution stations indicates years to the next failure.
[16] The AHR assumes that the operating hours across all CCS compressor units averages 2,000 hours per unit per year.

within 2,200 run hours. This index provides a way to compare different assets and asset classes in a consistent, standardized manner.

41. The asset health results for the compression asset classes are presented in Table 3. The results indicate that engines and compressors have the lowest asset health and are the least reliable asset sub-classes. Results for compressor units K701-K703 and K705-K708 indicate that both engine and compressor failures are expected to occur within 2 years for all units.[17]

[17] Determined by dividing the time to failure for each asset sub-class and CCS unit by its corresponding 5-year annual average run hours.

Table 3: Storage Asset Health Index

Unit#	2021 Storage Asset Health Index (over a 2000 hr mission time)						
	Foundation	Crankshaft	Engine	Compressor	AfterCooler	Heating & Cooling System	Valving System
K701	SHI2 (5000-10000hrs)	SHI2 (5000-10000hrs)	SHI5 (<=2200hrs)	SHI5 (<=2200hrs)	SHI3 (3000-5000hrs)	SHI4 (2200-3000hrs)	SHI4 (2200-3000hrs)
K702	SHI1 (>10000hrs)	SHI2 (5000-10000hrs)	SHI5 (<=2200hrs)	SHI5 (<=2200hrs)	SHI3 (3000-5000hrs)	SHI4 (2200-3000hrs)	SHI4 (2200-3000hrs)
K703	SHI1 (>10000hrs)	SHI2 (5000-10000hrs)	SHI5 (<=2200hrs)	SHI5 (<=2200hrs)	SHI3 (3000-5000hrs)	SHI4 (2200-3000hrs)	SHI4 (2200-3000hrs)
K704	SHI3 (3000-5000hrs)	SHI2 (5000-10000hrs)	SHI3 (3000-5000hrs)	SHI4 (2200-3000hrs)	SHI3 (3000-5000hrs)	SHI4 (2200-3000hrs)	SHI4 (2200-3000hrs)
K705	SHI1 (>10000hrs)	SHI1 (>10000hrs)	SHI4 (2200-3000hrs)	SHI5 (<=2200hrs)	SHI3 (3000-5000hrs)	SHI4 (2200-3000hrs)	SHI4 (2200-3000hrs)
K706	SHI1 (>10000hrs)	SHI1 (>10000hrs)	SHI4 (2200-3000hrs)	SHI5 (<=2200hrs)	SHI3 (3000-5000hrs)	SHI4 (2200-3000hrs)	SHI4 (2200-3000hrs)
K707	SHI1 (>10000hrs)	SHI1 (>10000hrs)	SHI4 (2200-3000hrs)	SHI5 (<=2200hrs)	SHI3 (3000-5000hrs)	SHI4 (2200-3000hrs)	SHI4 (2200-3000hrs)
K708	SHI1 (>10000hrs)	SHI1 (>10000hrs)	SHI4 (2200-3000hrs)	SHI5 (<=2200hrs)	SHI3 (3000-5000hrs)	SHI4 (2200-3000hrs)	SHI4 (2200-3000hrs)
K709	SHI1 (>10000hrs)	SHI1 (>10000hrs)	SHI4 (2200-3000hrs)	SHI5 (<=2200hrs)	SHI3 (3000-5000hrs)	SHI4 (2200-3000hrs)	SHI3 (3000-5000hrs)
K710	SHI1 (>10000hrs)	SHI1 (>10000hrs)	SHI4 (2200-3000hrs)	SHI5 (<=2200hrs)	SHI3 (3000-5000hrs)	SHI4 (2200-3000hrs)	SHI4 (2200-3000hrs)
K711	SHI1 (>10000hrs)	SHI2 (5000-10000hrs)	SHI3 (3000-5000hrs)	SHI4 (2200-3000hrs)	SHI3 (3000-5000hrs)	SHI4 (2200-3000hrs)	SHI4 (2200-3000hrs)

42. The SHI results and the instantaneous mean time between failures for each compression asset sub-class were used to model total down times for each CCS unit over the next 5-years, according to operational cycles (injection and withdrawal). Impacts to CCS units during the injection and withdrawal operational cycles are quantified in days and ranked by total down time in Table 4.

Table 4: 5-Year Equipment Contributor to Down Time

Rank	Equipment	Withdrawal - Total Down Time[18] (days)	Injection - Total Down Time[18] (days)	Total Down Time (days)
1	K701	115	101	216
2	K704	75	118	193
3	K705	71	65	136
4	K706	69	60	129
5	K702	70	51	121
6	K703	65	50	115
7	K707	57	49	105
8	K708	45	51	96
9	K711	20	61	81
10	K709	56	0	56
11	K710	52	0	52
Total		695	606	1,300

43. In total, the combined compressor downtime during Injection Mode across the 5-year period is 606 days. This means that at least one compressor is down for maintenance or repair 77% of the time during the injection season. Units K704 and K701 show the highest down times, forecasted to be down for a total of 118 and 101 days during the injection season, respectively.

[18] Downtime was calculated based on Withdrawal and Injection cycles over a typical calendar year, as noted in the RAM Study on pages 15-16 of Attachment 2 to this Exhibit (Table 4.1 Typical Operating Envelope).

44. In total, the combined compressor downtime hours during Withdrawal Mode across the 5-year period is 695 days. This means that at least one compressor is down for maintenance or repair 90% of the time during the withdrawal season. Unit K701 shows the highest down time, forecasted to be down for a total of 115 days.

45. The obsolescence and reliability concerns with the CCS compressor units discussed above, including maintainability, and time to repair, all contribute to increased deliverability and financial risk as all units are required to operate in order to achieve peak day flow rates.

46. The results of the RAM Study provide an estimated mean shortfall on Withdrawal Mode which is used to determine a financial consequence and risk to the Company and its customers. In the instance of the K705 crankshaft repair that took 18 months to resolve (as discussed in the K705-K708 section above), had a second compressor failure occurred on a high demand day during January through March, the Company could have experienced a volumetric shortfall ranging from 186 TJ/d (for failures of any of units K701, K702 or K703) to 230 TJ/d (for failures of any of units K706, K707 or K708). This scenario would have required the Company to procure volumes above ground at Dawn as a delivered service (commensurate with the particular secondary unit that experienced failure).[19] Using the last 10 years of average and maximum January, February and March Dawn settled prices the daily price to replace the lost deliverability would have ranged from approximately $800,000 to $11 million per day. Accordingly, the Company has concluded that a secondary unit failure of long-duration could have caused a very significant financial impact to EGD rate zone customers. If these volumes of gas were not able to be procured on the spot market, up to 185,000 residential customers could have

[19] Assuming upstream availability to transport the gas to Dawn.

experienced an outage of natural gas services during the coldest time of the year (peak design conditions). This scenario and associated risks are unacceptable to Enbridge Gas.

ii. Personnel Safety Risk

47. Historically, employee safety risks at the CCS have been assessed on a project-specific basis; having considered only a limited portion of the broader CCS site as part of any assessment. Indications from such assessments recently completed shows that there are areas of heightened employee safety risk at the CCS site due to risk of major loss of containment events.[20] To fully understand the risks to employee health and safety resulting from and the drivers for such events, Enbridge Gas conducted a CCS site-wide QRA that applied industry best practices (as recommended by 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.

48. Accordingly, as part of the CCS QRA, known risks were evaluated against the risk evaluation criteria set out in Figure 3, as follows:

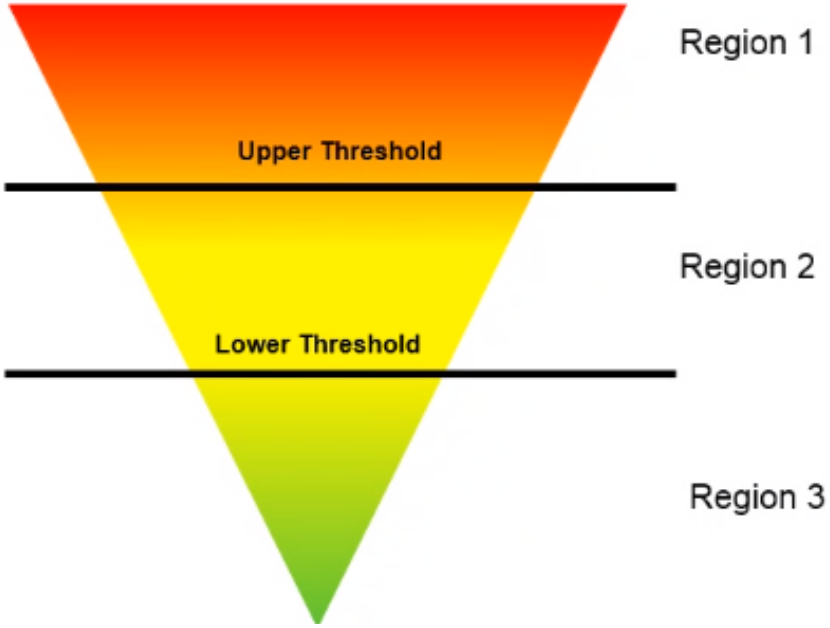
- If the analysis indicated that the risk level is in Region 1, the risk(s) is considered to be at or above the upper threshold and must be treated. This may be done through a series of short and long-term measures to mitigate the risk(s) until it qualifies to be categorized as a Region 2 risk.
- If the analysis indicated that the risk level is in Region 2, the risk(s) is considered to be conditionally tolerable, provided best engineering practices have been applied and all reasonable measures have been taken to mitigate

[20] While such major loss of containment events have occurred within the natural gas storage, transmission and distribution industry, Enbridge Gas has never experienced one thanks to its rigorous safety protocols.

the risk(s). These types of risks may still warrant the development of treatment plans if the risk owner and other stakeholders determine that there are additional reasonable measures that could further mitigate the risk.

- If the analysis indicated that the risk level is in Region 3, the risk is considered to be reasonably tolerable. Existing controls must be kept in place in such instances and identified risk(s) must be monitored.

Figure 3: QRA Approach



49. The QRA supports the Company's understanding of the need for and provides inputs into risk treatment plans, some of which may be executed through the Company's Asset Investment Planning and Management ("AIPM") process outlined in Figure 4.

Figure 4: AIPM Process



50. The QRA scope included equipment and piping containing natural gas in key process areas at the CCS facility, as shown within the red box in Figure 5.

Figure 5: Corunna Compressor Station



51. The results of the QRA conducted for the CCS conclude that the site exceeds the upper risk threshold for the following individuals:

- Operator;
- Mechanics;
- Instrumentation Technician;
- Electrical Technician; and
- Chief Mechanic.

The results also indicate that in terms of specific areas within the CCS site, risks are concentrated in compressor buildings 1 and 2, with building 1 having the highest

risk. Based on these results, the Company has concluded that the current station design, which includes multiple compressor units in close proximity within a single building, results in an excessive level of process safety risk (specifically, given the increased repair and maintenance time required of each unit). Enbridge Gas takes the safety of all personnel (i.e., employees and contractors) and the public extremely seriously and has thus determined that the identified process safety risks require mitigation.

iii. Risk Mitigants Considered

52. Following the completion of the QRA for the CCS, 3 categories of short-term risk mitigants were considered by the Company:[21]

(i) **Replace CCS Compression with existing Dawn Compression –** Reducing the average number of compressors in operation at the CCS from 4 to 3 and limiting the number of compressors operating/running within any building to 1 at any time.

(ii) **Reduce Time Spent by Operations Employees in CCS Compressor Buildings –** Reducing the amount of time that Company operations personnel spend in compressor buildings by 15 to 20%.

(iii) **Create a Maintenance Policy Reducing Risk to Company Personnel –** Restrict maintenance activities to periods when one or less compressor units is operating/running within any building. Isolate and depressurize compressor units that are not operating/running.

[21] QRA Section 11.2

53. While these short term mitigants can help manage the risks related to occupancy levels within buildings containing pressurized equipment for a limited period of time, they are insufficient strategies in the long term as they do not resolve the risks of obsolescence, reliability and safety discussed above. Further, these short-term mitigants introduce other unique challenges and risks over the longer term, such as:

    (i) In the event of unplanned failures at Dawn, the CCS may be required to operate more units in a single building to meet system requirements thereby reducing the effectiveness of the mitigation plan. Further, a limiting factor of the strategy of only running one compressor per building would potentially occur during late season withdrawal operations when suction pressures are low, as low pressure ("LP") compressor units K709 and K710 are both located in building 2 and may both be required for late season withdrawals. Finally, this short-term mitigant may require that the Company make additional pressure control retrofits on the two existing NPS 30 transmission lines (TR1 and TR2) connecting the CCS to Dawn at significant expense to ratepayers.

    (ii) Reducing the time operators spend in compressor buildings will also reduce the amount of time that such experts are able to spend performing routine inspections of the CCS compressor units. Operator inspections, which are also a regulatory requirement, provide insight into the health and condition of compressor assets often resulting in the early detection of potential failures in advance of complete functional failure, saving both time and money that might otherwise be required for more extensive repairs. As a risk mitigant, reducing the time that operators spend in the CCS compressor buildings is a compromise of sorts and sub-optimal as it also deteriorates a critical operational risk control.

(iii) It is not reasonable to rely upon a policy that limits maintenance activities in the long-term to times when no more than one compressor unit is running in a CCS compressor building. Such a policy would significantly limit the amount of maintenance/repair time available for CCS compressor units which, as discussed above, are already at increasing risk of failure and thus expected to require increasing amounts of ongoing planned/routine and unplanned maintenance and repair. A policy of this nature is also likely to impede the ability to perform maintenance within typical time frames, creating operational and maintenance planning conflicts and increased O&M costs. Further, considering the obsolescence and reliability concerns discussed above, there is a heightened probability that repairs could require extended outage windows. The RAM Study specifically estimates that on average more than 6,500 hours per year of downtime will be required for units K701-K703 and units K705-K708.

iv. Conclusions

54. The RAM Study and the QRA have been completed to support the Company's understanding of the obsolescence, reliability and safety risks associated with the CCS site. These studies have identified two primary means by which the Company can reduce risk:

1. Improve overall system reliability by reducing the duration and frequency of repair downtime experienced at the CCS site, since the likelihood of experiencing a system shortfall and being exposed to a corresponding financial risk, is directly related to the same.

2. Reduce the number of compressors located, and the time spent by Company personnel conducting repairs, within each of CCS compressor buildings 1 and 2, to reduce safety risk.

55. The conclusions of the RAM Study and QRA in this regard present unique and circular challenges to the Company that obviate the effect of short-term mitigants in that:
    - Increased repair downtime for maintenance due to the increasing obsolescence and reliability risks (related to compressor unit failure) inherently results in increased CCS building occupancy rates for mechanics and technicians.
    - Increased CCS building occupancy rates for mechanics and technicians makes it increasingly challenging to coordinate maintenance/repair activities with operational requirements and restrictions that would limit building occupancy.
    - Increased CCS building occupancy rates for mechanics and technicians also results in increased employee safety risk.

56. The results of the RAM Study support the Company's conclusions that:
    - If no action is taken, reliability and obsolescence issues will continue to escalate going forward further increasing reliability and safety risk;
    - The consequences of experiencing a significant system failure and shortfall are unacceptable (both operationally and financially);
    - Ongoing reliance on shorter-term mitigants is not sustainable; and
    - A long-term solution is required.

57. More specifically, the Company has concluded that the most effective and reliable long-term solution is to retire and decommission units K701-K703 and K705-K708 and to construct facilities to maintain the equivalent deliverability and storage capacity. Operationally, the retirement and abandonment of the CCS compressor units K701-K703 and K705-K708 and the construction of the proposed Project eliminates obsolescence risk while also vastly improving system reliability and safety in the long-term.

58. The retirement of these 7 CCS compressor units also enables the Company to avoid planned maintenance capital expenditures estimated at more than $16 million from 2023-2032, in addition to unforeseen incremental expenditures related to unplanned outages/failures which are expected to occur at increasing frequency going forward.

59. The retirement of compressor units K705-K708 will also provide the Company with critical spare parts for the remaining CCS compressor units (i.e., K704, K709, K710, and K711 which cannot be retired as part of the Project due to their specific operational fit as discussed in the System Overview section above) reducing the risk of extended downtime for, and cost associated with, future repairs to those units.

60. Aside from the assessments and studies discussed above, the Company's conclusions were also informed by:[22]
    - The ongoing and historical value that the Dawn Hub has provided to Ontario natural gas consumers;
    - The increased frequency and severity of extreme weather events experienced across the continent;

[22] As discussed: at Exhibit B, Tab 2, Schedule 1; Exhibit B, Tab 1, Schedule 1, Attachment 1; and Exhibit C, Tab 1, Schedule 1, Attachment 2.

- ICF's forecast calling for increased seasonal storage values and winter price volatility;
- The Company's continued forecast storage requirements for EGD rate zone bundled in-franchise customers in excess of the allocated cost-based storage space (per the Company's 2021 and 2022 Annual Gas Supply Plan Updates;
- ICF's forecast of the long-term price impacts to natural gas prices at the Dawn Hub if physical storage is not replaced; and
- The RAM Study conclusion that the proposed Project will improve overall system reliability and can eliminate over 4,000 hours of repair time per year.

61. As detailed in Exhibit C, the Company has assessed a wide variety of alternatives, including facility and non-facility alternatives as well as combinations of these, and has concluded that the preferred alternative (providing optimal long-term system reliability, avoiding future risk of obsolescence, eliminating safety risks, and maintaining equivalent storage capacity) is the proposed Project.

Township of St. Clair

Chief Administrative Officer	(519) 867-2021
Administration/Clerks Dept.	(519) 867-2021
Finance & Treasury Dept.	(519) 867-2024
Water Dept.	(519) 867-2128
Engineering Dept.	(519) 867-2125
Public Works Dept.	(519) 867-2993
Fire Dept. - Administration	(519) 481-0111

October 6, 2021

Steven Jelich
Director, Southwest Region Operations
Enbridge Gas Inc.
109 Commissioners Road West,
London, ON N6J 1X7

Re: Endorsement of Enbridge's 2023 Dawn Corunna Project

Dear Mr. Jelich,

In order to maintain the safe and reliable operation of Enbridge Gas' system, and to continue meeting the natural gas needs of its customers, Enbridge Gas is proposing the 2023 Dawn Corunna Project.

During their meeting held on October 4, 2021, Council for the Township of St. Clair adopted the following resolution with respect to the endorsement of the 2023 Dawn Corunna Project:

Motion 3 Be it resolved that St. Clair Township is in support of Enbridge's 2023 Dawn Corunna Project, as it will maintain the safe and reliable operation of Enbridge Gas' system in the local area and create temporary construction jobs in St. Clair Township along with local construction material sourcing opportunities for local suppliers.

CARRIED

Please contact the undersigned at jbaranek@stclairtownship.ca should clarification or anything else be needed as it relates to the above motion.

Kindest Regards,

Jeff Baranek, RPP
Clerk/Deputy CAO

THE CORPORATION OF THE
TOWNSHIP OF DAWN-EUPHEMIA

4591 Lambton Line, RR 4, Dresden, ON N0P 1M0
Tel: 519-692-5148 Fax: 519-692-5511 Public Works: 519-692-5018
Email: admin@dawneuphemia.on.ca Website: www.dawneuphemia.ca

October 19, 2021

Enbridge Gas Inc.

Brian Lennie via email Brian.Lennie@Enbridge.com

RE: Proposed 2023 Dawn Corunna Project presentation to Council, Enbridge Gas Inc.

Mr. Lennie,

On behalf of the council of the Township of Dawn-Euphemia, I would like to take this opportunity to thank you and your colleagues Mr. Jelich and Mr. Arnold for taking the time to present to Council the proposed 2023 Dawn Corunna Project. The presentation was very informative, and we are grateful to have a continued strong relationship with Enbridge Gas Inc. in the Township.

Via this letter, I am writing to indicate that at the October 18, 2021 meeting of Council, Council passed a resolution in support of the Project, as it will maintain the safe and reliable operation of Enbridge Gas' system in the local area, and create temporary construction jobs in Dawn-Euphemia along with local construction material sourcing opportunities for local suppliers.

Should you require any assistance from the Township, please do not hesitate to contact the Municipal office.

Sincerely,

Alan Broad
Mayor

SARNIA·LAMBTON
Economic Partnership
Powering a Sustainable World™

Discoveries That Matter
SARNIA - LAMBTON

October 22, 2021

Steven Jelich
Director, Southwest Region Operations
Enbridge Gas, Inc.
109 Commissioners Rd W,
London, ON N6A 4P1
steven.jelich@enbridge.com

Dear Steven Jelich,

On behalf of the Sarnia-Lambton Economic Partnership, I am writing to indicate our support for the Proposed 2023 Dawn Corunna Project, Enbridge Gas Inc.

The Sarnia-Lambton Economic Partnership is the economic development agency for 11 municipalities that comprise Lambton County. Structured as a not-for-profit corporation, we are governed by a board of directors composed of community leaders and our core funding is from government. We provide business retention and expansion services, investment promotion, entrepreneurship and new resident attraction services in coordination with our area municipalities. Key to our role is the development and diversification of the Sarnia-Lambton Petrochemical and Refining Complex and Sarnia-Lambton Hybrid Chemistry Cluster.

Maintaining the reliability to meet demand in Sarnia-Lambton's heavy industrial sector including the Province of Ontario's only Petrochemical and Refining Complex is key to the economic growth of the region. The added benefit to our local construction sector is highly favourable and will aid in the stability of jobs for that industry in a positive way.

There are many other benefits to this project going forward and the Sarnia-Lambton Economic Partnership is strongly in support of projects, including this one that strengthen Ontario's industries as well as Ontario's essential energy supply chain.

Sincerely,

Stephen Thompson
Chief Executive Officer
stephen@sarnialambton.on.ca
Mobile: 519-328-8549
Office: 519-332-1820

SARNIA LAMBTON Chamber OF COMMERCE

October 28, 2021

Mr. Brian Lennie,
Senior Advisor, Municipal and Stakeholder Engagement,
Ontario South/West
Enbridge Gas Inc.

Re: The Proposed 2023 Dawn Corunna Project – Enbridge Gas Inc.

Mr. Lennie,

Please accept this letter of support on behalf of the Sarnia Lambton Chamber of Commerce, it's membership and our business community at large for the Enbridge Gas Dawn Corunna Project. This initiative will continue to maintain safe and reliable services of the Enbridge Gas' structure in our local area. This will provide the much-needed temporary construction jobs in the county of Lambton and includes local construction material sourcing opportunities.

The mandate of our Chamber of Commerce is to continually assist businesses that support our families, our communities, and our county. We accomplish this by providing essential services and connecting businesses to the information that they can use. We are unapologetic in our support for business and the vital role it plays in building and sustaining our great region.

Yours Truly,

Allan Calvert
CEO
Sarnia Lambton Chamber of Commerce
556 Christna St N
Sarnia, On, N7T 5W6
519-336-2400

Legal Services / Clerk's Department
789 Broadway Street, Box 3000
Wyoming, ON N0N 1T0

Telephone: 519-845-0801
Toll-free: 1-866-324-6912
Fax: 519-845-0818

November 04, 2021

Enbridge Gas Inc.
50 Keil Drive North
Chatham, ON
N7M 5M1

Attention: Brian Lennie, Senior Advisor, Municipal Affairs & Stakeholder Relations

Brian Lennie:

Re: Lambton County Council Support for 2023 Dawn Corunna Project

At its regular meeting on November 03, 2021, Lambton County Council heard a presentation from Wes Armstrong, Director, Gas Storage and Pipeline Operations, Enbridge Gas Inc. and Brian Lennie, Senior Advisor, Municipal Affairs & Stakeholder Relations the details of Enbridge's 2023 Dawn Corunna Project, where a letter or resolution of support for the project, to be included in their OEB (Ontario Energy Board) application.

Subsequent to the presentation, the following motion was passed:

> **#3:** Weber/Broad: *"That County Council provide a letter of support to Enbridge Gas Inc. for its 2023 Dawn-Corunna Project."*
>
> Carried.

Sincerely,

DocuSigned by:
054C1B8D118E46F...
Stephane Thiffeault
Clerk

cc: Monte McNaughton, MPP Lambton-Kent-Middlesex Riding
Lianne Rood, MP Lambton-Kent-Middlesex Riding
Bob Bailey, MPP Sarnia-Lambton Riding
Marilyn Gladu, MP Sarnia-Lambton Riding

CORUNNA COMPRESSOR STATION

RAM Study Report

Enbridge Gas Inc.

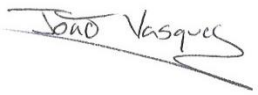
Report No.: 10304304-2, Rev. 0
Date: 11th February 2022

Project name:	Corunna Compressor Station	DNV
Report title:	RAM Study Report	DNV Canada Ltd.
Customer:	Enbridge Gas Inc.	Energy Systems
Customer contact:	Mike Hildebrand	Tel: 403 702 5679
Date of issue:	11th February 2022	
Project No.:	10304304	
Organisation unit:	Energy Systems	
Report No.:	10304304-2, Rev. 0	

Applicable contract(s) governing the provision of this Report: Master Services Agreement with Enbridge Gas Inc.

Objective:

This report details the assumptions, basis, and results of the Corunna Compressor Station RAM Study.

Prepared by:	Verified by:	Approved by:
		
Joao Vasques Senior Consultant	Neil Wragg Senior Principal Consultant	Jeremy Johnson Engineer, DNV Canada Ltd.

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Keywords:

RAM Study

Rev. No.	Date	Reason for Issue	Prepared by	Verified by	Approved by
A	2021-12-15	Draft for Comment	Joao Vasques/ Rachel Parker	Neil Wragg	Jeremy Johnson
0	2022-02-11	Final Issue	Joao Vasques	Neil Wragg	Jeremy Johnson

EXECUTIVE SUMMARY

The Corunna Compressor Station (CCS) is located near Mooretown, Ontario (ON). It uses 11 reciprocating compressor units to transport sweet natural gas to and from offsite underground storage facilities to transmission pipelines for eventual use in downstream distribution networks.

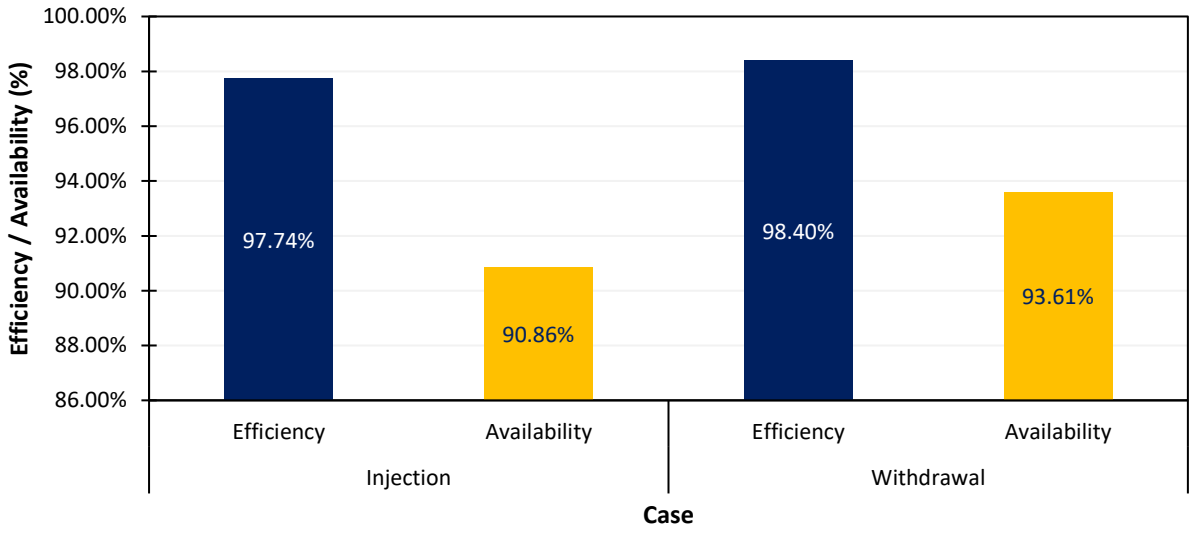
CCS has two main modes of operation: injection and withdrawal. Injection operating mode takes gas from the two twin 30 NPS transmission pipelines from Dawn and flows the gas through CCS to the offsite storage pools. Withdrawal operating mode takes gas from the storage pool pipelines and flows through CCS into the transmission pipelines back to the Dawn facility.

Enbridge have asked DNV to undertake a Reliability, Availability and Maintainability (RAM) Study for the Corunna Compressor Station. The primary objective of this analysis is to forecast the current availability performance of the station and assess the impact of proposed modifications. This report details the assumptions, basis, and results of the Corunna Compressor Station RAM model.

Results Summary

The table and figure below provide a summary of the performance of the Gas Injection Base Case and Gas Withdrawal Base Case cases investigated.

Case	Efficiency (%)	Availability (%)
Gas Injection Base Case	97.74%	90.86%
Gas Withdrawal Base Case	98.40%	93.61%

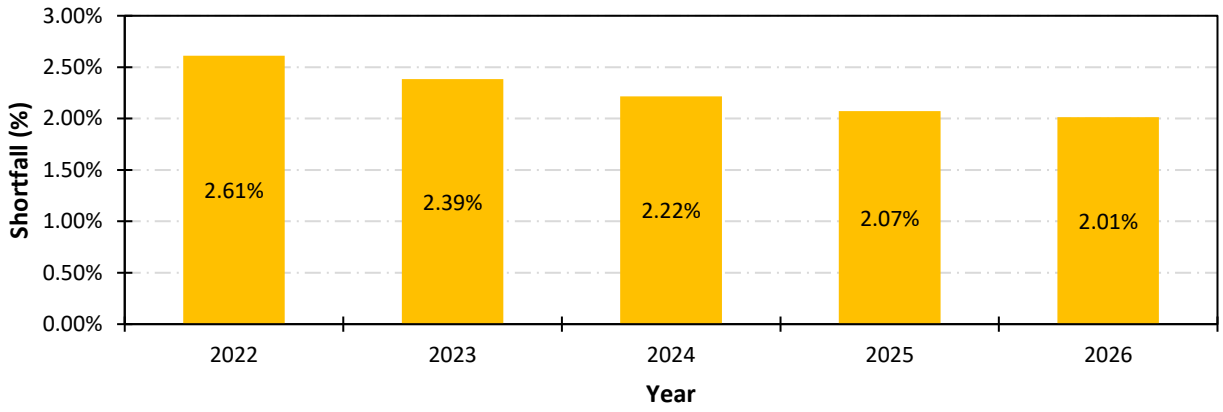


As can be seen from the results, the Efficiency of the Corunna facilities is lower during the Injection mode of operation (97.74%) than during the Withdrawal mode (98.70%). This is due to a higher number of days that the facilities will operate at Partial Capacity during Injection than in Withdrawal, as reflected by the Availability of these two modes of operation.

Gas Injection Base Case

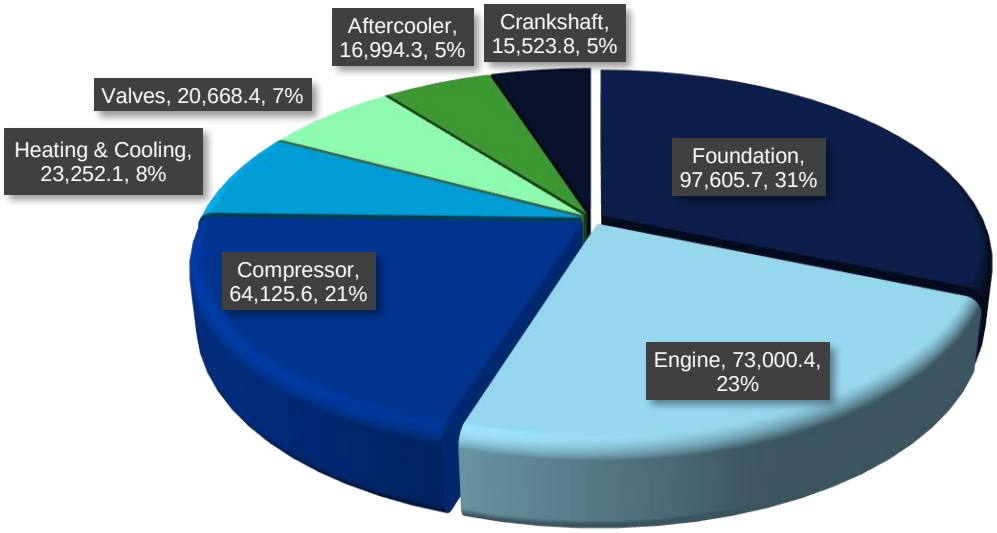
The figure below presents a yearly breakdown of the Base Case Gas Injection Shortfall over the 5-year review period. During the 5 years assessed, the mean Injection Efficiency of the Corunna facilities against Demand is 97.74%; 13,461,540 x10^3 m^3 of gas was injected against a Demand of 13,772,710 x10^3 m^3.

Additionally, despite the expected increase in plant deterioration each year, which results in higher number of failures each year, it is forecasted that Gas Injection Shortfall will decrease from 2022 to 2026. The higher shortfall in earlier years is caused by a higher likelihood of foundation failures of units K704 (HP duty) and K701 (MP duty) as compared to the other CCS units, with the former having a high impact in injection capability, given its low level of redundancy. The decreasing trend in later years can be attributed to the foundation corrective repairs, which is expected to significantly reduce the likelihood of future failures. This effect is dominant over the increasing shortfall associated with plant deterioration.



The table and figure below show the Equipment and Maintainable Item shortfall contributors, respectively, for the Gas Injection Base Case over the 5-year period considered.

Rank	Equipment	Gas Injection Shortfall			Total Aggregated Downtime (hrs)	Total Running Time (hrs)
		Absolute		Relative		
		x10^3 m^3	%	%		
1	K-704	161,174.7	1.17%	51.80%	2,839	13,126
2	K-711	148,609.6	1.08%	47.76%	1,463	12,100
3	K-705	260.3	<0.01%	0.08%	1,551	14,450
4	K-706	251.8	<0.01%	0.08%	1,432	13,238
5	K-707	236.7	<0.01%	0.08%	1,165	10,142
6	K-708	228.6	<0.01%	0.07%	1,223	7,991
7	K-701	159.0	<0.01%	0.05%	2,426	9,730
8	K-702	128.1	<0.01%	0.04%	1,216	6,665
9	K-703	121.5	<0.01%	0.04%	1,192	5,734
Total		**311,170.3**	**2.26%**	**100.00%**	**14,507**	**93,177**



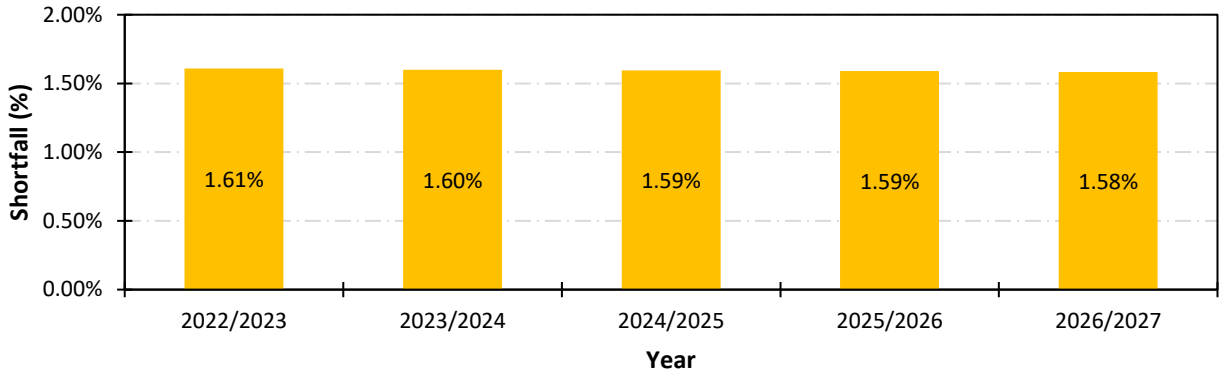
Key observations are that:

- Units K-704 and K-711 (HP units) are responsible for 99.56% of the total Gas Injection shortfall. In absolute terms, this represents 309,784.3 $x10^3$ m^3 of Gas Injection Shortfall (2.25%). This is attributed to the combined 'N' configuration that these units exhibit for the majority of the time that they are required to operate.
- Foundations are the most significant contributor to Gas Injection Shortfall, accounting for 31.37% of total shortfall (97,605.7 $x10^3$ m^3, 0.71% absolute). This is attributed to the long duration associated with the repair of this maintainable item.
- Next are the compressor Engines, which are responsible for 23.46% of total Gas Injection Shortfall (73,000.4 $x10^3$ m^3, 0.53% absolute). On average, Engines have a higher MTTF than Compressors. However, based on the downtime information detailed in Section 4.3, the average downtime duration of an engine is 425.6 hours, which is substantially higher than the 99.6 hours of average downtime required following a compressor failure.
- 3rd are the Compressor item of the entire compressor unit, predicted to cause 20.61% of the total shortfall (64,125.6 $x10^3$ m^3, 0.47% absolute).
- The following items, with the exception of the Crankshaft, have downtime durations below 50 hours and are therefore ranked as follows with regard to Gas Injection Shortfall:
    - Heating & Cooling – 7.47% of total shortfall (23,252.1 $x10^3$ m^3, 0.17% absolute) – predominantly due to glycol leaks.
    - Valve System – 6.64% of total shortfall (20,668.4 $x10^3$ m^3, 0.15% absolute).
    - Aftercooler – 5.46% of total shortfall (16,994.3 $x10^3$ m^3, 0.12% absolute).
    - Crank Assembly misalignment – 4.99% of total shortfall (15,523.8 $x10^3$ m^3, 0.11% absolute) – despite the high downtime associated with this item, it fails less frequently than the aforementioned items.
- Finally, it is important to note that the low frequency, high consequence (worst case scenario) failures associated with the Crankshaft, Engine, Aftercooler and Valve System items, despite their different nature, are not expected to contribute significantly to shortfall.

Gas Withdrawal Base Case

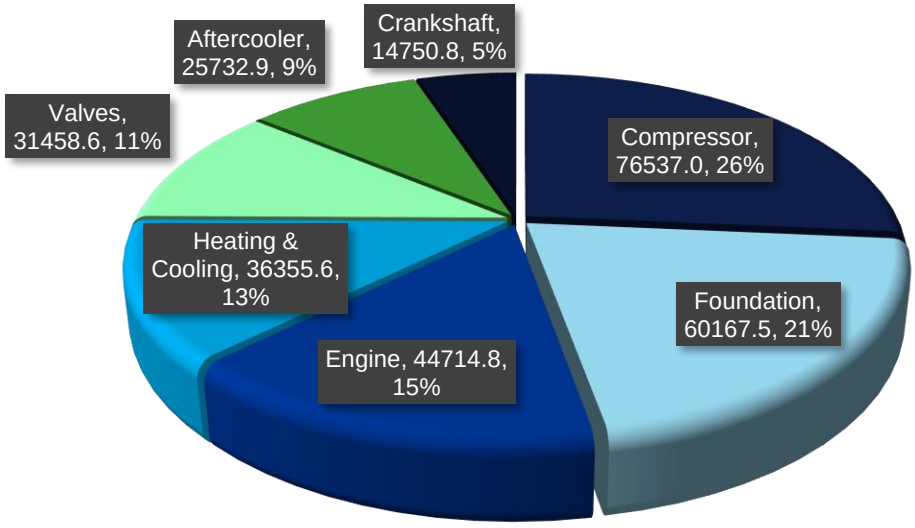
The figure below presents a yearly breakdown of the Base Case Gas Withdrawal Shortfall over the 5-year review period. During the 5 years assessed, the mean Withdrawal Efficiency of the Corunna facilities against Demand is 98.40%; 17,872,477 x10^3 m^3 of gas was withdrawn against a Demand of 18,162,200 x10^3 m^3.

Additionally, as reported in the analysis of the yearly breakdown in Gas Injection Shortfall, a decreasing trend in Gas Withdrawal Shortfall is observed between 2022 and 2026, attributed once more to the high likelihood of units K-704 and K-701 having their 1st foundation failures within the first years of the reviewed period. However, the usage of these units is generally reduced in comparison to Gas Injection. As a result, the decrease in shortfall over the reviewed years during Gas Withdrawal operations is considerably less pronounced than in Gas Injection.



The table and figure below show the Equipment and Maintainable Item shortfall contributors, respectively, for the Gas Withdrawal Base Case over the 5-year period considered.

Rank	Equipment	Gas Withdrawal Shortfall			Total Aggregated Downtime (hrs)	Total Running Time (hrs)
		Absolute		Relative		
		x10^3 m^3	%	%		
1	K-710	127,590.3	0.70%	43.83%	1,240	11,116
2	K-709	125,034.0	0.69%	42.96%	1,332	13,111
3	K-705	6,325.6	0.04%	2.17%	1,707	15,675
4	K-706	6,231.7	0.03%	2.14%	1,664	15,436
5	K-707	5,688.8	0.03%	1.95%	1,359	11,977
6	K-701	4,977.5	0.03%	1.71%	2,752	13,076
7	K-708	4,945.6	0.03%	1.70%	1,090	6,350
8	K-703	3,652.3	0.02%	1.26%	1,557	9,774
9	K-702	3,634.8	0.02%	1.25%	1,689	11,966
10	K-711	1,567.0	0.01%	0.54%	485	498
11	K-704	1,436.3	0.01%	0.49%	1,790	561
Total		**291,083.9**	**1.60%**	**100.00%**	**16,665**	**109,542**



Key observations are that:

- Units K-710 and K-709 (LP units) are responsible for 86.77% of the total Gas Withdrawal shortfall. In absolute terms, this represents 252,624.3 $x10^3$ m^3 of Gas Withdrawal Shortfall (1.38%). This is attributed to the combined 'N' configuration that these units exhibit for the majority of the time that they are required to operate, which is particularly substantial.
- Compressors are the most significant contributor to Gas Withdrawal Shortfall, accounting for 26.42% of total shortfall (76,537.0 $x10^3$ m^3, 0.42% absolute). This is attributed to the low compressor reliability associated with the critical units K-709 and K-710, which is significantly lower than all other units.
- Foundations are the 2nd highest contributor to Gas Withdrawal Shortfall, which is one of the main differences in comparison to the Gas Injection mode, accounting for 20.77% of total shortfall (60,167.5 $x10^3$ m^3, 0.33% absolute). The change in shortfall ranking is attributed to the fact that foundation failures in this mode of operation affects mostly units that have a high level of redundancy (K-701 and K-704), which is not the case in Gas Injection. However, the long duration associated with the repair of this maintainable item still results in a high contribution towards shortfall by this maintainable item, albeit not the top contributor.
- Next are the compressor Engines, which are responsible for 15.43% of total Gas Withdrawal Shortfall (44,714.8 $x10^3$ m^3, 0.25% absolute). As discussed previously, the average downtime duration of an engine is 425.6 hours, which is substantially higher than the 99.6 hours of average downtime required subsequent to a compressor failure. However, the low Compressor reliability of units K-709 and K-710 results in a higher raking of this Compressor maintainable item versus Engines.
- As in Gas Injection, the following items, with the exception of the Crankshaft, have downtime durations below 50 hours and are therefore ranked as follows with regard to Gas Withdrawal Shortfall:
    - Heating & Cooling – 12.55% of total shortfall (36,355.6 $x10^3$ m^3, 0.20% absolute) – predominantly due to glycol leaks.
    - Valve System – 10.86% of total shortfall (31,458.6 $x10^3$ m^3, 0.17% absolute).
    - Aftercooler – 8.88% of total shortfall (25,732.9 $x10^3$ m^3, 0.14% absolute).

- Crankshaft Assembly misalignment – 5.09% of total shortfall (14,750.8 x10^3 m^3, 0.08% absolute) – despite the high downtime associated with this item, it fails less frequently than the aforementioned items.

- Finally, it is important to note that the low frequency, high consequence failures (worst case scenario) associated with the Crankshaft, Engine, Aftercooler and Valve System items, despite their different nature, are not expected to contribute significantly to shortfall.

Conclusions

This section summarises the key conclusions that can be drawn from the results of the Gas Injection and Withdrawal Base Cases:

- The Efficiency of the Corunna facilities is lower during the Injection mode of operation (97.74%) than during the Withdrawal mode (98.70%). This is due to a higher number of days that the facilities will operate at Partial Capacity during Injection than in Withdrawal. In absolute terms, over the 5-year review period, this means that:
  - With regard to Gas Injection, 13,461,540 x10^3 m^3 of gas was injected against a Demand of 13,772,710 x10^3 m^3.
  - With regard to Gas Withdrawal, 17,872,477 x10^3 m^3 of gas was withdrawn against a Demand of 18,162,200 x10^3 m^3.
- Despite the expected increase in plant deterioration each year, which results in higher number of failures each year, it is forecasted that both Gas Injection and Gas Withdrawal Shortfall will decrease from 2022 to 2026. This decreasing trend is attributed to the potential incipient 1st foundation failure of certain compressor units. The decreasing shortfall trend is more pronounced in the Gas Injection mode as in particular, the 1st foundation failure is likely to affect a unit (K-704) that is in an 'N' configuration, which is not the case in Gas Withdrawal (K-701 is likely to be affected in this mode, but it has significant levels of sparing).
- Units K-704 & K-711 (HP) and K-709 & K-710 (LP), which predominantly operate in an 'N' configuration, are the most critical items with regard to the operation of the Corunna facilities. These units are forecasted to account for 99.56% and 86.79% of the total gas shortfall of the Injection and Withdrawal modes, respectively.
- With regard to Maintainable Items, the following can be concluded:
  - Foundations are the most significant contributor to Gas Injection Shortfall, accounting for 31.37% of total shortfall. This is attributed to the long duration associated with the repair of this maintainable item (between 1-5 months), and the likelihood to affect unit K-704, which has no level of redundancy. Engines and Compressors make up the top 3 ranking of Maintainable Item shortfall contributors, accounting for 23.46% and 20.61% of the total shortfall, respectively.
  - With regard to Gas Withdrawal, Compressors are the most significant contributor to shortfall, accounting for 26.42% of the total shortfall. This is attributed to the low compressor reliability associated with the critical units K-709 and K-710, which is significantly lower than all other units. Foundations and Engines make up the top 3 ranking of Maintainable Item shortfall contributors, accounting for 20.77% and 15.43% of the total shortfall, respectively.
- Finally, it is important to note that the low frequency, high consequence failures associated with the Crankshaft, Engine, Aftercooler and Valve System items are not expected to contribute significantly to shortfall.

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1 INTRODUCTION

The Corunna Compressor Station (CCS) is located near Mooretown ON. It uses 11 reciprocating compressor units to transport sweet natural gas to and from offsite underground storage facilities to transmission pipelines for eventual use in downstream distribution networks.

CCS has two modes of operation: injection and withdrawal. Injection operating mode takes gas from the two twin NPS 30 transmission pipelines from Dawn and flows the gas through CCS to the offsite storage pools. Withdrawal operating mode takes gas from the storage pool pipelines and flows through CCS into the transmission pipelines back to the Dawn facility.

Enbridge have asked DNV to undertake a Reliability, Availability and Maintainability (RAM) Study for the Corunna Compressor Station. The primary objective of this analysis is to forecast the current availability performance of the station and assess the impact of proposed modifications. This report details the assumptions, basis and results of the Corunna Compressor Station RAM model.



Figure 1.1 Corunna Compressor Station

2 RAM DEFINITIONS / ABBREVIATIONS

Definitions and descriptions for abbreviations are summarised in the table below:

Terminology/ Abbreviation	Definition/Description
Active Repair Time	Effective time to achieve repair of an item (see Figure 2.1)
Availability	(Time all required equipment is available) / (Time)*100%
CCS	Corunna Compressor Station
Critical (System)	Item or system required for gas flow
Critical Failure	Failure of an equipment unit that causes an immediate cessation of the ability to perform its function.
Demand	The level of gas flow to/from the CCS excluding all planned or unplanned losses.
Equipment Unit	Specific equipment within an equipment class as defined by its boundary.
Logistic Delay	Accumulated time during which maintenance cannot be carried out due to the time to acquire maintenance resources (personnel, spares, tools etc.)., including any administrative delay.
$10^3m^3/d$	Thousand Cubic Metres per Day
Mobilisation Time	Time to secure all necessary resources to execute maintenance.
MTBF	Mean Time Between Failures: Total operating time divided by the number of failures (not including downtime) for an element in the model (hours)
MTTF	Meant Time To Fail: Expectation of the time to failures, excluding repair times MTTF = MTBF - MTTR
MTTR	Mean Time To Repair: Time taken to perform the corrective maintenance on a failed item (hours). Same as Active Repair Time
'N' Configuration	Resilience terminology used to represent an equipment or system that is designed to cover the baseline demand but has no redundancy in place to accommodate any failure or maintenance operation. This can either comprise 1 item that fulfils 100% of the baseline demand or multiple items that in aggregate fulfil 100% of the baseline demand (e.g., 2 x 50%).
OREDA	Offshore and Onshore Reliability Data
Production Efficiency	Production efficiency (PE): (Actual Volume) / (Target Production) *100%
RAM	Reliability: Probability of system/item non-failure in a given period Availability: Proportion of time that the system/item performs its intended function Maintainability: Probability of repair in a given time
Shortfall	Proportion or amount of demand not produced (% or 10^3m^3)
TJ/d	Terajoules per day
Total Downtime	Sum of Downtime due to Mobilisation & Preparation Delay, Active Repair Time and Restart Delays (see Figure 2.1)
Uptime	(Time non-zero flow is achieved) / (Time)*100%
Utilization	The percentage of output volume achieved as a ratio of the system potential volume

Table 2.1 Definitions

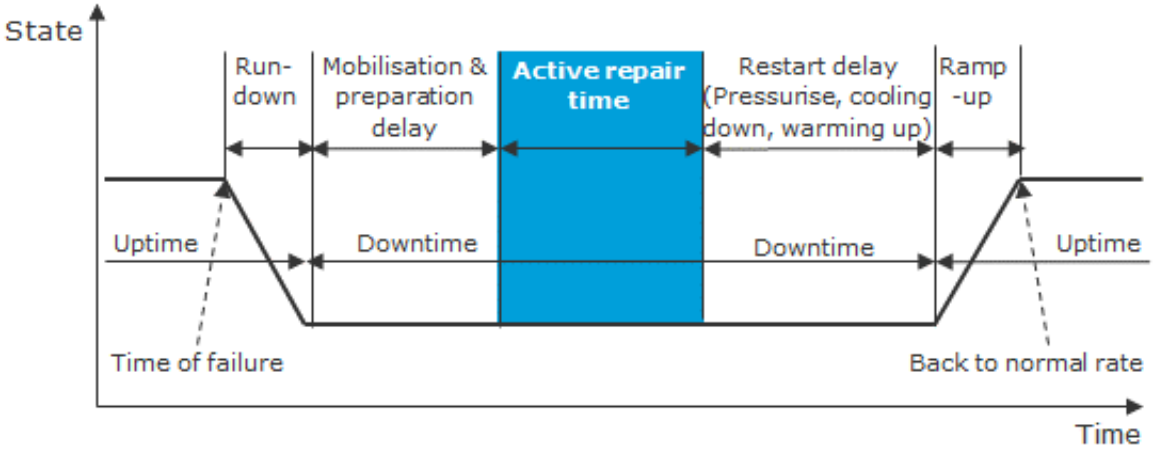


Figure 2.1 Active Repair Time

3 SCOPE OF WORK

3.1 Objectives

The objectives of the RAM study are as follows.

- Forecast Availability (%) and Uptime (%) of the CCS over the remaining operational life. The following operations will be assessed:
  - **Injection Mode**: Gas taken from Dawn facility and transferred to offsite storage pools.
  - **Withdrawal Mode:** Gas taken from offsite storage pools and transferred to Dawn facility.
- Identify key systems and equipment that result in Availability losses, and rank by system and equipment contributions (criticality analysis).
- Identify the potential area of performance improvement through consideration of defined sensitivity cases:
  - MP compressor replacement at Corunna by pipeline infrastructure (TR7), with the compression duty being shifted to the Dawn Facility.

3.2 Study Boundaries

The RAM study will consider all process and utility equipment critical to gas injection / withdrawal, within the following boundaries (represented diagrammatically in Figure 3.1) [1]:

Injection Mode

- Upstream: Inlet ESDVs from Dawn Facility (TR1/TR2)
- Downstream: Outlet ESDVs to Offsite Storage Pools* (Dow Moore/Mid Kimball-Colinville/ South Kimball-Colinville, Wikesport/Seckerton/Corunna/Ladysmith)

Withdrawal Mode

- Upstream: Inlet ESDV from Offsite Storage Pools* (Dow Moore/Mid Kimball-Colinville/ South Kimball-Colinville, Wikesport/Seckerton/Corunna/Ladysmith)
- Downstream: Outlet ESDV to Dawn Facility (TR1/TR2)

**Note: Availability will be measured on the total gas flow to/from all pools (flow to/from individual pools will be considered by equipment criticality only)*

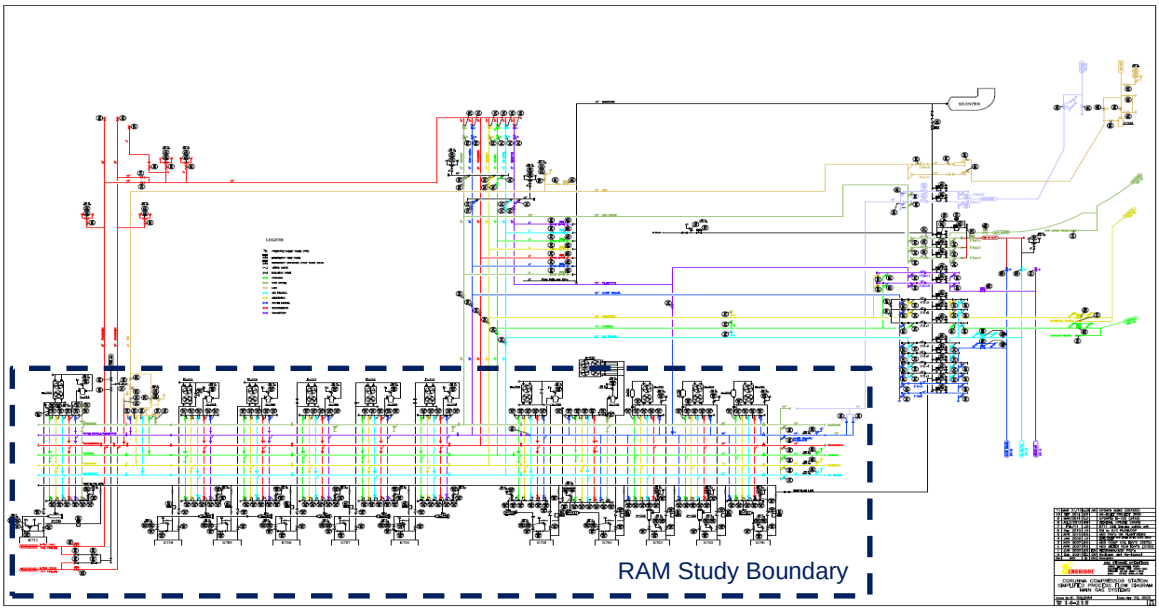


Figure 3.1 Corunna Compressor Station Simplified Flow Diagram (with RAM Study Boundary included)

3.3 Case Definition

3.3.1 Base Cases

Two Base Cases have been defined, pertaining to the Injection and Withdrawal modes of operation, which will be assessed separately. Moreover, as shall be seen in Section 4.1, the performance of the Corunna Station in both modes of operation will be assessed against a high demand scenario, to better understand the ability of the station to respond against worst case scenario (i.e., extreme winter) conditions. The outputs of the RAM Study Base Cases are detailed below:

Table 3.1 RAM Study Base Cases Output Parameters

Case	Outputs
Base Case Gas Injection	- Gas Injection Efficiency - Gas Injection Availability and Uptime - Identification of Gas Injection Shortfall Contributors (at an equipment level) - Forecasted Gas Compressor Downtime during the Injection cycle - Forecasted Gas Compressor Running Hours during the Injection cycle
Base Case Gas Withdrawal	- Gas Withdrawal Efficiency - Gas Withdrawal Availability and Uptime - Identification of Gas Withdrawal Shortfall Contributors (at an equipment level) - Forecasted Gas Compressor Downtime during the Withdrawal cycle - Forecasted Gas Compressor Running Hours during the Withdrawal cycle

4 BASE CASE MODELLING ASSUMPTIONS

The following list details the Base Case models basis and assumptions, which are considered in more detail in the following sections:

- Period of study: This RAM study is based on a 5-year look-ahead period.
- Two separate RAM models will be developed:
    - Injection (with compression).
    - Withdrawal (with compression).
- System demand: Availability will be measured against system demand. System demand is assumed to be equal to the injection/withdrawal profiles (see Section 4.1).
- Compressor Lineup (Section 4.2) [1] [2]:
    - List of compressors.
    - Lineup during compression modes (withdrawal and injection).
- Reliability data: Equipment level (See Section 4.3) [3].
- Maintenance and operations e.g., planned maintenance, logistic delays (Section 4.4).

4.1 Injection/Withdrawal Profiles

The Corunna Compressor Station transports sweet natural gas to and from offsite underground storage facilities to transmission pipelines for use in downstream distribution networks. The compressor station has two main modes of operation; injection and withdrawal. Injection operating mode takes gas from the two twin NPS 30 transmission pipelines from Dawn through metering before compression sends the gas to pool pipelines which transport the gas to the offsite storage pools. Withdrawal operating mode receives gas from the storage pool pipelines and “free flows” gas without the use of compression into the transmission pipelines until the reservoir pressure drops below a certain point. Once “free flow” is not possible due to the depressurization of the storage pools, the compressors are used to draw down the storage pools further and continue to export gas into the transmission pipelines.

A summary of the Injection and Withdrawal cycles over a ‘typical’ calendar year, that will be used in the RAM model, is summarised in Table 4.1.

Season	Calendar Period		Operating Mode	Avg. Time in Mode	Target Flow Rate		Compressor Configuration
	Start	End		days	TJ/d	$10^3m^3/d$	
Spring Shoulder	1st May	5th May	Outage on Main Plant	5	0	0	-
Injection	6th May	26th May	Free Flow	21	300	7,752	-
	27th May	30th Jun	Compression	35	650	16,796	MP (single lift)
	1st Jul	31st Jul	Compression	92	850	21,964	MP (single lift) + MP/HP (series mode) 2xHP
	1st Aug	31st Aug			850	21,964	MP (single lift) + MP/HP (series mode) 2xHP
	1st Sep	30th Sep			700	18,088	MP (single lift) + MP/HP (series mode) 2xHP
	1st Oct	21st Oct		21	350	9,044	MP/HP (series mode) – 1x HP
	22nd Oct	31st Oct	Compression	10	280	7,235	HP mode (single lift) 2xHP
Fall Shoulder	1st Nov	5th Nov	Outage on Main Plant	5	0	0	-
Withdrawal	6th Nov	26th Nov	Free Flow	21	600	15,504	-
	27th Nov	31st Dec	Compression	35	850	21,964	MP (single lift)
	1st Jan	27th Jan	Compression	27	950	24,548	MP /LP (series mode) + MP (single lift)
	28th Jan	31st Jan	Compression - PEAK	4	2415	62,400	MP / LP / HP (10 of 11 units in parallel, single lift)
	1st Feb	27th Feb	Compression	27	950	24,548	MP /LP (series mode) + MP (single lift)
	28th Feb	28th Feb	Compression – Design Day	1	2415	62,400	MP / LP / HP (10 of 11 units in parallel, single lift)
	1st Mar	31st Mar	Compression	31	950	24,548	MP /LP (series mode) + MP (single lift)
	1st Apr	30th Apr	Compression	30	600	15,504	MP /LP (series mode)

Table 4.1 Typical Operating Envelope

4.2 Compressor Nominal Capacity & Line-up

Table 4.2 summarises the compressor nominal capacity, which plays a key role in the determination of the nominal compressor line-up. Furthermore, the nominal compressor line-up, used to produce an accurate representation of the varying Base Case gas demand throughout the Injection and Withdrawal cycles over a calendar year is reported diagrammatically in Sections 4.2.1 and 4.2.2, respectively. For each compressor unit, a % contribution to target flow is given for each operating 'phase' of the pressure cycle.

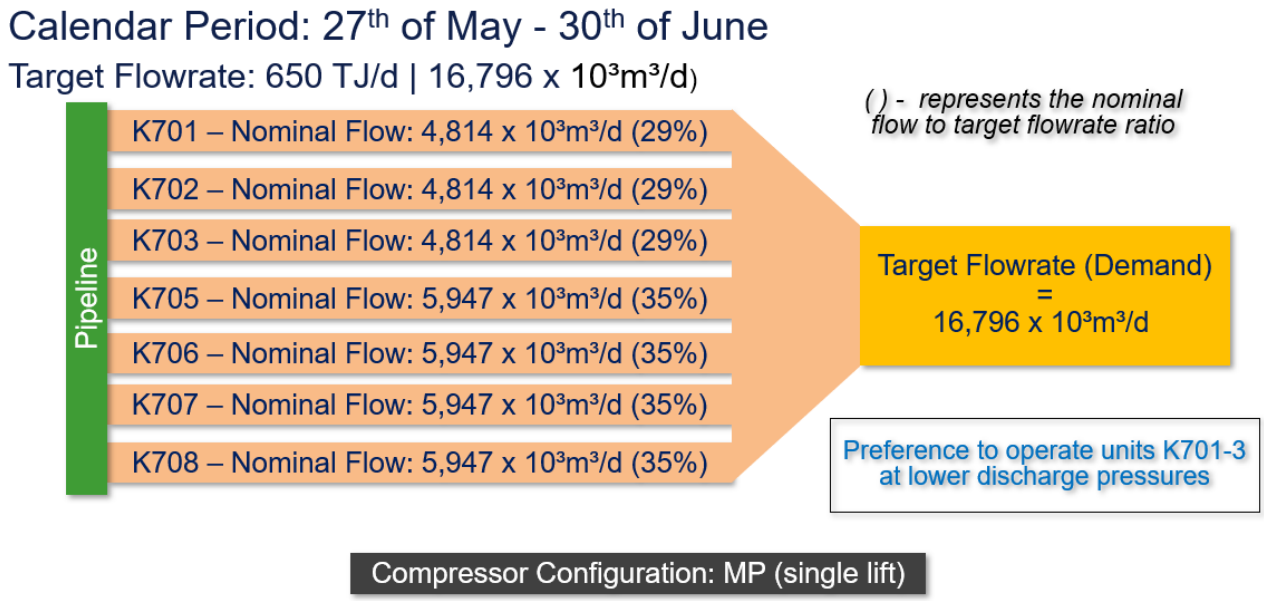
Table 4.2 Compressor Nominal Capacity

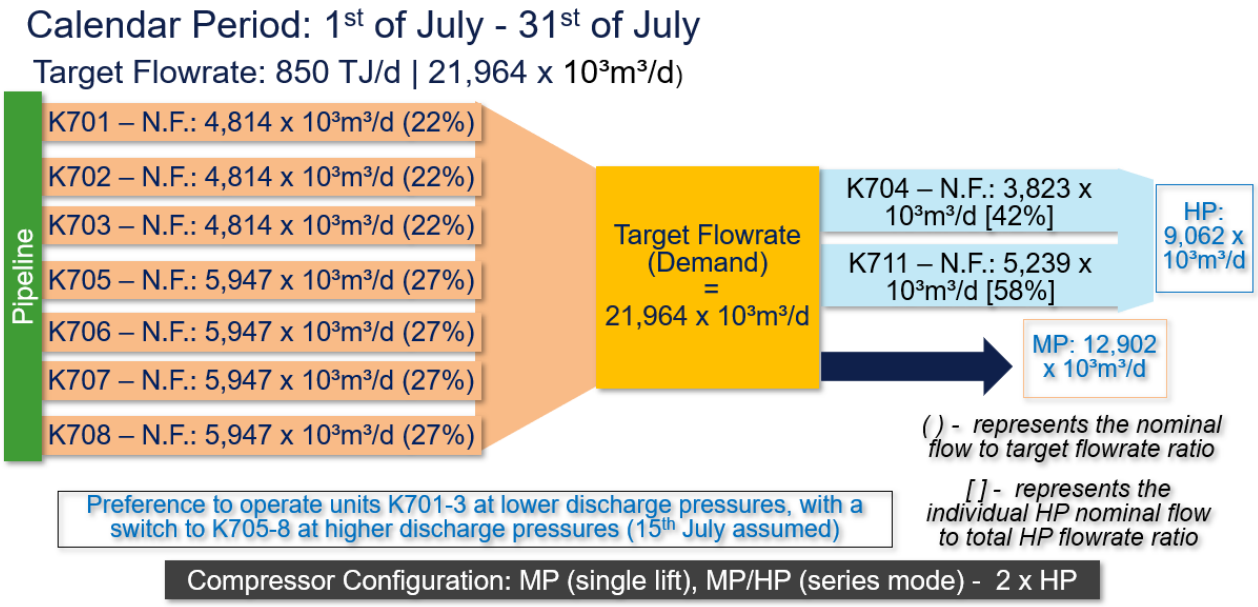
Tag	Mode	Nominal Max Flow*		Nominal % of Flow Demand
		MMscfd	$10^3m^3/d$	
K701	MP	170	4814	See diagrams in Sections 4.2.1 and 4.2.2
K702	MP	170	4814	
K703	MP	170	4814	
K704	HP	135	3823	
K705	MP	210	5947	
K706	MP	210	5947	
K707	MP	210	5947	
K708	MP	210	5947	
K709	LP	260	7362	
K710	LP	260	7362	
K711	HP	185	5239	

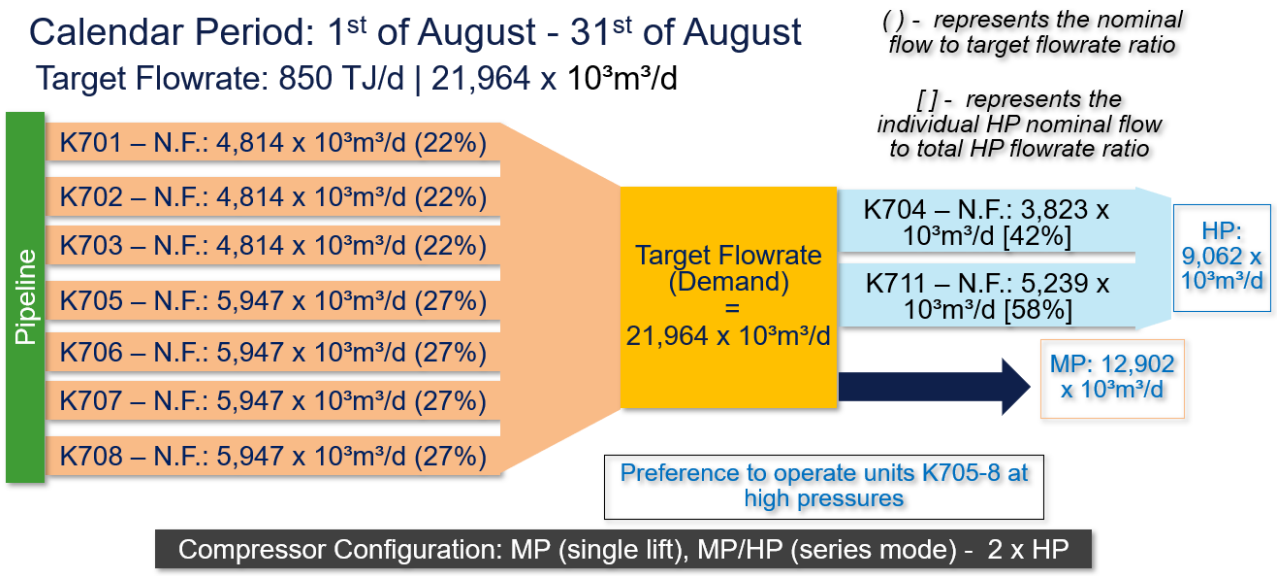
*Actual Max Flowrate of each compressor varies +-30% on suction /discharge pressure

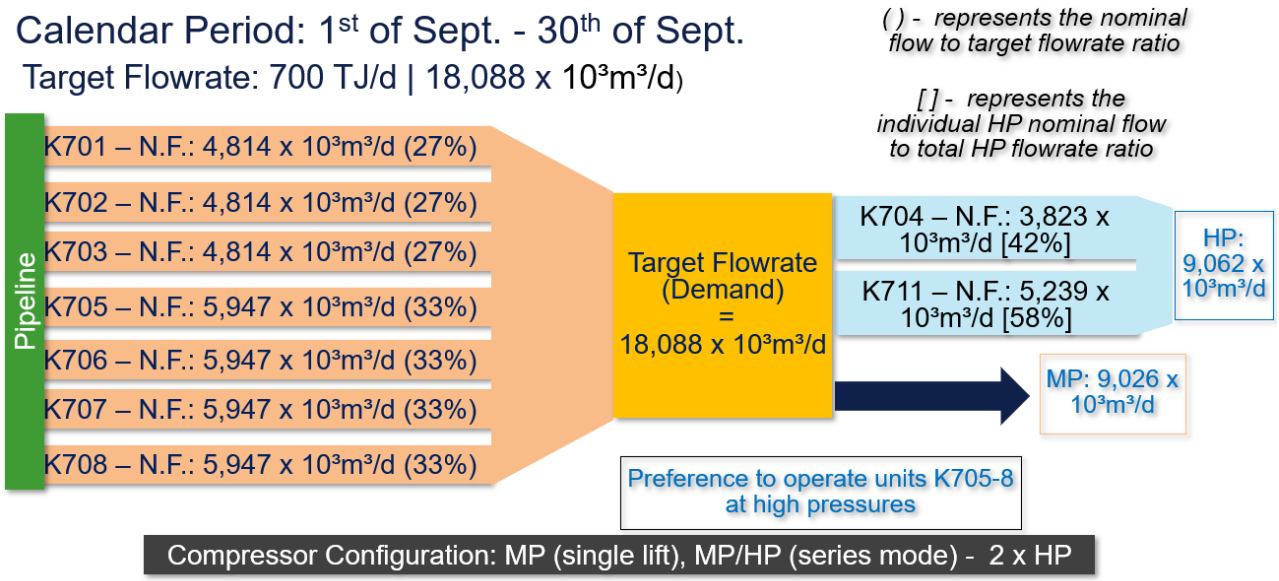
It is important to acknowledge that the Base Case gas demand reported in the following sections represents a conservative scenario (i.e., cold Winter season).

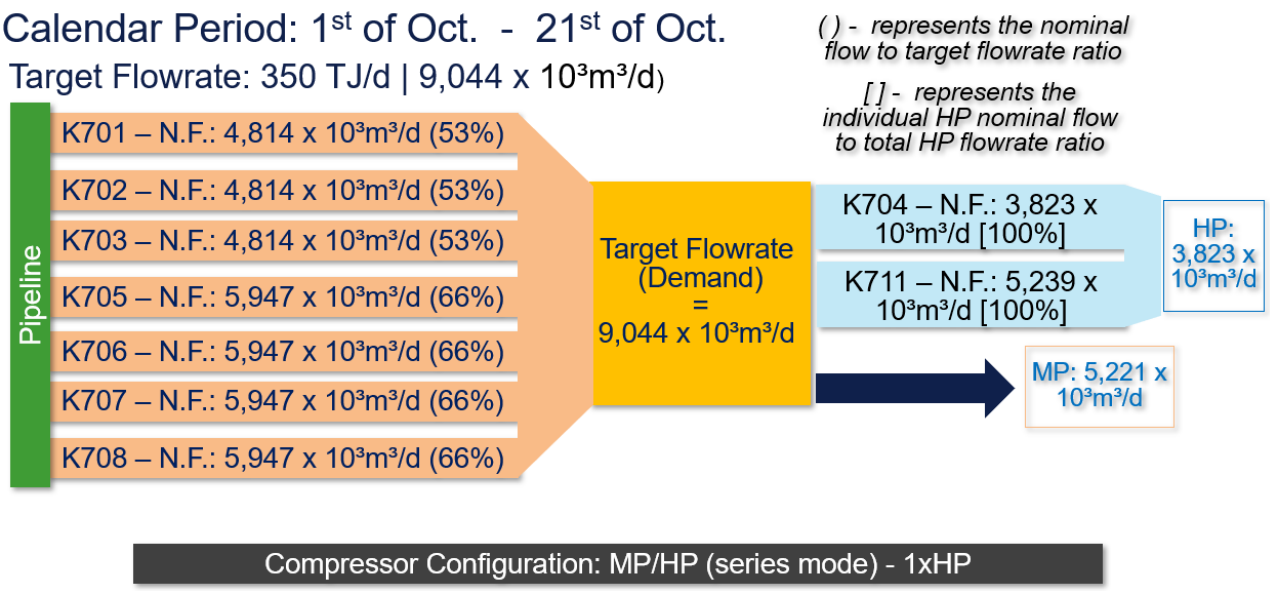
4.2.1 Nominal Compressor Line-up – Injection Mode

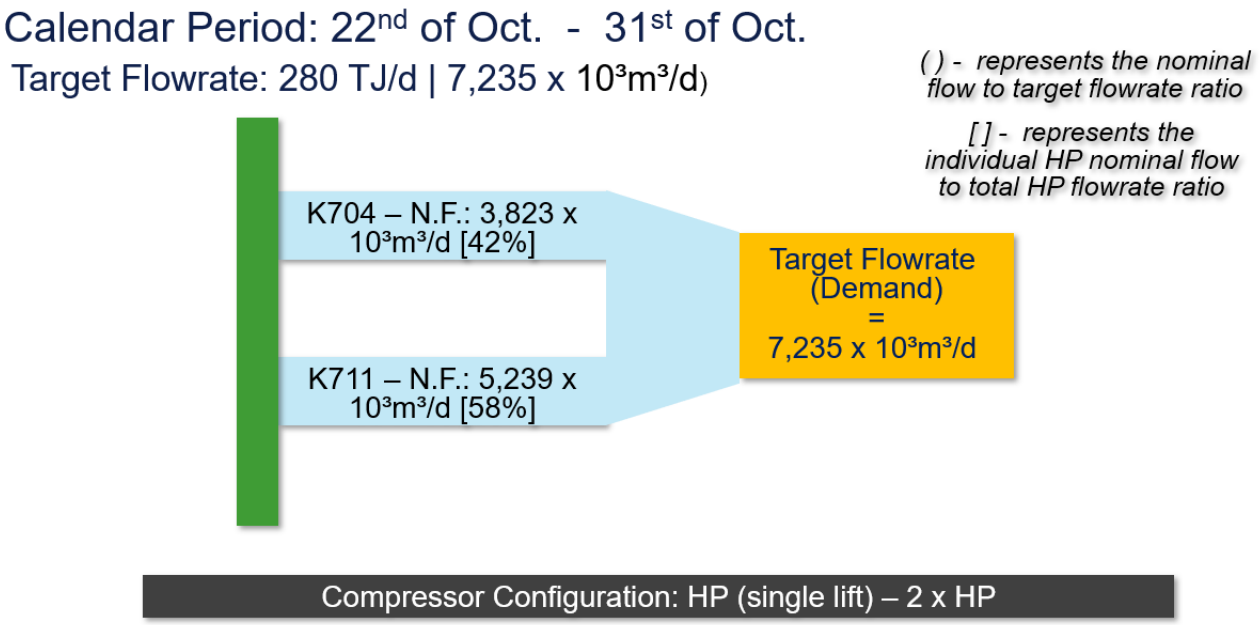




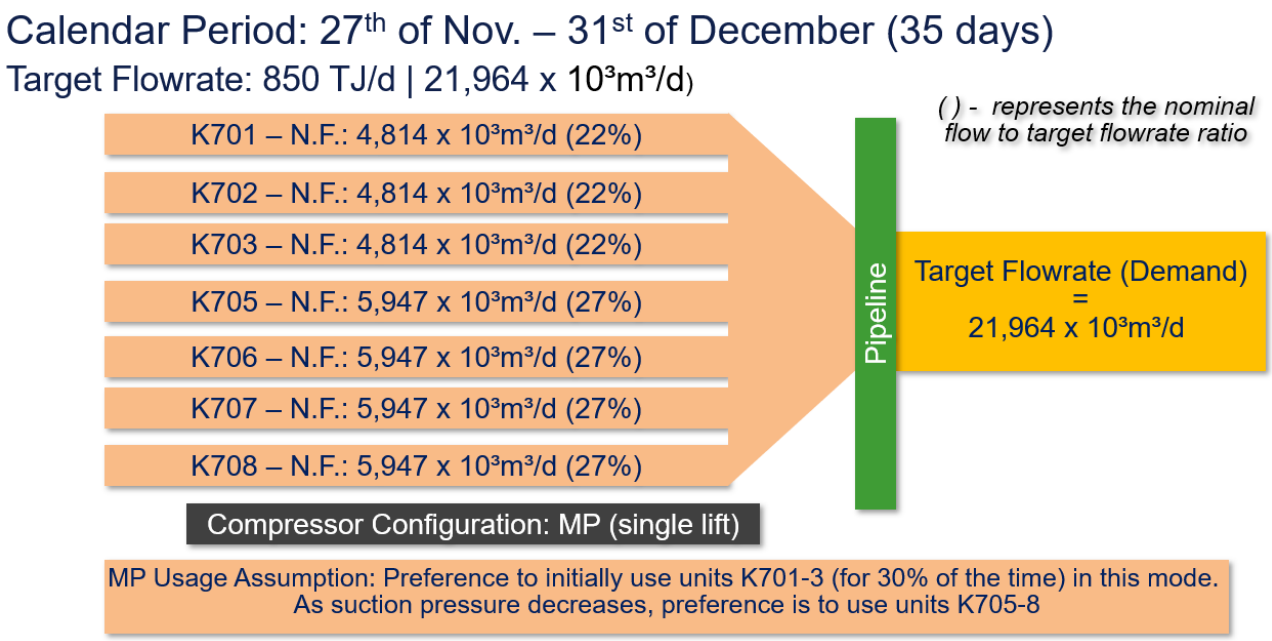

Calendar Period: 1st of August - 31st of August
Target Flowrate: 850 TJ/d | 21,964 x 10³m³/d
( ) - represents the nominal flow to target flowrate ratio
[ ] - represents the individual HP nominal flow to total HP flowrate ratio
Pipeline
K701 – N.F.: 4,814 x 10³m³/d (22%)
K702 – N.F.: 4,814 x 10³m³/d (22%)
K703 – N.F.: 4,814 x 10³m³/d (22%)
K705 – N.F.: 5,947 x 10³m³/d (27%)
K706 – N.F.: 5,947 x 10³m³/d (27%)
K707 – N.F.: 5,947 x 10³m³/d (27%)
K708 – N.F.: 5,947 x 10³m³/d (27%)
Target Flowrate (Demand) = 21,964 x 10³m³/d
K704 – N.F.: 3,823 x 10³m³/d [42%]
K711 – N.F.: 5,239 x 10³m³/d [58%]
HP: 9,062 x 10³m³/d
MP: 12,902 x 10³m³/d
Preference to operate units K705-8 at high pressures
Compressor Configuration: MP (single lift), MP/HP (series mode) - 2 x HP

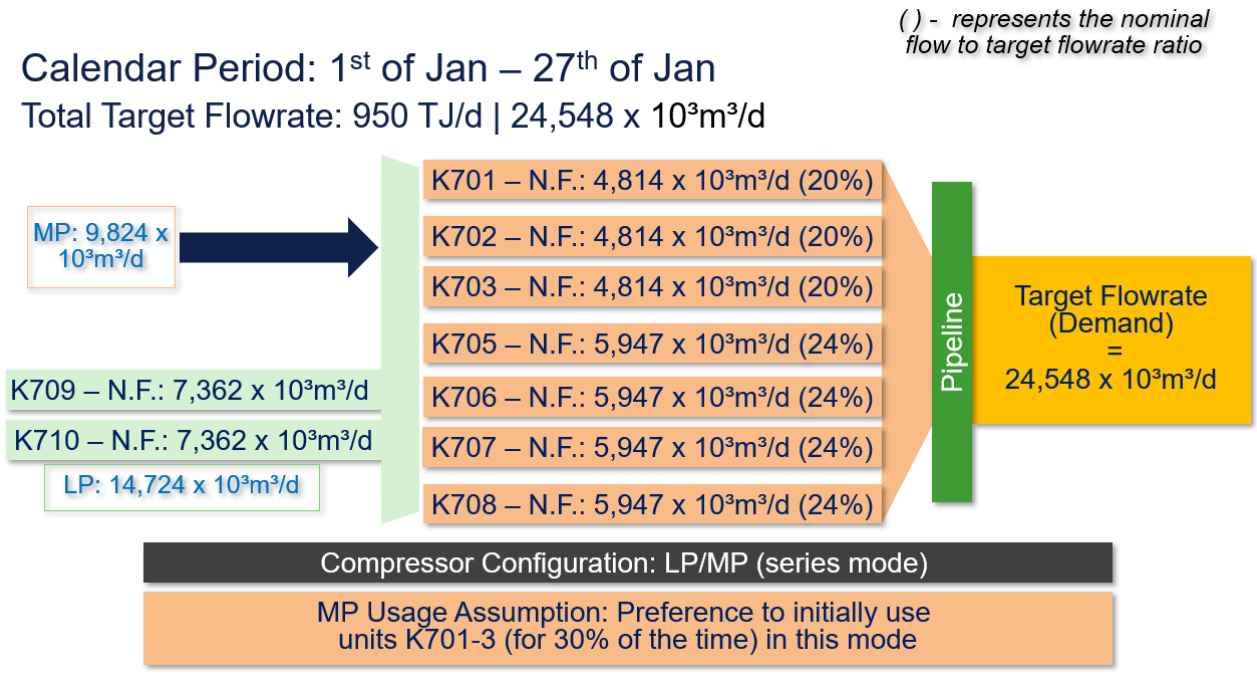

Calendar Period: 1st of Sept. - 30th of Sept.
Target Flowrate: 700 TJ/d | 18,088 x 10³m³/d)
( ) - represents the nominal flow to target flowrate ratio
[ ] - represents the individual HP nominal flow to total HP flowrate ratio
Pipeline
K701 – N.F.: 4,814 x 10³m³/d (27%)
K702 – N.F.: 4,814 x 10³m³/d (27%)
K703 – N.F.: 4,814 x 10³m³/d (27%)
K705 – N.F.: 5,947 x 10³m³/d (33%)
K706 – N.F.: 5,947 x 10³m³/d (33%)
K707 – N.F.: 5,947 x 10³m³/d (33%)
K708 – N.F.: 5,947 x 10³m³/d (33%)
Target Flowrate (Demand) = 18,088 x 10³m³/d
K704 – N.F.: 3,823 x 10³m³/d [42%]
K711 – N.F.: 5,239 x 10³m³/d [58%]
HP: 9,062 x 10³m³/d
MP: 9,026 x 10³m³/d
Preference to operate units K705-8 at high pressures
Compressor Configuration: MP (single lift), MP/HP (series mode) - 2 x HP

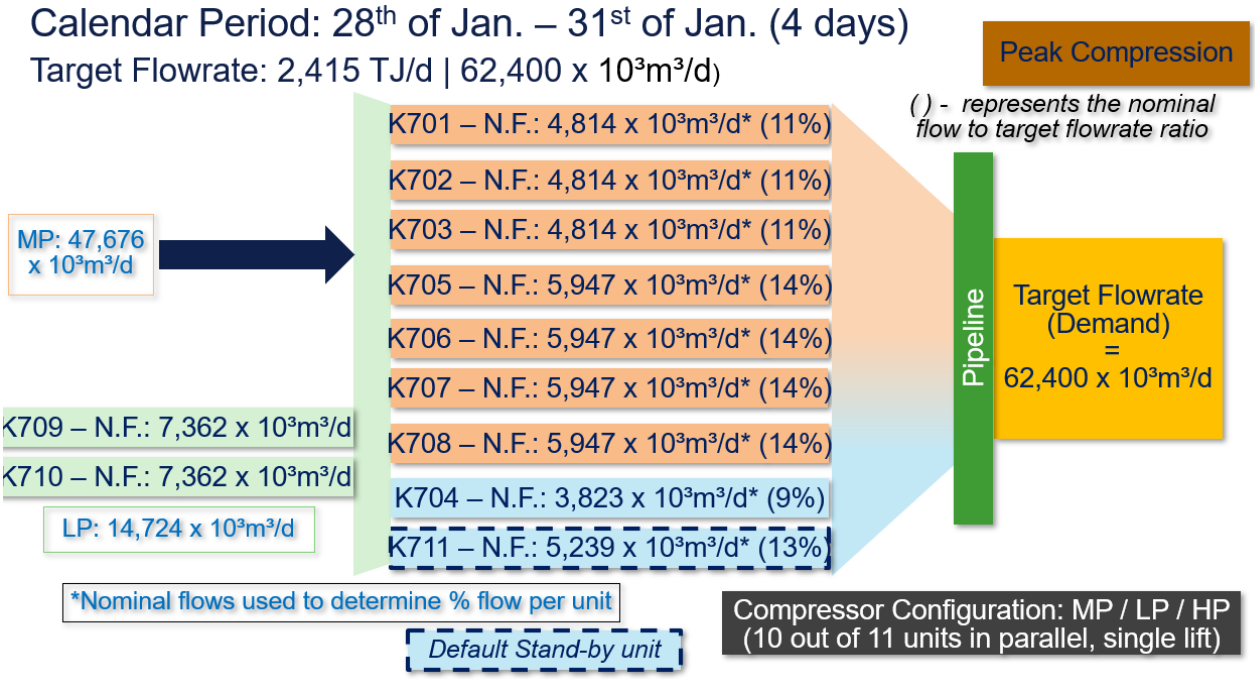

Calendar Period: 1st of Oct. - 21st of Oct.
Target Flowrate: 350 TJ/d | 9,044 x 10³m³/d)
( ) - represents the nominal flow to target flowrate ratio
[ ] - represents the individual HP nominal flow to total HP flowrate ratio
Pipeline
K701 – N.F.: 4,814 x 10³m³/d (53%)
K702 – N.F.: 4,814 x 10³m³/d (53%)
K703 – N.F.: 4,814 x 10³m³/d (53%)
K705 – N.F.: 5,947 x 10³m³/d (66%)
K706 – N.F.: 5,947 x 10³m³/d (66%)
K707 – N.F.: 5,947 x 10³m³/d (66%)
K708 – N.F.: 5,947 x 10³m³/d (66%)
Target Flowrate (Demand) = 9,044 x 10³m³/d
K704 – N.F.: 3,823 x 10³m³/d [100%]
K711 – N.F.: 5,239 x 10³m³/d [100%]
HP: 3,823 x 10³m³/d
MP: 5,221 x 10³m³/d
Compressor Configuration: MP/HP (series mode) - 1xHP

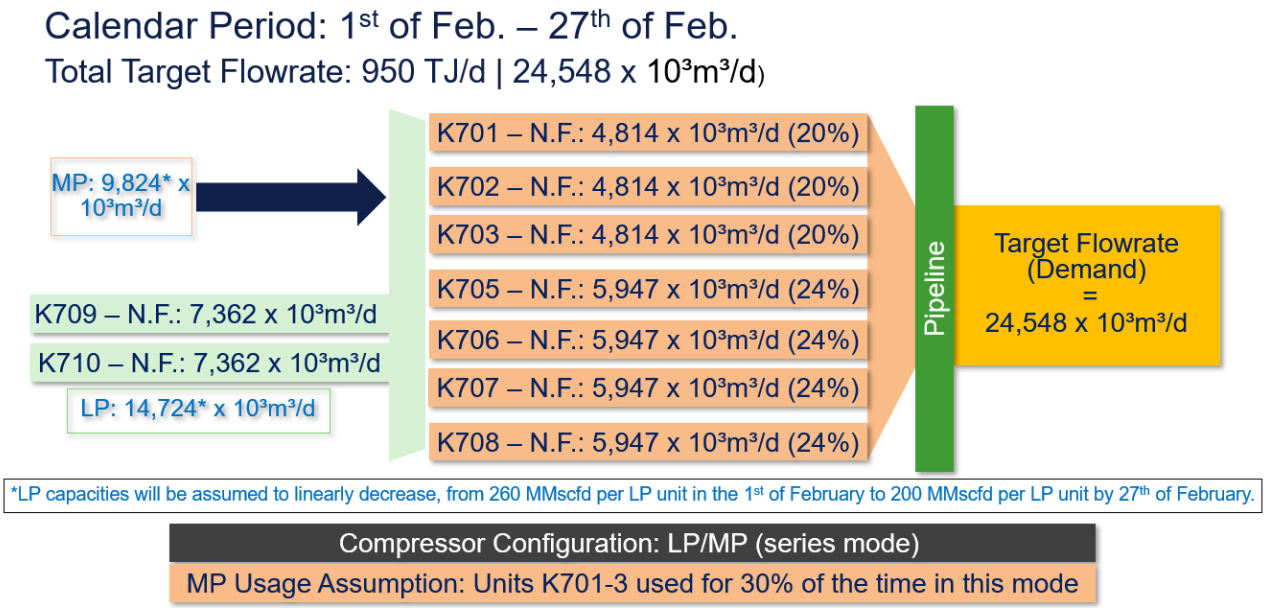

Calendar Period: 22nd of Oct. - 31st of Oct.
Target Flowrate: 280 TJ/d | 7,235 x 10³m³/d)
( ) - represents the nominal flow to target flowrate ratio
[ ] - represents the individual HP nominal flow to total HP flowrate ratio
K704 – N.F.: 3,823 x 10³m³/d [42%]
K711 – N.F.: 5,239 x 10³m³/d [58%]
Target Flowrate (Demand) = 7,235 x 10³m³/d
Compressor Configuration: HP (single lift) – 2 x HP

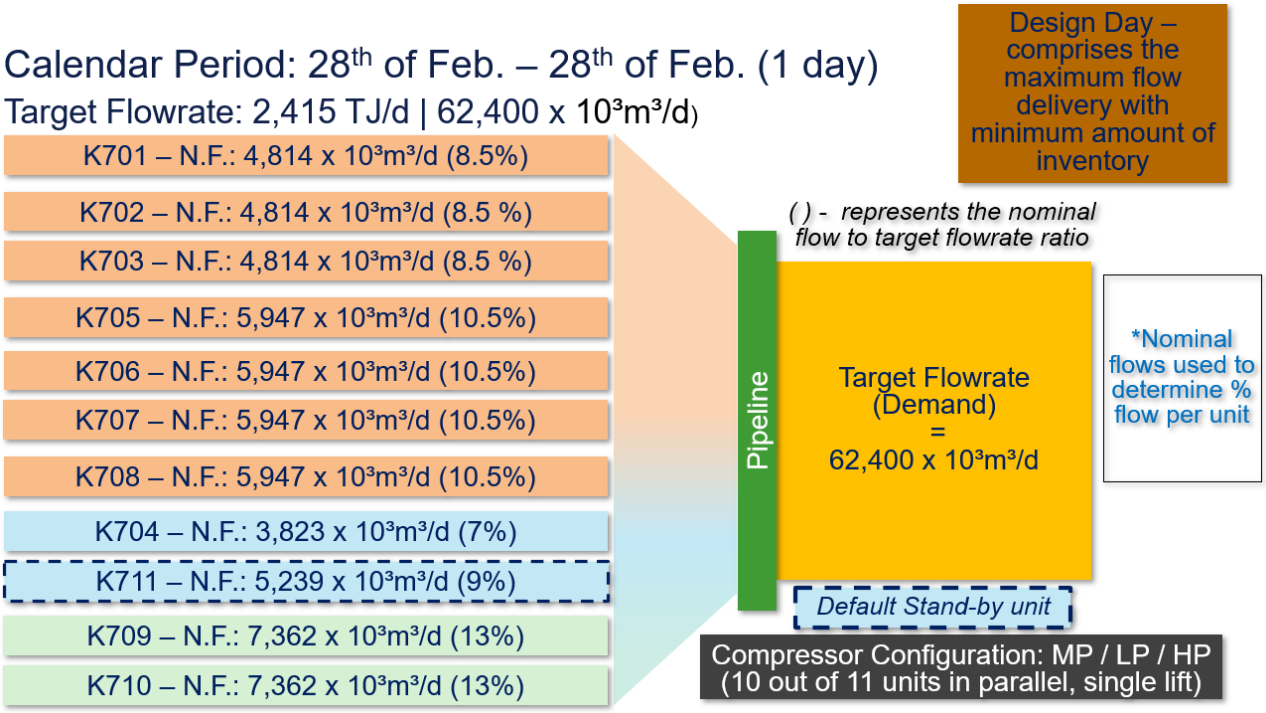
4.2.2 Nominal Compressor Line-up – Withdrawal Mode

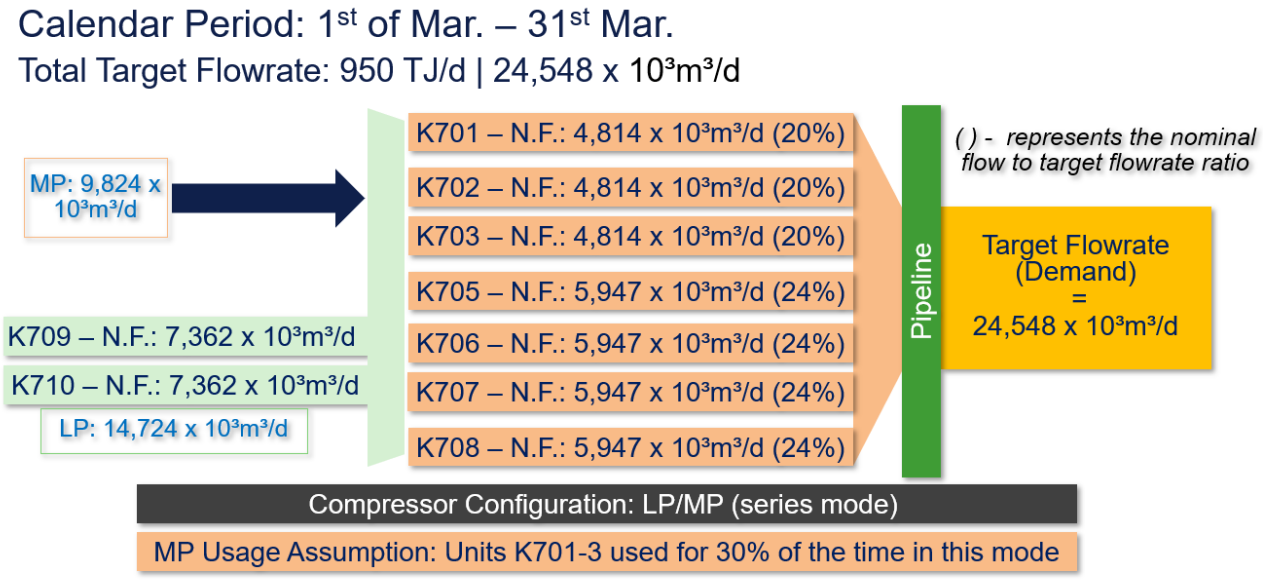


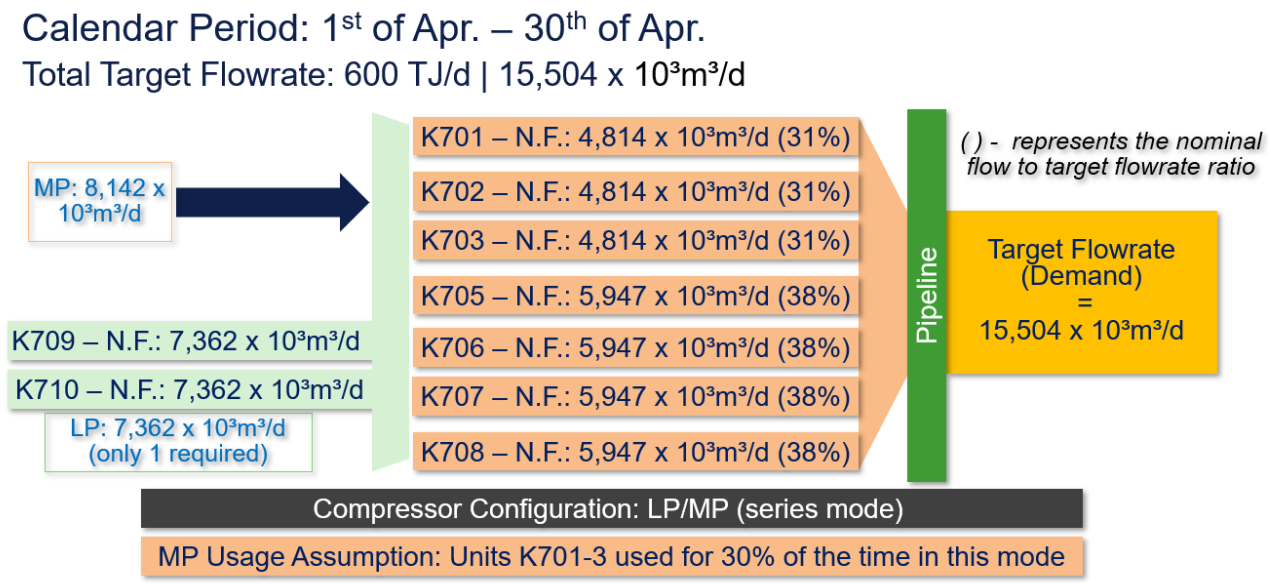



Calendar Period: 28th of Jan. – 31st of Jan. (4 days)
Target Flowrate: 2,415 TJ/d | 62,400 x 10³m³/d)
Peak Compression
( ) - represents the nominal flow to target flowrate ratio
MP: 47,676 x 10³m³/d
LP: 14,724 x 10³m³/d
K701 – N.F.: 4,814 x 10³m³/d* (11%)
K702 – N.F.: 4,814 x 10³m³/d* (11%)
K703 – N.F.: 4,814 x 10³m³/d* (11%)
K705 – N.F.: 5,947 x 10³m³/d* (14%)
K706 – N.F.: 5,947 x 10³m³/d* (14%)
K707 – N.F.: 5,947 x 10³m³/d* (14%)
K708 – N.F.: 5,947 x 10³m³/d* (14%)
K704 – N.F.: 3,823 x 10³m³/d* (9%)
K711 – N.F.: 5,239 x 10³m³/d* (13%)
Pipeline
Target Flowrate (Demand) = 62,400 x 10³m³/d
*Nominal flows used to determine % flow per unit
Default Stand-by unit
Compressor Configuration: MP / LP / HP
(10 out of 11 units in parallel, single lift)


Calendar Period: 1st of Feb. – 27th of Feb.
Total Target Flowrate: 950 TJ/d | 24,548 x 10³m³/d)
MP: 9,824* x 10³m³/d
K709 – N.F.: 7,362 x 10³m³/d
K710 – N.F.: 7,362 x 10³m³/d
LP: 14,724* x 10³m³/d
K701 – N.F.: 4,814 x 10³m³/d (20%)
K702 – N.F.: 4,814 x 10³m³/d (20%)
K703 – N.F.: 4,814 x 10³m³/d (20%)
K705 – N.F.: 5,947 x 10³m³/d (24%)
K706 – N.F.: 5,947 x 10³m³/d (24%)
K707 – N.F.: 5,947 x 10³m³/d (24%)
K708 – N.F.: 5,947 x 10³m³/d (24%)
Pipeline
Target Flowrate (Demand) = 24,548 x 10³m³/d
*LP capacities will be assumed to linearly decrease, from 260 MMscfd per LP unit in the 1st of February to 200 MMscfd per LP unit by 27th of February.
Compressor Configuration: LP/MP (series mode)
MP Usage Assumption: Units K701-3 used for 30% of the time in this mode


Calendar Period: 28th of Feb. – 28th of Feb. (1 day)
Target Flowrate: 2,415 TJ/d | 62,400 x 10³m³/d)
Design Day – comprises the maximum flow delivery with minimum amount of inventory
K701 – N.F.: 4,814 x 10³m³/d (8.5%)
K702 – N.F.: 4,814 x 10³m³/d (8.5 %)
K703 – N.F.: 4,814 x 10³m³/d (8.5 %)
K705 – N.F.: 5,947 x 10³m³/d (10.5%)
K706 – N.F.: 5,947 x 10³m³/d (10.5%)
K707 – N.F.: 5,947 x 10³m³/d (10.5%)
K708 – N.F.: 5,947 x 10³m³/d (10.5%)
K704 – N.F.: 3,823 x 10³m³/d (7%)
K711 – N.F.: 5,239 x 10³m³/d (9%)
K709 – N.F.: 7,362 x 10³m³/d (13%)
K710 – N.F.: 7,362 x 10³m³/d (13%)
( ) - represents the nominal flow to target flowrate ratio
Pipeline
Target Flowrate (Demand) = 62,400 x 10³m³/d
*Nominal flows used to determine % flow per unit
Default Stand-by unit
Compressor Configuration: MP / LP / HP (10 out of 11 units in parallel, single lift)


Calendar Period: 1st of Mar. – 31st Mar.
Total Target Flowrate: 950 TJ/d | 24,548 x 10³m³/d
MP: 9,824 x 10³m³/d
K709 – N.F.: 7,362 x 10³m³/d
K710 – N.F.: 7,362 x 10³m³/d
LP: 14,724 x 10³m³/d
K701 – N.F.: 4,814 x 10³m³/d (20%)
K702 – N.F.: 4,814 x 10³m³/d (20%)
K703 – N.F.: 4,814 x 10³m³/d (20%)
K705 – N.F.: 5,947 x 10³m³/d (24%)
K706 – N.F.: 5,947 x 10³m³/d (24%)
K707 – N.F.: 5,947 x 10³m³/d (24%)
K708 – N.F.: 5,947 x 10³m³/d (24%)
( ) - represents the nominal flow to target flowrate ratio
Pipeline
Target Flowrate (Demand) = 24,548 x 10³m³/d
Compressor Configuration: LP/MP (series mode)
MP Usage Assumption: Units K701-3 used for 30% of the time in this mode



4.3 Reliability Data

The model will use reliability data specific to the Corunna facility, extracted from Asset Health Report "StorageAHR-2021AHR-BF20210408" [3] – this data is based on historical CMMS records (MAXIMO). Each compressor unit will be defined by the following systems:

- Foundation
- Crank Assembly
- Engine
- Compressor
- Aftercooler
- Heating & Cooling
- Valve System

The sub-systems and equipment items contained within each system are presented in Figure 4.1.

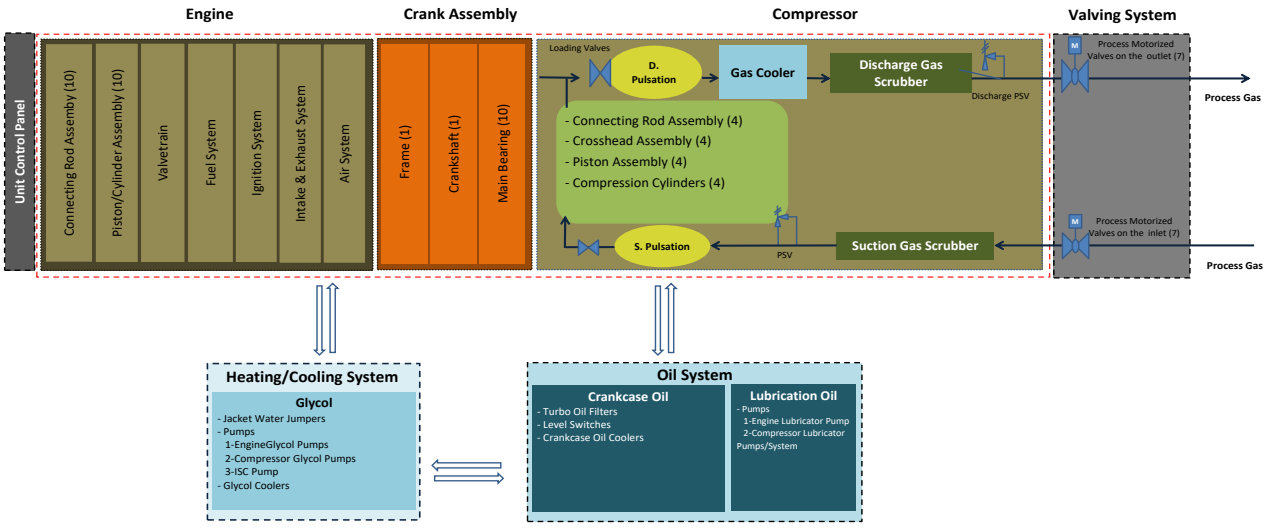


Figure 4.1 Compressor Unit Systems Envelope

Data to be used in the model will take consideration of each compressor unit's reliability, maintenance, and operating history. The following information provides the basis of the reliability data that will be used in the RAM models:

Table 4.3 MTBF Data from AHR Report for 1st Foundation Failure

Unit#	MTBF (hrs)
	Foundation
K701	6,143
K702	24,971
K703	22,685
K704	4,938
K705	56,762
K706	57,121
K707	56,717
K708	30,908
K709	52,669
K710	45,780
K711	38,882

Table 4.4 Characteristic Lifetime (η) Data from AHR Report to be used as MTTF in Remaining Failure Modes

Asset Sub-Class	Applicable Failure Mode	Model Parameters	
		β	η (hr)
Foundation	Degradation	3.3	93,034
Crankshaft	Misalignment	2.3	54,729
Engine (K701-708 & K711)	Critical Component Failure	1.49	10,596
Engine (K709 & K710)	Critical Component Failure	2.34	15,338
Compressor (K701-708 & K711)	Critical Component Failure	1.4	6,042
Compressor (K709&710)	Critical Component Failure	2.03	3,365
Aftercooler	Component Failure	1.35	8,683
Heating & Cooling System	Component Failure	1.1	23,034
	Glycol Leak	1.37	5,207
Valving System	Actuator/Leak/Failure to Operate	1.54	7,520

Table 4.5 Total Downtime Breakdown per Asset Subsystem & Additional Failure Information

Asset Subsystem	Total Downtime (Delay + Actual Repair) – Oct. 2021	Frequency	DNV Comment
Foundation	5 months replacement	4 replacements in total (not including 704) (since units' installation)	

Asset Subsystem	Total Downtime (Delay + Actual Repair) – Oct. 2021	Frequency	DNV Comment
	1-month temporary fix	6 repairs in total (since units' installation)	10 events in total. Based on the breakdown provided, a 40%/60% split of the individual Foundation MTBF will be assumed, as reflected in Table 4.7.
Crankshaft	Misalignment due to Main bearing failure (30% of failures) = 14 days	-	30% of the individual Crankshaft MTBF will be attributed to Misalignment due to bearing failure, as reflected in Table 4.7.
	Misalignment due to foundation (70% of failures) = temporary fix 1 month	-	Misalignment due to foundation will not be considered in the model as it is already accounted as part of the Foundation failure mode.
	Worst case Scenario: Broken Crank Replacement 18 months = crank needed to be ordered, 6-8 months to get the crank from England	1 in units' lifespan	Assumed MTTF = 660,000 hours (30 years x 2000* hours x 11 units) / 1 failure Assumed Downtime = 13,140 hours (18 months) **2000 running hours per year assumed on average for each unit*
Engine	All repairs with the exception of 'Worst case scenario' assume all required parts are available, with the total downtime defined in the histogram in Table 4.7b	-	
	Worst case scenario Camshaft component broken: 3 weeks	1 in 30 years	Assumed MTTF = 660,000 hours (30 years x 2000* hours x 11 units) / 1 failure Assumed Downtime = 504 hours **2000 running hours per year assumed on average for each unit*
Compressor	All repairs with the exception of 'Worst case scenario' assume all required parts are available, with the total downtime defined in the histogram in Table 4.7b	-	
Gas Aftercooler	All repairs with the exception of 'Worst case scenario' assume all required parts are available, with a total downtime of 1 day	-	
	Worst case scenario: Broken blades takes 2 weeks	2 in 30 years	Assumed MTTF = 330,000 hours (30 years x 2000* hours x 11 units) / 2 failures Assumed Downtime = 336 hours **2000 running hours per year assumed on average for each unit*
Heating & Cooling Systems	All repairs with the exception of 'Worst case scenario' assume all required parts are available, with a total downtime of 2 days	-	
Valving System	All repairs with the exception of 'Worst case scenario' assume all required parts are available, with a total downtime of 1 day	-	
	Worst case scenario, taking apart the valves: 1 week the longest	3 in 30 years	Assumed MTTF = 110,000 hours (30 years x 2000* hours x 11 units) / 3 failures Assumed Downtime = 168 hours **2000 running hours per year assumed on average for each unit*

Table 4.6 Projected Number of Failures (based on actual 5-year average of running hours for each unit

	Foundation	Crank Assembly	Engine	Compressor	Aftercooler	Heating & Cooling System	Valve System
2021	1.247	1.566	7.975	9.638	5.007	8.499	7.472
2022	1.291	1.613	8.017	9.652	5.031	8.523	7.501
2023	1.337	1.661	8.057	9.665	5.054	8.546	7.529
2024	1.383	1.708	8.098	9.678	5.078	8.568	7.557
2025	1.429	1.755	8.137	9.690	5.100	8.590	7.583
2026	1.475	1.803	8.175	9.702	5.122	8.611	7.609

Table 4.7 summarises the reliability data for each compressor unit, using the following parameters:

- Mean Time To Fail (MTTF)
- Total Downtime per Failure
- Annual Deterioration Rate

For reference purposes, below are examples of how different parameters in Table 4.7 were calculated:

- Foundation 1st Failure MTTF (unit K701 used as an example):
  - *MTBF from* Table 4.3 *x (Hours in 1 Calendar Year / Assumed Compressor Running Hours) = 6,143 x (8,760 / 2,000) = 26,906 hours*
- Foundation 2nd Failure MTTF (applicable to all units):
  - *η from* Table 4.4 *x (Hours in 1 Calendar Year / Assumed Compressor Running Hours) = 93,034 x (8,760 / 2,000) = 407,489 hours*
- Crank Assembly Misalignment due to Bearing Failure MTTF (30% of the failures - applicable to all units):
  - *η from* Table 4.4 */ 0.3 = 54,729 / 0.3 = 182,430 hours*
- Engine Failure MTTF (applicable to units K-701 – K-708 & K-711):
  - *η from* Table 4.4= *10,596 hours*
- Engine Failure MTTF (applicable to units K-709 & K-710):
  - *η from* Table 4.4= *15,338 hours*
- Compressor Deterioration Factor for Compressors in 2022 and 2026:
  - *2022: Failure Count in 2022 / Failure Count in 2021 = 9.652 / 9.638 = 1.001*
  - *2026: Failure Count in 2026 / Failure Count in 2021 = 9.702 / 9.638 = 1.007*

Table 4.7 RAM Study Reliability Data

Unit#	MTTF for OPTAGON (hrs)								
	Foundation 1st Failure*	Foundation - 2nd Failure*	Crank Assembly - Misalignment due to Bearing (30%) ¥	Engine ¥	Compressor ¥	Aftercooler ¥	Heating & Cooling (critical failure) ¥	Heating & Cooling (glycol leak) ¥	Valve System ¥
K701	26,906	407,489	182,430	10,596	6,042	8,683	23,034	5,207	7,520
K702	109,373	407,489	182,430	10,596	6,042	8,683	23,034	5,207	7,520
K703	99,360	407,489	182,430	10,596	6,042	8,683	23,034	5,207	7,520
K704	21,628	407,489	182,430	10,596	6,042	8,683	23,034	5,207	7,520
K705	248,618	407,489	182,430	10,596	6,042	8,683	23,034	5,207	7,520
K706	250,190	407,489	182,430	10,596	6,042	8,683	23,034	5,207	7,520
K707	248,420	407,489	182,430	10,596	6,042	8,683	23,034	5,207	7,520
K708	135,377	407,489	182,430	10,596	6,042	8,683	23,034	5,207	7,520
K709	230,690	407,489	182,430	15,338	3,365	8,683	23,034	5,207	7,520
K710	200,516	407,489	182,430	15,338	3,365	8,683	23,034	5,207	7,520
K711	170,303	407,489	182,430	10,596	6,042	8,683	23,034	5,207	7,520
Total Downtime per Failure (hours, unless stated otherwise)									
All	40% chance of 5 months, 60% chance of 1 month (temporary fix)		336	See below	See below	24	48	12 (assumed)	24
Annual Deterioration Factors									
2021 - Reference	1.000		1.000	1.000	1.000	1.000	1.000		1.000
2022	1.036		1.030	1.005	1.001	1.005	1.003		1.004
2023	1.072		1.060	1.010	1.003	1.010	1.005		1.008
2024	1.109		1.091	1.015	1.004	1.014	1.008		1.011
2025	1.146		1.121	1.020	1.005	1.019	1.011		1.015
2026	1.183		1.151	1.025	1.007	1.023	1.013		1.018

* Based on calendar time | ¥ Based on running hours

Table 4.7b Engine and Compressor Downtime

		Engine	Compressor
Time Range	Modelled Time (hrs)	% Failure	% Failure
<1 day	12	75%	70%
<1 week	90	5%	20%
1-4 weeks	420	6%	7%
1-3 months	1460	9%	3%
3-11months	5110	5%	0%

Note that in addition to the typical running failures listed in Table 4.7, the model will also consider the Worst Case Scenario failures pertaining to the Crankshaft, Engine, Aftercooler and Valve System items, as described in Table 4.5.

4.4 Maintenance and Operations

4.4.1 Planned Maintenance

It is assumed that all planned maintenance activities on Corunna will take place during the scheduled 5-day plant outages, in the spring and fall shoulder seasons. Therefore, any impact of planned maintenance outages will not be considered in the injection / withdrawal compression RAM models.

4.4.2 Mobilisation & Logistic Delays

Mobilisation time considers the time when the failure is detected up to the point when the repair can begin. This includes:

- Crew mobilisation
- Permit to start work
- Isolation/purging of equipment/cooldown
- Availability of required spares

Since operational reliability data (MAXIMO) is to be used in the model, the data shown in Section 4.3 takes into consideration mobilisation delays, in addition to actual repair times. No additional delays will be included in the model.

4.4.3 Spares

The Base Case model assumes that sufficient capital spares of all major equipment items are available within the downtimes given in Section 4.3.

4.4.4 Switching Delays

It is assumed that all standby equipment is auto start without impact on gas throughput.

5 RESULTS

In Sections 5.1 and 5.2, results are presented for the individually modelled Gas Injection and Gas Withdrawal modes of operation, respectively.

The Gas Injection Base Case model considers the injection operation into the storage pools that requires compression from the 27th of May to the 31st of October. Conversely, the Gas Withdrawal Base Case model assesses the gas withdrawal from the storage pools that requires compression from the 27th of November to the 30th of April.

5.1 Gas Injection Results – Base Case

5.1.1 Injection Efficiency

Table 5.1 presents the overall results for the Gas Injection Demand, Injection, Shortfall and Injection Efficiency for the Gas Injection Base Case, over the gas injection operating months for a period of 5 years. As well as presenting the Mean Average forecast, the likely spread of results is also given by the P5 and P95 forecasts. The P5 and P95 results present the 5% and 95% probability of exceeding the stated levels of Injection Efficiency.

Table 5.1 Base Case Gas Injection Overall Results

Case	Demand ($x10^3$ m^3)	Injected ($x10^3$ m^3)	Shortfall ($x10^3$ m^3)	Injection Efficiency (%)	Availability (%)	Shortfall (%)
P5	13,772,710	13,713,991	58,720	99.57%	98.23%	0.43%
Mean	**13,772,710**	**13,461,540**	**311,170**	**97.74%**	**90.86%**	**2.26%**
P95	13,772,710	13,025,354	747,356	94.57%	77.24%	5.43%

This demonstrates that:

- The mean Injection Efficiency of the Corunna facilities across the 5-year review period against Demand is 97.74%; 13,461,540 $x10^3$ m^3 of gas was injected against a Demand of 13,772,710 $x10^3$ m^3.
- There is a 5% chance of exceeding an Injection Efficiency of 99.57% and a 95% chance of exceeding an Injection Efficiency of 94.57%.

Moreover, the yearly and monthly breakdown of Gas Injection Shortfall over the 5-year review period are presented in Figure 5.1 and Figure 5.2, respectively.

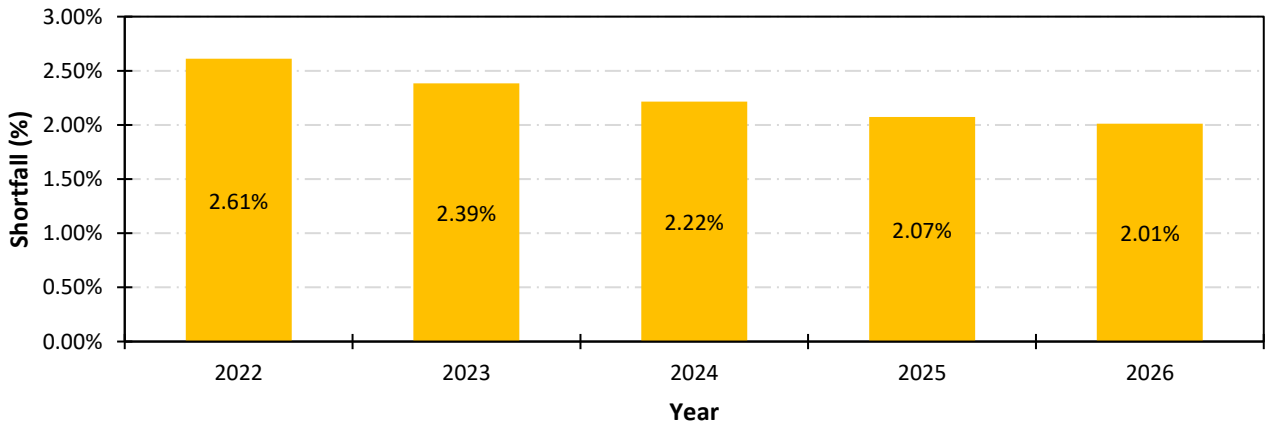


Figure 5.1 Yearly Breakdown of Base Case Gas Injection Shortfall

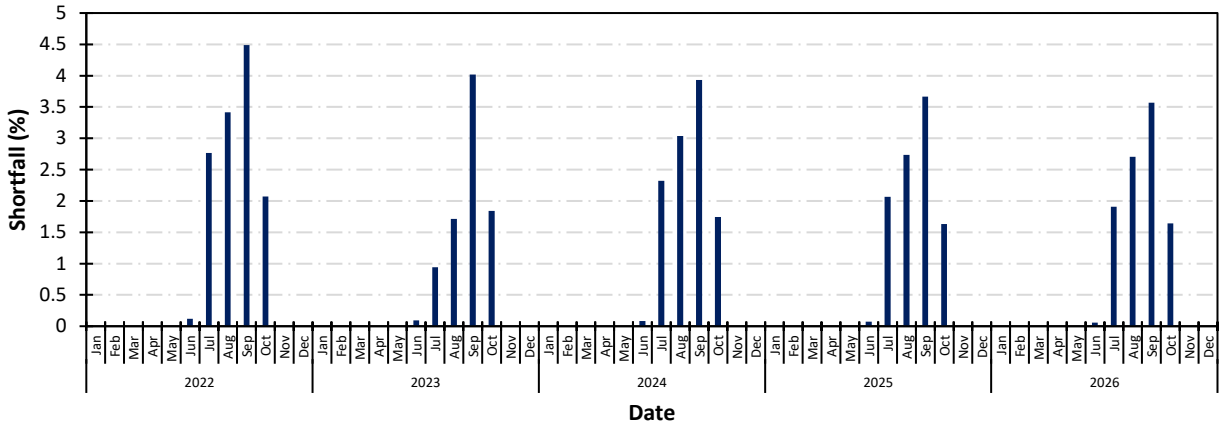


Figure 5.2 Monthly Breakdown of Base Case Gas Injection Shortfall

Key observations are:

- Despite the expected increase in plant deterioration each year, which results in higher number of failures each year, it is forecasted that Gas Injection Shortfall will decrease from 2022 to 2026. This decreasing trend is attributed to the potential incipient 1st foundation failure of units K704 (HP duty) and K701 (MP duty), likely to occur in early years due to them not yet being replaced (unlike other units), with the former having a high impact in injection capability, given its low level of redundancy. As a result, given the long downtime duration associated with this maintainable item (between 1-5 months), the high impact on shortfall in years surpasses the impact on shortfall associated with plant deterioration.
- Figure 5.2 shows that significantly reduced levels of shortfall are recorded in May - June each year, which is attributed to the high levels of sparing associated with the MP units, which are the only units required to operate during these months. As a result, shortfall is only observed if 4-5 MP compressor units fail to operate during this period (exact number dependant on which MP units fail, given the variation on their capacity).
- High levels of shortfall are recorded in months where both HP units are required to be operating (July, August and September), where failure of any of the HP compressors will immediately cause a loss in injection capability.
- Furthermore, it is also observed that the highest level of shortfall is recorded in September each year (total Demand of 18,088 $x10^3$ m^3 of gas injection, 9,062 $x10^3$ m^3 of gas requiring HP compression with the remaining gas being injected directly from the MP compressors – see Section 4.2.1). The compressor configuration and injection demand from the HP units is the same in August and September. However, given the reduction in total gas demand in September in comparison to August, means that any failure of the HP units will mathematically lead to a higher percentage of shortfall, and hence the higher levels of shortfall recorded in the month of September.
- Finally, in October, two different scenarios occur. From the 1st to the 21st of October, only 1 out of the HP units is required to operate, which greatly reduces the criticality of these units in relation to the entire injection operation. However, from the 22nd of October until the end of the month, the entire injection duty is entirely dependent on both HP units.

5.1.2 Shortfall Exceedance

The probability and frequency of exceeding various levels of Gas Injection Shortfall are presented in Table 5.2 and Figure 5.3.

Table 5.2 Summary of Shortfall Exceedance during the Injection Period

Shortfall (%)	Annual Average Probability of Exceedance (%)	Annual Average Frequency of Exceedance (Years)
0.000000%	100.00%	1.00
0.065305%	99.99%	1.00
1.0000000%	74.12%	1.35
2.0000000%	46.30%	2.16
3.0000000%	27.45%	3.64
4.0000000%	13.64%	7.33
5.0000000%	6.83%	14.64
19.54594%	0.001%	100,000.00

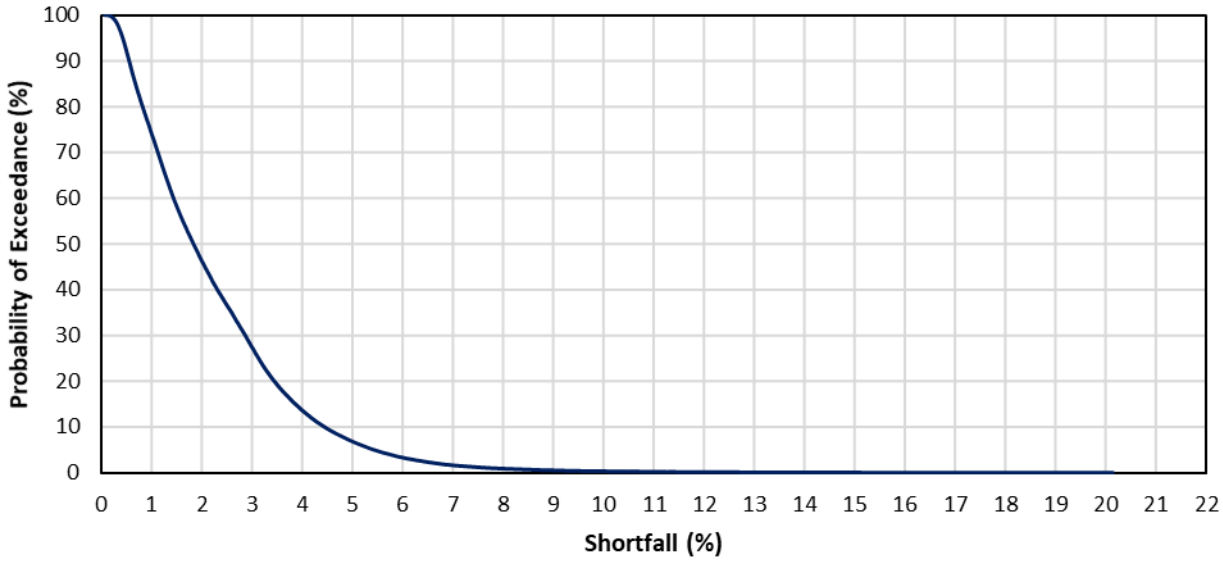


Figure 5.3 Shortfall Exceedance Probability during the Injection Period

As can be seen from these results:

- Gas Injection Shortfall is forecast to typically **lie in the range 1-5%.** There is a 67.29% probability that the predicted average shortfall will lie in this range, equivalent to a frequency of occurring every 1.5 years.
- Every 3.9 years (probability of 25.88%), it is predicted the Gas Injection Shortfall will be **less than 1.0%.**
- Every 2.2 years (probability of 46.30%), it is predicted the Gas Injection Shortfall will **exceed 2.0%.**
- Every 14.6 years (probability of 6.83%), it is predicted the Gas Injection Shortfall will **exceed 5.0%.**

5.1.3 Operational Availability (Time)

The predicted number of days in which the Corunna facility is operating at Full Injection, Partial Injection or Zero Injection is shown diagrammatically in Figure 5.4. Note that in OPTAGON, a calendar year of 365 days is equally spaced, with each month having 30.4 days. Results are also presented in a tabulated format in Appendix A.

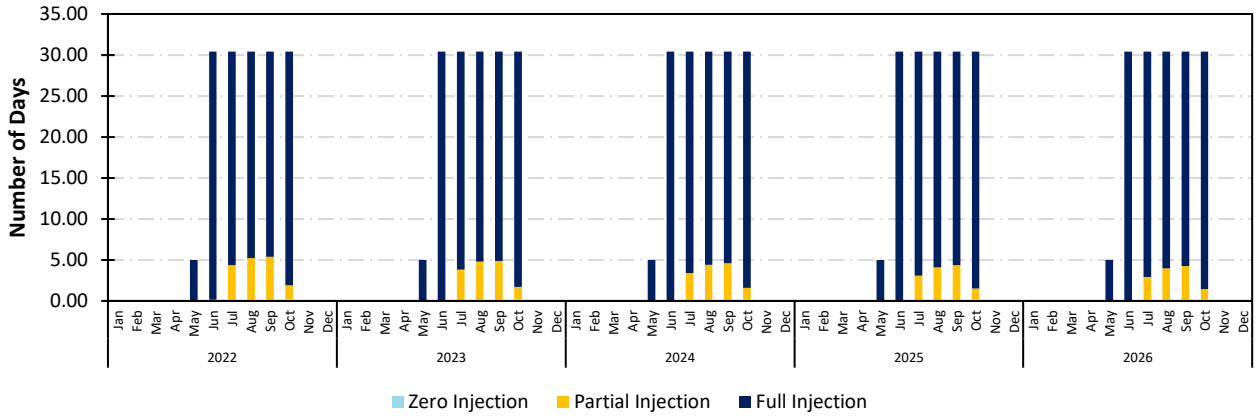


Figure 5.4 Gas Injection Operational Days

Key observations are that:

- Injection Availability of the Corunna facilities (i.e., proportion of time it is injecting at full rate over the total injection time) is **90.86%,** which demonstrates that Full Injection dominates the injection cycle.
- In May and June, where only the MP units are required to operate, Full Injection is reached in almost all required days, given the high level of redundancy discussed previously.
- Partial Injection is seen in months where the HP units are required to operate in support of MP compression (1st of July – 30th of September). This is mostly influenced by the low level of redundancy seen in the HP units (2 units in an 'N' configuration).
- Between the 1st of October – 21st of October, the HP units continue to support MP operations, albeit in a 'N+1' configuration and as a result, a lower level of partial production is recorded in October, as a single failure of a HP unit does not necessarily lead to injection shortfall.
- Between the 22nd of October – 31st of October, the HP units are required to cover the full injection duties and as a result, Zero Injection is reported in October, due to failure of both units. However, the contribution of not being able to inject at any rate towards Gas Injection Shortfall is small, given that it only occurs on average for 0.2 days every year (see Table A1 in Appendix A).

5.1.4 Shortfall Contributors

The contributors to Gas Injection Shortfall are given at equipment and maintainable item level in Sections 5.1.4.1 and 5.1.4.2, respectively.

5.1.4.1 Equipment Contributors to Gas Injection Shortfall

The equipment contributors to Gas Injection Shortfall over the 5-year period considered are shown in Table 5.3 and Figure 5.5. The shortfall caused by each equipment is quantified and ranked by its impact on Gas Injection at the point of failure, as defined by the Injection profiles. Also reported in Table 5.3 are the Total Aggregated Downtimes Repair and Running Times for each unit over the 5-year reviewed period.

Table 5.3 Gas Injection 5-Year Equipment Contributors to Shortfall

Rank	Equipment	Gas Injection Shortfall			Total Aggregated Downtimes (hrs)	Total Running Time (hrs)
		Absolute		Relative		
		x10³ m³	%	%		
1	K-704	161,174.7	1.17%	51.80%	2,839	13,126
2	K-711	148,609.6	1.08%	47.76%	1,463	12,100
3	K-705	260.3	<0.01%	0.08%	1,551	14,450
4	K-706	251.8	<0.01%	0.08%	1,432	13,238
5	K-707	236.7	<0.01%	0.08%	1,165	10,142
6	K-708	228.6	<0.01%	0.07%	1,223	7,991
7	K-701	159.0	<0.01%	0.05%	2,426	9,730
8	K-702	128.1	<0.01%	0.04%	1,216	6,665
9	K-703	121.5	<0.01%	0.04%	1,192	5,734
Total		**311,170.3**	**2.26%**	**100.00%**	**14,507**	**93,177**

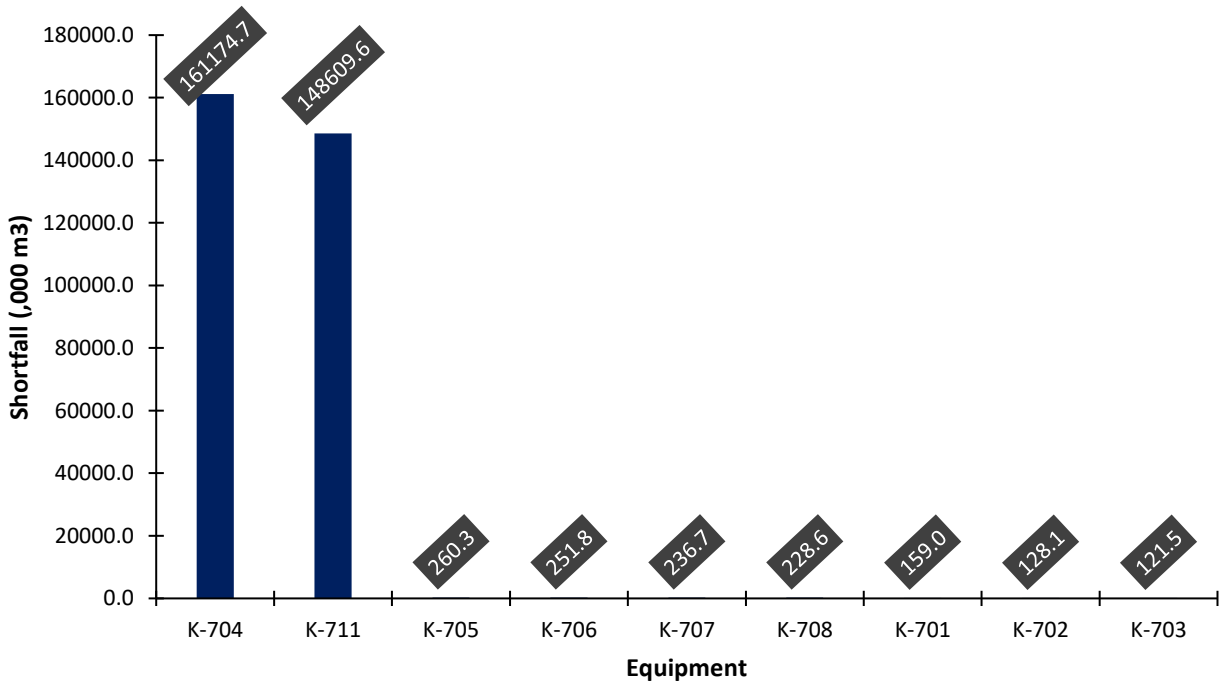


Figure 5.5 Gas Injection 5-Year Equipment Contributors to Shortfall (,000 m³)

Key observations are that:

- Units K-704 and K-711 (HP units) are responsible for 99.56% of the total Gas Injection shortfall. In absolute terms, this represents 309,784.3 x10³ m³ of Gas Injection Shortfall (2.25%). As discussed previously, this is attributed to the combined 'N' configuration that these units exhibit for the majority of the time that they are required to operate.

- K-704 contributes higher shortfall than K-711, due to the increased likelihood of a foundation failure to affect this unit (1st foundation failure MTTF of 21,628 hours for K-704 vs. 170,303 for K-711), which has an extended downtime associated with its repair.
- The remaining 0.44% of the total Gas Injection Shortfall is caused by the MP units, which require between 4 – 5 units not operating to impact gas injection operations.
- In total, the combined compressor downtime hours across the 5-year review period is 14,507 hours. Units K-704 and K-701 show the highest downtimes, forecasted to be down for a total of 2,839 and 2,426 hours, respectively. As discussed, this is attributed to high likelihood of foundation failures linked to these units (as defined in Section 4.3). Despite its high downtime, K-701 is reported to cause lower shortfall than units K-705 – K-708, which is explained by the lower injection flow capacity associated with unit K-701 (and in fact K-702 & K-703) versus units K-705 – K-708. Therefore, a failure of units K-705 – K-708 will result in higher levels of shortfall than would occur if units K701-K703 failed.
- The total combined compressor running hours across the 5-year review period is forecast to be 93,177 hours, which averages to approximately 2,071 hours run per compressor unit (9) each year. The high number of running hours recorded for the Injection cycle alone is indicative of the high-demand scenario that is being assessed in this RAM study. This high-demand scenario may not represent a typical year of operation, but it represents the extreme running conditions that the facilities must respond to when required (e.g., in response to extreme weather conditions). This scenario includes both the design day and 4-day peak demands.

5.1.4.2 Maintainable Item Contributors to Gas Injection Shortfall

The maintainable item contributors to Gas Injection Shortfall over the 5-year period considered are shown in Table 5.4 and Figure 5.6.

Table 5.4 Gas Injection 5-Year Maintainable Item Contributors to Shortfall

Rank	Maintainable Item	Gas Injection Shortfall		
		Absolute		Relative
		$x10^3$ m^3	%	%
1	Foundation	97,605.7	0.71%	31.37%
2	Engine	73,000.4	0.53%	23.46%
3	Compressor	64,125.6	0.47%	20.61%
4	Heating & Cooling	23,252.1	0.17%	7.47%
5	Valves	20,668.4	0.15%	6.64%
6	Aftercooler	16,994.3	0.12%	5.46%
7	Crankshaft	15,523.8	0.11%	4.99%
Total		**311,170.3**	**2.26%**	**100.00%**

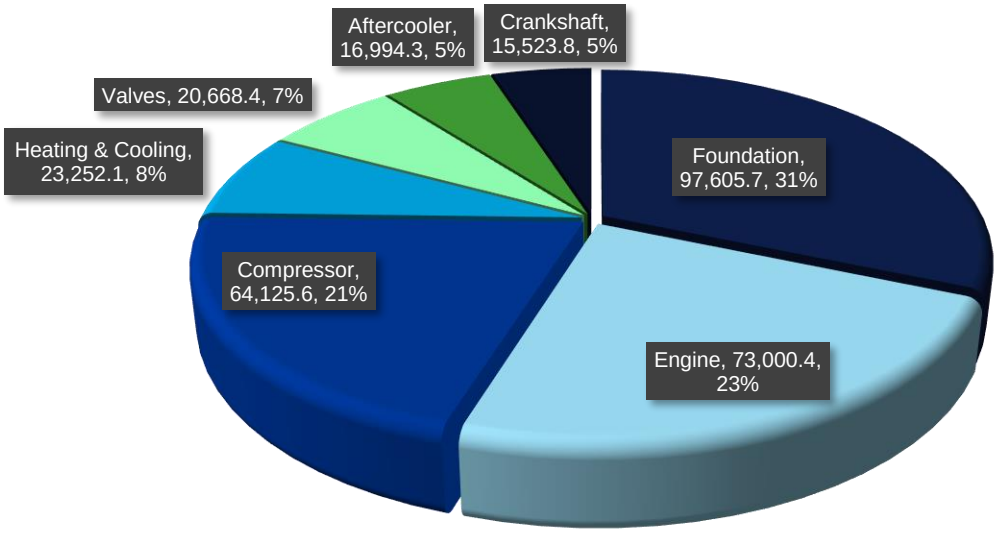


Figure 5.6 Gas Injection 5-Year Maintainable Item Contributors to Shortfall (,000 m^3)

Key observations are that:

- Foundations are the most significant contributor to Gas Injection Shortfall, accounting for 31.37% of total shortfall (97,605.7 $x10^3$ m^3, 0.709% absolute). This is attributed to the long duration associated with the repair of this maintainable item.
- Next are the compressor Engines, which are responsible for 23.46% of total Gas Injection Shortfall (73,000.4 $x10^3$ m^3, 0.53% absolute). On average, Engines have a higher MTTF than Compressors. However, based on the reliability information detailed in Section 4.3 (more specifically, Table 7.4b, provided by Enbridge), the average downtime associated with an engine failure is 425.6 hours, which is substantially higher than the 99.6 hours of average downtime required following a compressor failure.
- 3rd are the Compressor item of the entire compressor unit, predicted to cause 20.61% of the total shortfall (64,125.6 $x10^3$ m^3, 0.47% absolute).
- The following items, with the exception of the Crankshaft, have downtime durations below 50 hours and are therefore ranked as follows with regard to Gas Injection Shortfall:
    - Heating & Cooling – 7.47% of total shortfall (23,252.1 $x10^3$ m^3, 0.17% absolute) – predominantly due to glycol leaks.
    - Valve System – 6.64% of total shortfall (20,668.4 $x10^3$ m^3, 0.15% absolute).
    - Aftercooler – 5.46% of total shortfall (16,994.3 $x10^3$ m^3, 0.12% absolute).
    - Crankshaft due to bearing misalignment – 4.99% of total shortfall (15,523.8 $x10^3$ m^3, 0.11% absolute) – despite the high downtime associated with this item, it fails less frequently than the aforementioned items.
- Finally, it is important to note that the low frequency, high consequence failures associated with the Crankshaft, Engine, Aftercooler and Valve System items (as defined in Table 4.5) are not expected to contribute significantly to shortfall.

5.2 Gas Withdrawal Results – Base Case

5.2.1 Withdrawal Efficiency

Table 5.5 presents the overall results for the Gas Withdrawal Demand, Withdrawn, Shortfall and Withdrawal Efficiency for the Gas Withdrawal Base Case, over the gas withdrawal operating months for a period of 5 years. As well as presenting the Mean Average forecast, the likely spread of results is also given by the P5 and P95 forecasts. The P5 and P95 results present the 5% and 95% probability of exceeding the stated levels of Withdrawal Efficiency.

Table 5.5 Base Case Gas Withdrawal Overall Results

Case	Demand ($x10^3$ m^3)	Withdrawn ($x10^3$ m^3)	Shortfall ($x10^3$ m^3)	Withdrawal Efficiency (%)	Availability (%)	Shortfall (%)
P5	18,162,200	18,087,109	75,091	99.59%	98.30%	0.41%
Mean	**18,162,200**	**17,872,477**	**289,723**	**98.40%**	**93.61%**	**1.60%**
P95	18,162,200	17,431,297	730,903	95.98%	85.25%	4.02%

This demonstrates that:

- The mean Withdrawal Efficiency of the Corunna facilities across the 5-year review period against Demand is 98.40%; 17,872,477 $x10^3$ m^3 of gas was withdrawn against a Demand of 18,162,200 $x10^3$ m^3.
- There is a 5% chance of exceeding a Withdrawal Efficiency of 99.59% and a 95% chance of exceeding a Withdrawal Efficiency of 95.98%.

Moreover, the yearly and monthly breakdown of Gas Withdrawal Shortfall over the 5-year review period are presented in Figure 5.7 and Figure 5.8, respectively.

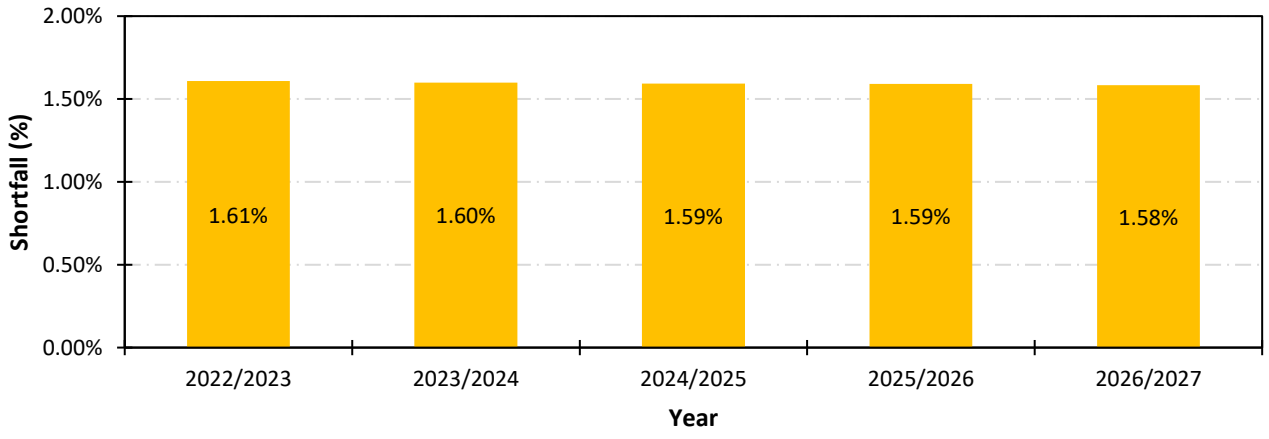


Figure 5.7 Yearly Breakdown of Base Case Gas Withdrawal Shortfall

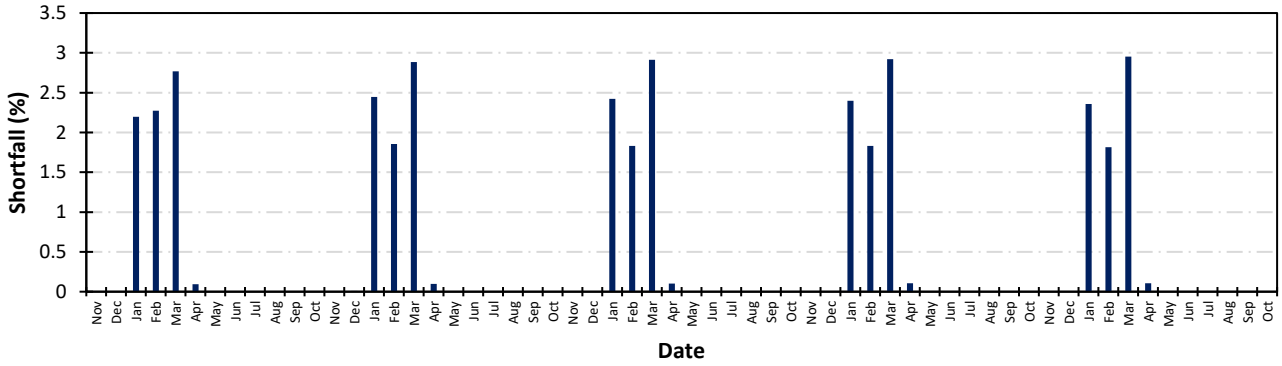


Figure 5.8 Monthly Breakdown of Base Case Gas Withdrawal Shortfall

Key observations are:

- A decreasing trend in Gas Withdrawal Shortfall is observed between 2022 and 2026, attributed to the high likelihood of units K-704 and K-701 having their 1st foundation failures within the first years of the reviewed period. However, this decreasing trend in shortfall during Gas Withdrawal operations is considerably less pronounced than in Gas Injection. This is because the criticality of these units is generally lower, in comparison to Gas Injection operations (unit K-701 operates for the majority of the year but has a high level of redundancy available; unit K-704 is only required to operate during the Peak Compression & Design Day periods).
- Figure 5.8 shows that, despite withdrawal operations starting on the 27th of November, no shortfall is forecasted in the November and December months. This is attributed to the high level of compressor sparing of the MP compressors that are required to meet the gas demand in these two months.
- Subsequent to 2022, where the effect from the 1st foundation failures is less pronounced, it can be seen (from Figure 5.8) that high levels of shortfall are recorded in months where both LP units are required to be operating (January, February and March), where failure of any of the LP compressors will immediately cause a loss in withdrawal capability. More specifically, the following observations can be drawn regarding these specific months:
    - In January, two different compressor arrangements exist – LP/MP compression in the first 27 days of the month (24,548 x10^3 m^3/d gas demand), followed by a LP/MP/HP peak compression (62,400 x10^3 m^3/d gas demand) for the last 5 days of the month. In both arrangements, with regard to the LP configuration, a single compressor failure results in immediate withdrawal shortfall, with various levels of sparing in the MP compressor side (sparing reduced to a single unit during peak compression).
    - In February, the overall gas demand in the first 27 days of the month is the same as in the first 27 days of January (24,548 x10^3 m^3/d), with the final day of the month consisting of a typical Design Day compression (62,400 x10^3 m^3/d). Despite the similarity between January and February in the first 27 days of each month with regard to overall gas demand and compressor configuration, over the beginning of February, the amount of bypassing the LP route and flowing directly to the MP compressors increases (i.e., greater than in January). Consequently, during this period, the impact of any LP compressor failure in February is reduced in comparison to January, which explains the reduction in shortfall percentage from January to February.
    - Over the entire month of March, the compressor configuration and gas demand are the same as during the first 27 days of January and February, which explains the high levels of shortfall observed in Figure 5.8. The higher shortfall percentage in March, in comparison to January and February, is due to the shortfall being reported in relative terms - given that January and February have high demand periods,

the loss of a given compressor has a relatively smaller impact than when the overall demand is lower, as in March.

- Finally, in April the demand is reduced, thus increasing the level of sparing in the MP side of the compressor configuration and most importantly, on the LP side, as only 1 LP compressor is required to operate. As a result, significantly reduced levels of shortfall are observed during this month.

5.2.2 Shortfall Exceedance

The probability and frequency of exceeding various levels of Gas Withdrawal Shortfall are presented in Table 5.6 and Figure 5.9.

Table 5.6 Summary of Shortfall Exceedance during the Withdrawal Period

Shortfall (%)	Probability of Exceedance (%)	Probability of Exceedance (Relative Years)
0.00%	100.00%	1.00
0.06%	100.00%	1.00
0.50%	90.59%	1.10
1.00%	59.56%	1.68
2.00%	25.79%	3.88
3.00%	12.57%	7.96
4.00%	5.12%	19.52
5.00%	2.07%	48.38
16.71%	0.00%	100,000.00

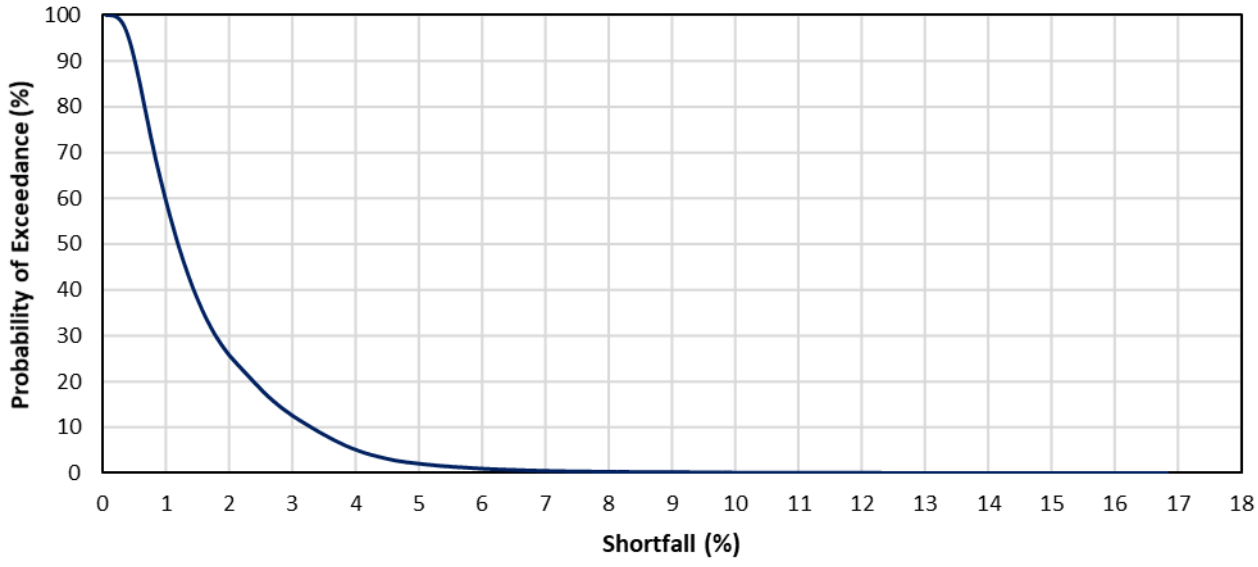


Figure 5.9 Shortfall Exceedance Probability during the Withdrawal Period

As can be seen from these results:

- Gas Withdrawal Shortfall is forecast to typically **lie in the range 0.5-5%.** There is an 88.52% probability that the predicted average shortfall will lie in this range, equivalent to a frequency of occurring every 1.1 years.

- Every 10.6 years (probability of 9.41%), it is predicted the Gas Withdrawal Shortfall will be **less than 0.5%.**
- Every 3.9 years (probability of 25.79%), it is predicted the Gas Withdrawal Shortfall will **exceed 2.0%.**
- Every 48.3 years (probability of 2.07%), it is predicted the Gas Withdrawal Shortfall will **exceed 5.0%.**

5.2.3 Operational Availability (Time)

The predicted number of days in which the Corunna facility is operating at Full Withdrawal, Partial Withdrawal or Zero Withdrawal, is shown diagrammatically in Figure 5.10. Results are also presented in a tabulated format in Appendix A.

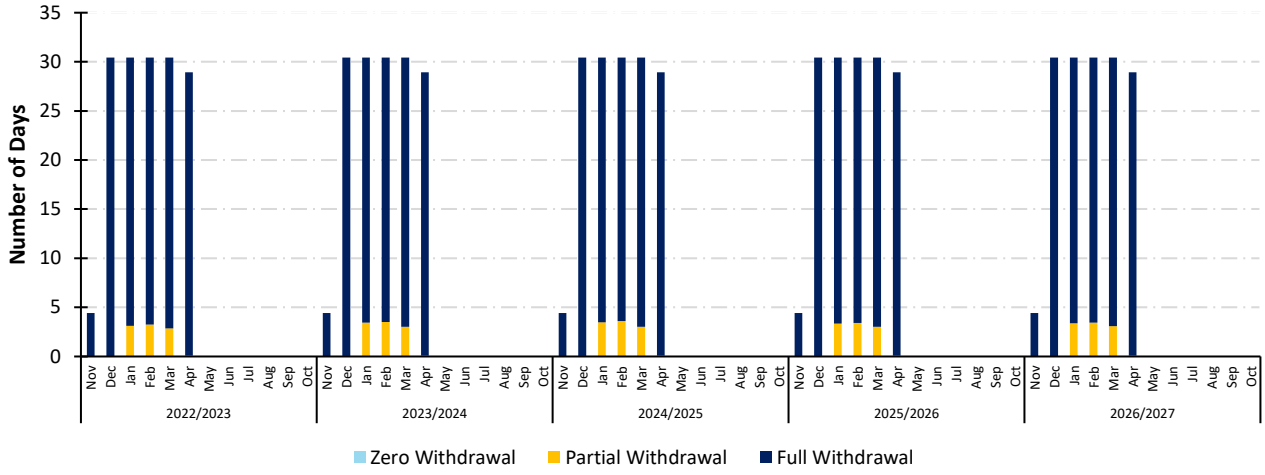


Figure 5.10 Gas Withdrawal Operational Days

Key observations are that:

- Withdrawal Availability of the Corunna facilities (i.e., proportion of time it is withdrawing at full rate over the total withdrawal time) is 93.61%, which demonstrates that Full Withdrawal dominates the withdrawal cycle.
- There are no instances where Zero Withdrawal (i.e., due to failure of all required units) is observed (see Table A2 in Appendix A).
- In November and December, where only the MP units are required to operate, Full Withdrawal is reached for the majority of time in these two months, given the high level of redundancy discussed previously.
- Partial Withdrawal is seen in months where the LP units are required to operate in support of MP compression (January, February and March). This is mostly influenced by the low level of redundancy seen in the LP units (2 units in an 'N' configuration).
- During the peak and design days (Withdrawal model assumes 4 days of peak compression in January and 1 single design day of compression in February each year), the following is concluded:
    - Of the total 600 hours that are run in peak and design mode over the 5-year review period, the demand is fully met for 386.2 hours, or approximately 64.4% of the required time. Additionally, of the 10 instances that gas demand is increased to the peak and design day levels (62,400 x 10^3 m^3/d), the demand is initially met 9.7 times. This means that peak and design day demand is almost always met initially, but during these periods, certain units fail, thus resulting on the demand being only met for 64.4% of the time that maximum withdrawal is required.
- In April, the HP units continue to support MP operations, albeit in a 'N+1' configuration and as a result, a lower level of partial production is recorded in April, as a single failure of a LP unit does not necessarily lead to withdrawal shortfall.

5.2.4 Shortfall Contributors

The contributors to Gas Withdrawal Shortfall are given at equipment and maintainable item level in Sections 5.2.4.1 and 5.2.4.2, respectively.

5.2.4.1 Equipment Contributors to Gas Withdrawal Shortfall

The equipment contributors to Gas Withdrawal Shortfall over the 5-year period considered are shown in Table 5.7 and Figure 5.11. The shortfall caused by each equipment is quantified and ranked by its impact on Gas Withdrawal at the point of failure, as defined by the Withdrawal profiles. Also reported in Table 5.7 are the Total Aggregated Downtimes and Running Times for each unit over the 5-year reviewed period.

Table 5.7 Gas Withdrawal 5-Year Equipment Contributors to Shortfall

Rank	Equipment	Gas Withdrawal Shortfall			Total Aggregated Downtimes (hrs)	Total Running Time (hrs)
		Absolute		Relative		
		x10^3 m^3	%	%		
1	K-710	127,590.3	0.70%	43.83%	1,240	11,116
2	K-709	125,034.0	0.69%	42.96%	1,332	13,111
3	K-705	6,325.6	0.04%	2.17%	1,707	15,675
4	K-706	6,231.7	0.03%	2.14%	1,664	15,436
5	K-707	5,688.8	0.03%	1.95%	1,359	11,977
6	K-701	4,977.5	0.03%	1.71%	2,752	13,076
7	K-708	4,945.6	0.03%	1.70%	1,090	6,350
8	K-703	3,652.3	0.02%	1.26%	1,557	9,774
9	K-702	3,634.8	0.02%	1.25%	1,689	11,966
10	K-711	1,567.0	0.01%	0.54%	485	498
11	K-704	1,436.3	0.01%	0.49%	1,790	561
Total		**291,083.9**	**1.60%**	**100.00%**	**16,665**	**109,542**

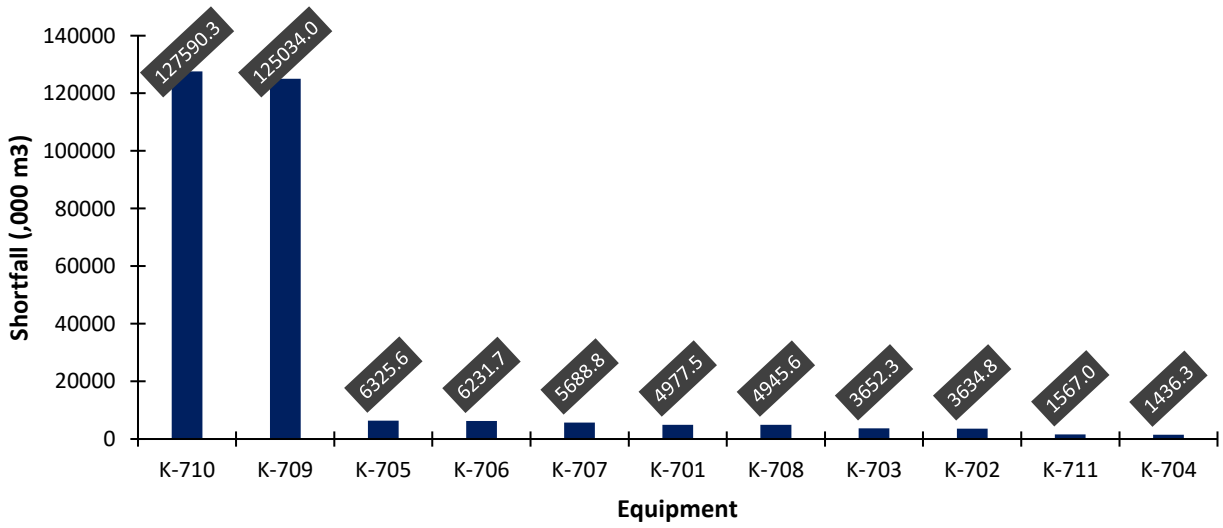


Figure 5.11 Gas Withdrawal 5-Year Equipment Contributors to Shortfall (,000 m3)

Key observations are that:

- Units K-710 and K-709 (LP units) are responsible for 86.79% of the total Gas Withdrawal shortfall. In absolute terms, this represents 252,624.3 x10^3 m^3 of Gas Withdrawal Shortfall (1.38%). As discussed previously, this is attributed to the combined 'N' configuration that these units exhibit for the majority of the time that they are required to operate, which is particularly substantial.
- K-710 trumps K-709 in the shortfall rankings due to the higher likelihood of a foundation failure to affect this unit (1st foundation failure MTTF of 200,516 hours for K-710 vs. 230,690 for K-709), which has discussed previously, has a high downtime associated with its repair.
- The remaining 13.21% of the total Gas Withdrawal Shortfall is caused by the MP units, which require 4 or 5 units not operating to impact gas withdrawal operations.
- In total, the combined compressor downtime hours across the 5-year reviewed period is 16,665 hours. As reported in the Gas Injection results, unit K-701 shows the highest downtime, namely forecasted to be down for a total of 2,752 hours. As discussed, this is attributed to high likelihood of foundation failure linked to this unit (as defined in Section 4.3). Unit K-704 also has a high likelihood of sustaining a foundation failure. However, given its low utilization (expected to operate for a total of 5 days during withdrawal), its contribution towards Gas Withdrawal Shortfall is reduced. Despite its high downtime, K-701 is reported to cause lower shortfall than units K-705 – K-708, which is explained by the lower withdrawal flow capacity associated with unit K-701 (and in fact K-702 & K-703) versus units K-705 – K-708. Therefore, a failure of units K-705 – K-708 will result in higher levels of shortfall than would occur if units K701-K703 failed.
- The total combined compressor running hours across the 5-year review period is forecast to be 109,542 hours, which averages to approximately 1,992 hours per compressor unit (11), each year.

5.2.4.2 Maintainable Item to Gas Withdrawal Shortfall

The maintainable item contributors to Gas Withdrawal Shortfall over the 5-year period considered are shown in Table 5.8 and Figure 5.12.

Table 5.8 Gas Withdrawal 5-Year Maintainable Item Contributors to Shortfall

Rank	Maintainable Item	Gas Withdrawal Shortfall		
		Absolute		Relative
		x10^3 m^3	%	%
1	Compressor	76,537.0	0.42%	26.42%
2	Foundation	60,167.5	0.33%	20.77%
3	Engine	44,714.8	0.25%	15.43%
4	Heating & Cooling	36,355.6	0.20%	12.55%
5	Valves	31,458.6	0.17%	10.856%
6	Aftercooler	25,732.9	0.14%	8.88%
7	Crankshaft	14,750.8	0.08%	5.09%
Total		**289,717.2**	**1.60%**	**100.00%**

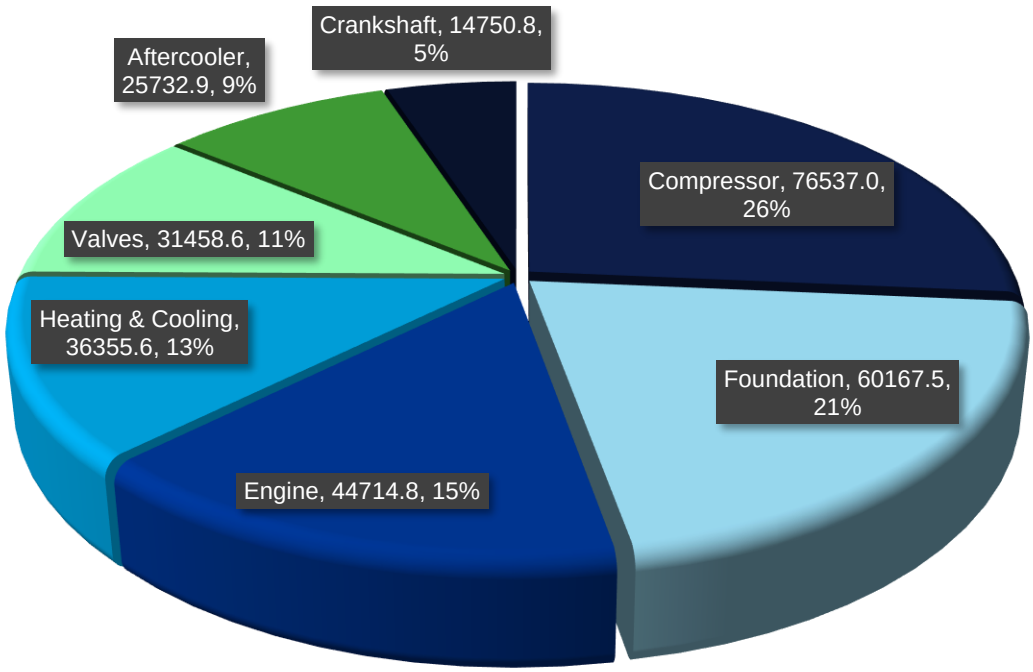


Figure 5.12 Gas Withdrawal 5-Year Maintainable Item Contributors to Shortfall (,000 m^3)

Key observations are that:

- Compressors are the most significant contributor to Gas Withdrawal Shortfall, accounting for 26.42% of total shortfall (76,537.0 $x10^3$ m^3, 0.42% absolute). This is attributed to the low compressor reliability associated with the critical units K-709 and K-710, which is significantly lower than all other units.
- Foundations are the 2nd highest contributor to Gas Withdrawal Shortfall, which is one of the main differences in comparison to the Gas Injection mode, accounting for 20.77% of total shortfall (60,167.5 $x10^3$ m^3, 0.33% absolute). The change in shortfall ranking is attributed to the fact that foundation failures in this mode of operation affects mostly units that have a high level of redundancy (K-701 and K-704), which is not the case in Gas Injection. However, the long duration associated with the repair of this maintainable item still results in a high contribution towards shortfall by this maintainable item, albeit not the top contributor.
- Next are the compressor Engines, which are responsible for 15.43% of total Gas Withdrawal Shortfall (44,714.8 $x10^3$ m^3, 0.25% absolute). As discussed previously, the average downtime duration of an engine is 425.6 hours, which is substantially higher than the 99.6 hours of average downtime required subsequent to a compressor failure. However, the low Compressor reliability of units K-709 and K-710 results in a higher raking of this Compressor maintainable item versus Engines.
- As in Gas Injection, the following items, with the exception of the Crankshaft, have downtime durations below 50 hours and are therefore ranked as follows with regard to Gas Withdrawal Shortfall:
    - Heating & Cooling – 12.55% of total shortfall (36,355.6 $x10^3$ m^3, 0.20% absolute) – predominantly due to glycol leaks.
    - Valve System – 10.86% of total shortfall (31,458.6 $x10^3$ m^3, 0.17% absolute).

- Aftercooler – 8.88% of total shortfall (25,732.9 x10^3 m^3, 0.14% absolute).
- Crankshaft due to bearing misalignment – 5.09% of total shortfall (14,750.8 x10^3 m^3, 0.08% absolute) – despite the high downtime associated with this item, it fails less frequently than the aforementioned items.

- Finally, it is important to note that the low frequency, high consequence failures associated with the Crankshaft, Engine, Aftercooler and Valve System items (as defined in Table 4.5) are not expected to contribute significantly to shortfall.

6 SUMMARY & CONCLUSIONS

6.1 Summary

Table 6.1 and Figure 6.1 provide a summary of the performance of the Gas Injection and Gas Withdrawal Base Cases.

Table 6.1 Efficiency / Availability Results Summary by Case

Case	Efficiency (%)	Availability (%)
Gas Injection Base Case	97.74%	90.86%
Gas Withdrawal Base Case	98.40%	93.61%

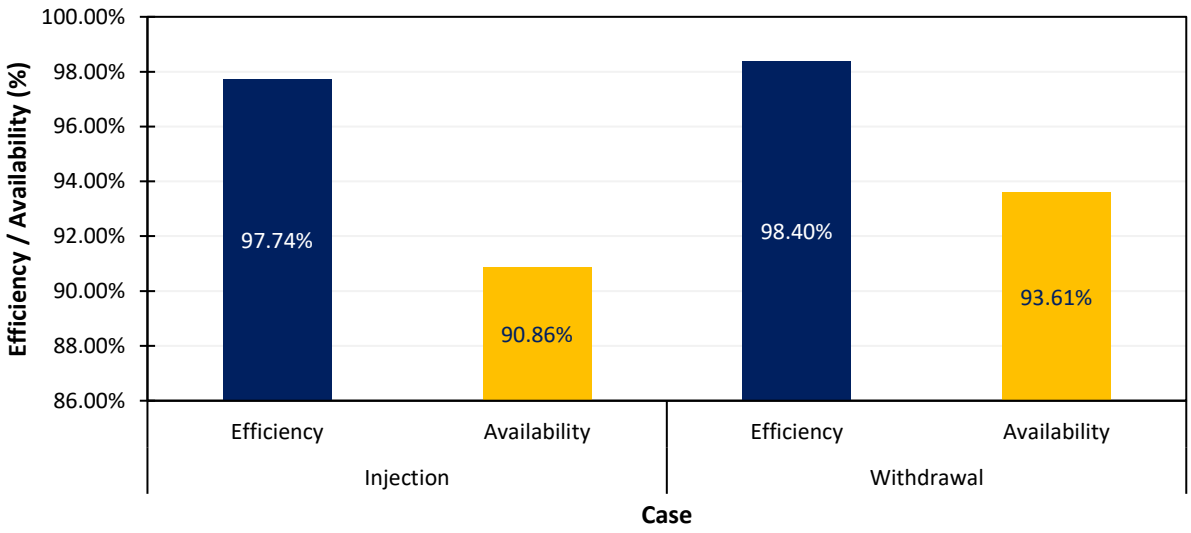


Figure 6.1 Efficiency / Availability Results Summary by Case

As can be seen from the results, the Efficiency of the Corunna facilities is lower during the Injection mode of operation (97.74%) than during the Withdrawal mode (98.40%). This is due to a higher number of days that the facilities will operate at Partial Capacity during Injection than in Withdrawal, as reflected by the Availability of these two modes of operation.

Gas Injection Base Case

Figure 6.2 presents a yearly breakdown of the Base Case Gas Injection Shortfall over the 5-year review period. During the 5 years assessed, the mean Injection Efficiency of the Corunna facilities against Demand is 97.74%; 13,461,540 x10^3 m^3 of gas was injected against a Demand of 13,772,710 x10^3 m^3.

Additionally, despite the expected increase in plant deterioration, which results in higher number of failures each year, it is forecasted that Gas Injection Shortfall will decrease from 2022 to 2026. This decreasing trend is attributed to the potential incipient 1st foundation failure of units K704 (HP duty) and K701 (MP duty), likely to occur in early years, with the former having a high impact in injection capability, given its low level of redundancy. As a result, given the long downtime duration associated with this maintainable item (between 1-5 months), the high impact on shortfall in early years surpasses the impact on shortfall associated with plant deterioration.

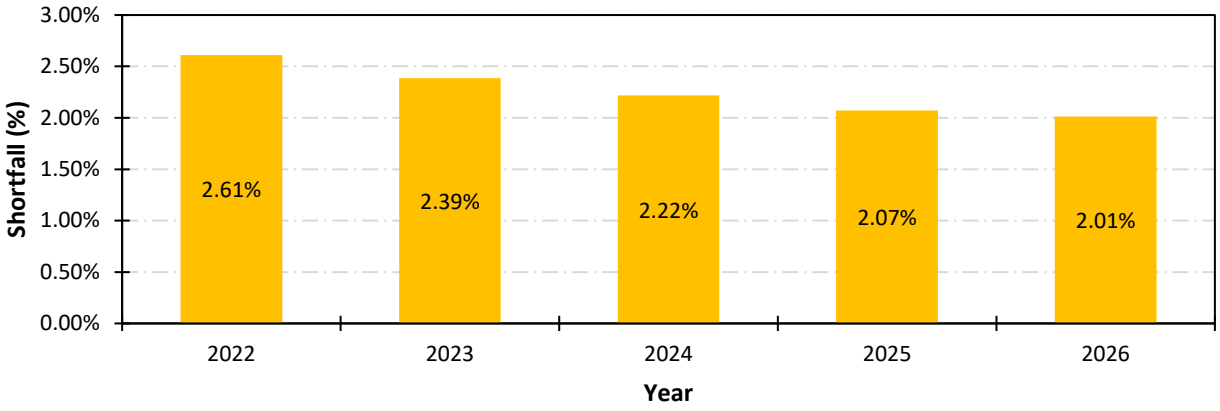


Figure 6.2 Yearly Breakdown of Base Case Gas Injection Shortfall (5 Years)

Gas Withdrawal Base Case

Figure 6.3 presents a yearly breakdown of the Base Case Gas Withdrawal Shortfall over the 5-year review period. During the 5 years assessed, the mean Withdrawal Efficiency of the Corunna facilities against Demand is 98.40%; 17,872,477 $x10^3$ m^3 of gas was withdrawn against a Demand of 18,162,200 $x10^3$ m^3.

A decreasing trend in Gas Withdrawal Shortfall is observed between 2022 and 2026, attributed to the high likelihood of units K-704 and K-701 having their 1st foundation failures within the first years of the reviewed period. However, this decreasing trend in shortfall during Gas Withdrawal operations is considerably less pronounced than in Gas Injection. This is because the criticality of these units is generally lower, in comparison to Gas Injection operations.

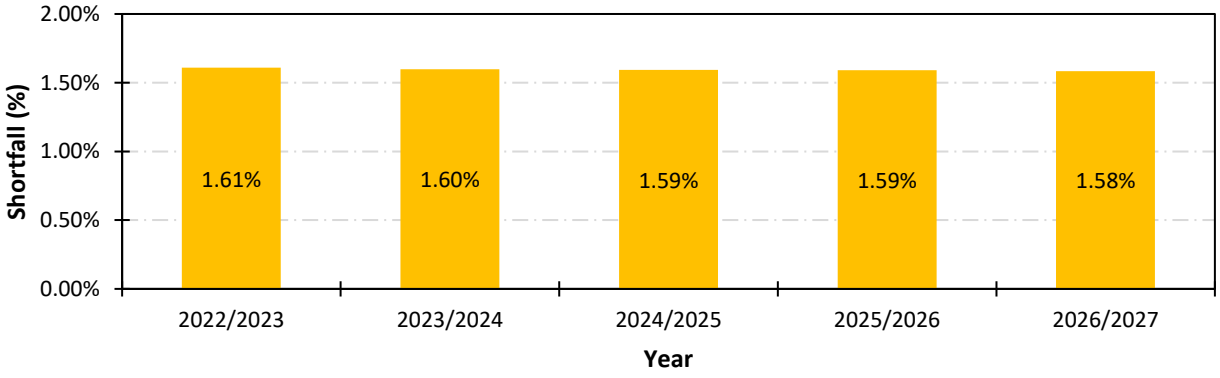


Figure 6.3 Yearly Breakdown of Base Case Gas Withdrawal Shortfall (5 Years)

6.2 Conclusions

This section summarises the key conclusions that can be drawn from the results of the Gas Injection and Withdrawal Base Cases:

- The Efficiency of the Corunna facilities is lower during the Injection mode of operation (97.74%) than during the Withdrawal mode (98.70%). This is due to a higher number of days that the facilities will operate at Partial Capacity during Injection than in Withdrawal. In absolute terms, over the 5-year review period, this means that:
    - With regard to Gas Injection, 13,461,540 $x10^3$ m^3 of gas was injected against a Demand of 13,772,710 $x10^3$ m^3.
    - With regard to Gas Withdrawal, 17,872,477 $x10^3$ m^3 of gas was withdrawn against a Demand of 18,162,200 $x10^3$ m^3.
- Despite the expected increase in plant deterioration each year, which results in higher number of failures each year, it is forecasted that both Gas Injection and Gas Withdrawal Shortfall will decrease from 2022 to 2026. This decreasing trend is attributed to the potential incipient 1st foundation failure of certain compressor units. The decreasing shortfall trend is more pronounced in the Gas Injection mode as in particular, the 1st foundation failure is likely to affect a unit (K-704) that is in an 'N' configuration, which is not the case in Gas Withdrawal (K-701 is likely to be affected in this mode, but it has significant levels of sparing).
- Units K-704 & K-711 (HP) and K-709 & K-710 (LP), which predominantly operate in an 'N' configuration, are the most critical items with regard to the operation of the Corunna facilities. These units are forecasted to account for 99.56% and 86.79% of the total gas shortfall of the Injection and Withdrawal modes, respectively.
- Foundations are the most significant Maintainable Item contributor to Gas Injection Shortfall, accounting for 31.37% of total shortfall. This is attributed to the long duration associated with the repair of this maintainable item (between 1-5 months), and the likelihood to affect unit K-704, which has no level of redundancy. Engines and Compressors make up the top 3 ranking of Maintainable Item shortfall contributors, accounting for 23.46% and 20.61% of the total shortfall, respectively.
- Compressors are the most significant Maintainable Item contributor to Gas Withdrawal shortfall, accounting for 26.42% of the total shortfall. This is attributed to the low compressor reliability associated with the critical units K-709 and K-710, which is significantly lower than all other units. Foundations and Engines make up the top 3 ranking of Maintainable Item shortfall contributors, accounting for 20.77% and 15.43% of the total shortfall, respectively.
- The low frequency, high consequence failures associated with the Crankshaft, Engine, Aftercooler and Valve System items are not expected to contribute significantly to shortfall.

7 REFERENCES

/1/ “14-218 CCS Headers Process Flow Diagram”

/2/ “1. CCS Operating Modes.xlsx”

/3/ Asset Health Report “StorageAHR-2021AHR-BF20210408.xlsx”

APPENDIX A OPERATIONAL DAYS (INJECTION & WITHDRAWAL)

Table A1 Gas Injection Operational Days

Year	Month	Number of Days		
		Zero Injection	Partial Injection	Full Injection
2022	Jan	0.000	0.000	0.000
	Feb	0.000	0.000	0.000
	Mar	0.000	0.000	0.000
	Apr	0.000	0.000	0.000
	May	0.000	0.000	5.000
	Jun	0.000	0.158	30.258
	Jul	0.000	4.384	26.033
	Aug	0.000	5.215	25.202
	Sep	0.000	5.368	25.048
	Oct	0.201	1.690	28.526
	Nov	0.000	0.000	0.000
	Dec	0.000	0.000	0.000
2023	Jan	0.000	0.000	0.000
	Feb	0.000	0.000	0.000
	Mar	0.000	0.000	0.000
	Apr	0.000	0.000	0.000
	May	0.000	0.000	5.000
	Jun	0.000	0.126	30.291
	Jul	0.000	3.839	26.578
	Aug	0.000	4.779	25.637
	Sep	0.000	4.878	25.539
	Oct	0.203	1.500	28.714
	Nov	0.000	0.000	0.000
	Dec	0.000	0.000	0.000
2024	Jan	0.000	0.000	0.000
	Feb	0.000	0.000	0.000
	Mar	0.000	0.000	0.000
	Apr	0.000	0.000	0.000
	May	0.000	0.000	5.000
	Jun	0.000	0.100	30.317
	Jul	0.000	3.400	27.016
	Aug	0.000	4.423	25.994
	Sep	0.000	4.596	25.821
	Oct	0.204	1.392	28.820
	Nov	0.000	0.000	0.000
	Dec	0.000	0.000	0.000
2025	Jan	0.000	0.000	0.000

	Feb	0.000	0.000	0.000
	Mar	0.000	0.000	0.000
	Apr	0.000	0.000	0.000
	May	0.000	0.000	5.000
	Jun	0.000	0.083	30.334
	Jul	0.000	3.086	27.331
	Aug	0.000	4.094	26.323
	Sep	0.000	4.353	26.063
	Oct	0.205	1.299	28.913
	Nov	0.000	0.000	0.000
	Dec	0.000	0.000	0.000
2026	Jan	0.000	0.000	0.000
	Feb	0.000	0.000	0.000
	Mar	0.000	0.000	0.000
	Apr	0.000	0.000	0.000
	May	0.000	0.000	5.000
	Jun	0.000	0.073	30.344
	Jul	0.000	2.924	27.493
	Aug	0.000	3.986	26.431
	Sep	0.000	4.232	26.185
	Oct	0.207	1.250	28.960
	Nov	0.000	0.000	0.000
	Dec	0.000	0.000	0.000

Table A2 Gas Withdrawal Operational Days

Year	Month	Number of Days		
		Zero Withdrawal	Partial Withdrawal	Full Withdrawal
2022/2023	Nov	0.000	0.001	4.416
	Dec	0.000	0.032	30.385
	Jan	0.000	3.124	27.293
	Feb	0.000	3.253	27.164
	Mar	0.000	2.860	27.557
	Apr	0.000	0.075	28.842
	May	0.000	0.000	0.000
	Jun	0.000	0.000	0.000
	Jul	0.000	0.000	0.000
	Aug	0.000	0.000	0.000
	Sep	0.000	0.000	0.000
	Oct	0.000	0.000	0.000
2023/2024	Nov	0.000	0.003	4.414

	Dec	0.000	0.049	30.368
	Jan	0.000	3.441	26.976
	Feb	0.000	3.514	26.903
	Mar	0.000	3.021	27.395
	Apr	0.000	0.096	28.821
	May	0.000	0.000	0.000
	Jun	0.000	0.000	0.000
	Jul	0.000	0.000	0.000
	Aug	0.000	0.000	0.000
	Sep	0.000	0.000	0.000
	Oct	0.000	0.000	0.000
2024/2025	**Nov**	0.000	0.002	4.415
	Dec	0.000	0.048	30.369
	Jan	0.000	3.489	26.928
	Feb	0.000	3.601	26.816
	Mar	0.000	3.012	27.405
	Apr	0.000	0.089	28.827
	May	0.000	0.000	0.000
	Jun	0.000	0.000	0.000
	Jul	0.000	0.000	0.000
	Aug	0.000	0.000	0.000
	Sep	0.000	0.000	0.000
	Oct	0.000	0.000	0.000
2025/2026	**Nov**	0.000	0.001	4.415
	Dec	0.000	0.041	30.376
	Jan	0.000	3.344	27.073
	Feb	0.000	3.415	27.002
	Mar	0.000	3.037	27.380
	Apr	0.000	0.083	28.834
	May	0.000	0.000	0.000
	Jun	0.000	0.000	0.000
	Jul	0.000	0.000	0.000
	Aug	0.000	0.000	0.000
	Sep	0.000	0.000	0.000
	Oct	0.000	0.000	0.000
2026/2027	**Nov**	0.000	0.002	4.415
	Dec	0.000	0.036	30.380
	Jan	0.000	3.365	27.052
	Feb	0.000	3.442	26.974
	Mar	0.000	3.085	27.332
	Apr	0.000	0.104	28.812
	May	0.000	0.000	0.000

	Jun	0.000	0.000	0.000
	Jul	0.000	0.000	0.000
	Aug	0.000	0.000	0.000
	Sep	0.000	0.000	0.000
	Oct	0.000	0.000	0.000

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MARKET DYNAMICS

1. The purpose of this section of evidence is to explain the ongoing value that the Dawn Hub offers to natural gas consumers in Ontario, including to EGD rate zone customers via the CCS and the various connected natural gas storage facilities discussed at Exhibit B, Tab 1, Schedule 1, Section B.

2. This Exhibit of evidence is organized as follows:
   A. The Value of the Dawn Hub
   B. EGD Rate Zone Storage Capacity

A. THE VALUE OF THE DAWN HUB

3. Enbridge Gas operates the Dawn Hub, which is one of the largest and most important North American natural gas market hubs. The Dawn Hub consists of a combination of interconnecting natural gas pipelines and underground storage facilities and is the primary source of supply for the Dawn Parkway System. The Dawn Hub is also connected to a significant amount of underground natural gas storage within the Great Lakes region and to all major natural gas supply basins across Canada and the continental US, including the Western Canadian Sedimentary Basin ("WCSB") in Alberta and the Marcellus shale production region in the US Northeast, through various upstream natural gas transmission pipelines.

4. The depth and liquidity of the market at the Dawn Hub provides value to all Ontario natural gas customers by way of competitive commodity prices, attracting natural gas supply to the province. The Dawn Hub provides affordable supply and reliable and critical infrastructure to meet Ontario's peak energy demand, delivering approximately 3-times the energy equivalent to natural gas consumers as peak electric demand in the province.

5. The OEB has repeatedly recognized the importance and value of the Dawn Hub over time, including as part of its findings in the Natural Gas Electricity Interface Review ("NGEIR"):[1]

> The development of the Dawn Hub has brought substantial benefits to consumers in Ontario and to other market participants…
>
> …The storage facilities are an integral part of what is commonly referred to as the Dawn Hub, which is widely recognized as one of the more important market centres in North America for the trading, transfer and storage of natural gas. In its Natural Gas Forum Report, the Board stated "The large amount of nearby storage, combined with the convergence of pipelines linking the U.S. and Ontario gas markets, have made Dawn the most liquid trading location in Ontario". The Federal Energy Regulatory Commission, in its assessment of energy markets in the United States in 2004, made similar comments about the significance of Dawn: The Dawn Hub is an increasingly important link that integrates gas produced from multiple basins for delivery to customers in the Midwest and Northeast…Dawn has many of the attributes that customers seek as they structure gas transactions at the Chicago Hub: access to diverse sources of gas production; interconnection to multiple pipelines; proximity to market area storage; choice of seasonal and daily park and loan services; liquid trade markets; and opportunities to reduce long haul pipeline capacity ownership by purchasing gas at downstream liquid hubs.

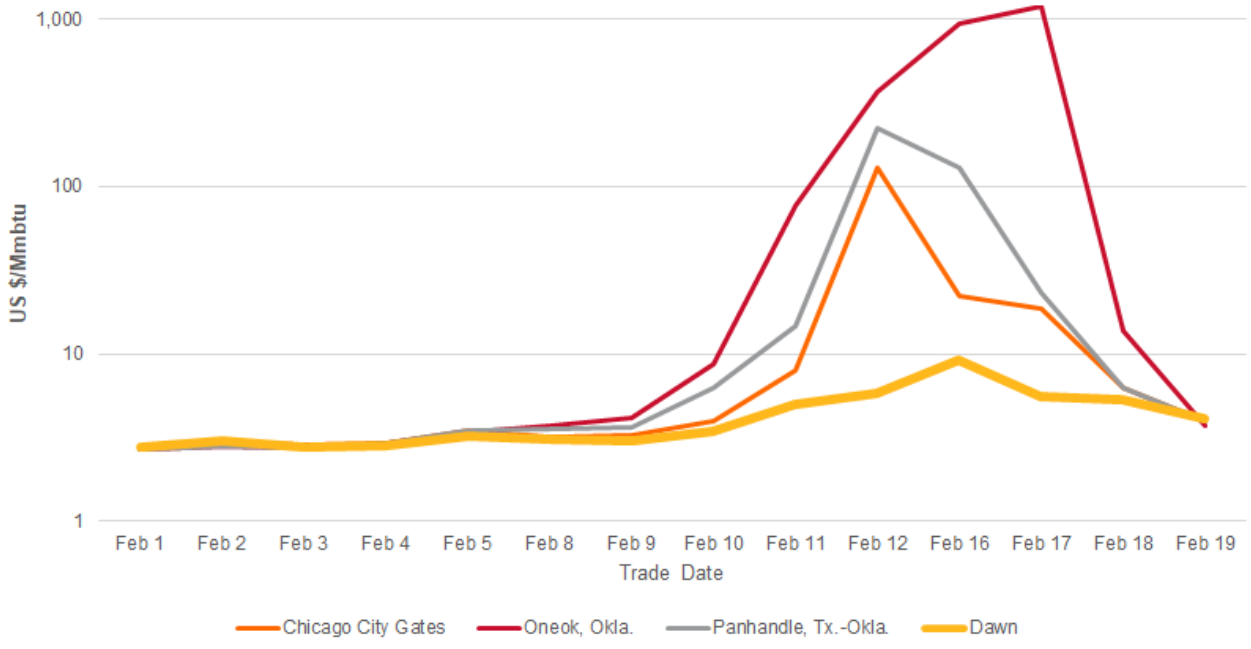
6. The diversity and magnitude of energy supply afforded by the Dawn Hub is especially critical during extreme weather events. North America, and in particular Canada and the continental United States have experienced 4 such events in the form of polar vortexes over the past 7 years. These harsh cold weather events have caused severe reductions in natural gas production and transmission volumes resulting in localized supply shortfalls during periods of peak demand (including distribution system outages), causing severe price spikes at regional market hubs. During each of these events, firm upstream supplies being delivered to the Dawn Hub have been significantly reduced as gas is drawn to higher priced markets away

[1] EB-2005-0551, Decision with Reasons, November 7, 2006, p. 44; EB-2005-0551, Decision with Reasons, November 7, 2006, p. 8

from Dawn, requiring Dawn Hub storage facilities to fill the resulting supply shortfall via increased withdrawals.

7. During the most recent polar vortex event in February 2021, the Dawn Hub provided security of supply to Ontario consumers by increasing storage withdrawals to offset upstream supply shortfalls. Not only did this avoid system outages, but it also provided price stability during peak conditions, as evident in Figure 1.

Figure 1: 2021 Polar Vortex Natural Gas Price Impacts



8. By contrast, during this same February 2021 polar vortex event, while demand for energy (both natural gas and electricity) in the U.S. West and Southwest increased significantly, natural gas production was impacted due to freeze offs at wellheads and the electricity system experienced widespread power outages. As a result, natural gas prices in Oklahoma and Texas, two of North America's largest production zones, spiked (10–100 times higher than prices at the Dawn Hub as

detailed in Figure 1). Atmos Energy Corp., a natural gas distribution company that serves more than 3 million customers across 8 U.S. states – reported that it had accrued roughly $2.5 to $3.5 billion in natural gas purchases, mainly for its Colorado, Kansas and Texas jurisdictions, due to this event.[2] Further, according to the Texas Department of Health Services, no less than 246 people lost their lives during this event, 10 of which from fire-related injuries from space heaters and 19 of which from CO poisoning (potentially also related to space heaters).[3]

9. Current market trends indicate that the value of natural gas storage in the Great Lakes region will remain steady in the short-term and will increase in the longer-term, as natural gas production levels are reduced and commodity prices rebound in response. In its recent natural gas market outlook, ICF concluded:[4]

> Going forward, ICF is projecting a general rebound in natural gas prices, as well as a slowdown in the growth of natural gas production and greenfield natural gas pipeline expansions. Both trends will tend to increase the seasonal value of natural gas storage. The general rebound in natural gas prices will lead to gas commodity prices that are generally higher in the winter withdrawal season than in the summer injection period simply due to the rising long term commodity price trend that ICF is projecting. In addition, as production growth in the Marcellus and Utica begins to slow, the increase in natural gas production during the winter relative to the previous summer will decrease, leading to an increase in the value of natural gas storage withdrawals to meet seasonal demand requirements. As a result, ICF is projecting a decline in winter gas supply availability and a general increase in storage values over the next several years. As seasonal storage values increase, winter price volatility is also expected to increase. The shift in storage markets makes the current time frame important for setting storage operational policy for the next few years.

10. Considering the ongoing and historical value that the Dawn Hub has provided to Ontario natural gas consumers, the increased frequency and severity of extreme

[2] https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/gas-utilities-face-multibillion-dollar-financing-needs-after-storm-price-surge-62790289
[3] https://www.dshs.texas.gov/news/updates/SMOC_FebWinterStorm_MortalitySurvReport_12-30-21.pdf
[4] ICF Q4 2021 Base Case

weather events experienced across the continent, and ICF's forecast calling for increased seasonal storage values and winter price volatility, Enbridge Gas anticipates that the Dawn Hub will continue to play a vital role in serving the energy needs of Ontarians for many years to come. The importance of reliable infrastructure and availability of storage to backstop supply shortfall is paramount to providing firm service with price stability during periods of extreme weather.

B. EGD RATE ZONE STORAGE CAPACITY

11. Storage and the Dawn Hub are integral parts of the EGD rate zone Gas Supply Plan. Storage assets provide EGD rate zone customers with cost-effective, flexible, reliable, and secure supply.

12. As per the OEB's NGEIR[5] and the Company's Mergers, Amalgamations, Acquisitions and Divestitures ("MAADs") proceedings,[6] total underground storage capacity reserved for EGD rate zone in-franchise customers is 99.4 PJ. As described in Exhibit B, Tab 1, Schedule 1, Section B, this storage capacity is connected to the Dawn Hub via the CCS and TR1/TR2 pipelines, and the Company currently relies upon the compressor units at the CCS (depending upon pressure differentials) to move natural gas volumes to and from Dawn and into and out of storage. The physical storage capacity reserved for EGD rate zone customers has the following injection and withdrawal characteristics:

    - 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.

[5] EB-2005-0551, NGEIR Decision with Reasons, November 7, 2006, pp. 74 & 83
[6] EB-2017-0306/EB-2017-0307, MAADs Decision and Order, August 30, 2018, p. 51

- 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).

13. The operational flexibility provided by physical storage capacity allows Enbridge Gas to control natural gas supplies at any nomination window, enabling the Company to efficiently utilize all upstream transportation services contracted (e.g., Firm Transportation, Storage and Transportation Services, Enhanced Market Balancing, Firm Dawn to Parkway Transportation). Similarly, this flexibility supports the maintenance of contractual balances on upstream and downstream transmission pipelines, limiting the risk of incurring imbalance penalties. Furthermore, this operational flexibility also allows Enbridge Gas to respond to short-term demand variations quickly and with limited administrative support.

14. The inclusion of storage assets in the Gas Supply Plan provides a cost-effective, reliable, and secure alternative to purchasing commodity, which is consistent with the OEB's guiding principles.[7] With the inclusion of storage in the Gas Supply Plan, Enbridge Gas is able to purchase and inject gas in the summer and mitigate exposure to severe market conditions, as described in Figure 1. As experienced in winter 2014 and discussed in the EGD April QRAM filing (EB-2014-0039), gas in inventory is a tool to mitigate exposure to extreme price swings for ratepayers. Storage provides reliability by providing space and molecules at a known physical location, with firm services underpinned by assets that include LCU on both the storage and transmission systems.

[7] EB-2021-0004, OEB Staff Report to the Ontario Energy Board, August 3, 2021, p. 2

15. As per the Company's 2021 Annual Gas Supply Plan Update (EB-2021-0004), Enbridge Gas 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).[8] Line 4 in Table 1 below, illustrates the forecast requirement of the bundled in-franchise allocated Tecumseh storage capacity through 2025.[9] Recognizing that forecast customer demand is projected to increase,[10] 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.

Table 1: Bundled In-Franchise Storage Requirement Forecast

Line No.	Particulars (PJ)	2020/21	2021/22	2022/23	2023/24	2024/25
	EGD					
1	Infranchise Storage Requirement					
2	Infranchise Customer Requirement	125.8	125.8	125.8	125.8	125.8
3	Cost-Based Storage					
4	Tecumseh	99.0	99.0	99.0	99.0	99.0
5	Welland	0.3	0.3	0.3	0.3	0.3
6	Market Based Storage	26.5	26.5	26.5	26.5	26.5
7	Space Allocated for Infranchise Use	125.8	125.8	125.8	125.8	125.8
	Union					
8	Infranchise Storage Requirement					
9	Contingency	9.5	9.5	9.5	9.5	9.5
10	Infranchise Customer Requirement	88.1	87.8	87.1	88.3	88.5
		97.6	97.3	96.7	97.8	98.0
11	Cost-Based Storage					
12	Dawn	100.0	100.0	100.0	100.0	100.0
13	Excess Utility Space Available	2.4	2.7	3.3	2.2	2.0

[8] EB-2021-0004, OEB Staff Report to the Ontario Energy Board, August 3, 2021, p. 15
[9] Tecumseh Storage refers to all storage pools connected to the CCS as well as Chatham D which is connected to the Panhandle System.
[10] EB-2021-0004, 2021 Annual Gas Supply Plan Update, Table 1, p. 22

16. Importantly, physical (Tecumseh) storage capacity reserved for EGD rate zone customers, which relies upon compression from the CCS, is cost-based and provides significant value as it allows Enbridge Gas to utilize lower priced natural gas (acquired and injected into storage during the summer) throughout the winter when commodity prices are typically higher.

17. Going forward, given the flexibility afforded by the Company's existing Gas Supply Plan portfolio of assets, including: (i) Upstream transportation and supply contracts; (ii) Third-party (market-based) storage contracts; and (iii) Delivered supply (peaking) contracts, and considering the attributes of regulated (utility) physical storage assets, the Company expects that it will continue to prioritize access to cost-based storage over other assets/alternatives.

ALTERNATIVES AND PROPOSED PROJECT

1. The purpose of this section of evidence is to review the alternatives, both facility and non-facility, as well as combinations of the two, that were considered by Enbridge Gas to replace the 7 reciprocating compressor units at CCS proposed to be retired and abandoned.

2. This Exhibit of evidence is organized as follows:
   - A. Characteristics of Integrated Storage Space and Deliverability
   - B. Assessment of Non-Facility Alternatives
     - i. Supply-Side Alternatives
     - ii. ETEE Alternatives
   - C. Assessment of Facilities Alternatives
     - i. Natural Gas Fired Compression
     - ii. Electric Drive Motor Compression
     - iii. NPS 36 Pipeline
     - iv. Liquefied Natural Gas Storage
   - D. Repair + Replace Alternative
   - E. Relative Economics of Alternatives
   - F. Proposed Facilities

A. Characteristics of Integrated Storage Space and Deliverability

3. The Dawn Hub is the largest natural gas market hub in the Great Lakes region and the largest integrated underground storage facility in Canada,[1] consisting of approximately 370 injection/withdrawal and observation wells across 35 storage reservoirs that are connected to a series of pipeline and compression facilities that safely and reliability store and transport natural gas to customers.

[1] Providing both market-based and cost-based storage services.

4. As discussed in Exhibit B, Enbridge Gas is proposing to retire and abandon 7 existing reciprocating compressor units at the CCS facility (K701-K703 and K705-K708) to address known obsolescence, reliability, and safety risks.[2] However, absent the capacity currently provided by these 7 compressor units or investment into other facility or non-facility alternatives to replace them, Enbridge Gas will strand storage space and will be forced to procure supply-side services to meet the demands of its customers. The Company expects that procuring this magnitude of supply-side services would significantly impact the price of natural gas commodity in Ontario. In order to better predict and understand these impacts, the Company commissioned a third-party consultant (ICF) to complete the report set out at Attachment 2 to this Exhibit. In this regard, ICF concludes:[3]

> The retirement of the Enbridge storage compression facilities will have important impacts on gas markets at Dawn and throughout Ontario if the physical storage capacity and deliverability is not replaced. These impacts include an average increase in annual natural gas prices at Dawn of C$0.013 per GJ, and an average increase in the seasonal natural gas price basis (Winter minus Summer prices) at Dawn of $0.072/GJ between April 2024 and March 2045.

ICF also supported the Company's evaluation of supply-side and market-based alternatives (forms of Integrated Resource Planning Alternatives ("IRPA")) to replacing the physical storage capacity currently provided by the 7 CCS compressor units (discussed in greater detail below).

5. To support its assessment of alternatives, Enbridge Gas completed hydraulic modelling of a 22,500 hp reduction at the CCS (the impact of retirement and abandonment of the 7 CCS units) and concluded that underground storage capacity, withdrawal deliverability, and injection capacity will be impacted as follows:

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[2] As the Company's storage facilities are fully integrated, these 7 CCS compressor units serve both EGD rate zone customers (cost-based storage) and non-utility customers (market-based storage). Costs for all of the 7 CCS compressor units were paid for by EGD rate zone customers.
[3] Attachment 2, p.12

- 20 PJ of storage capacity is made inaccessible (5.7 PJ due to reduced withdrawal deliverability and 14.7 PJ due to reduced injection capacity), effectively reducing EGD rate zone in-franchise storage capacity from 99.4 PJ to 79.1 PJ.

- Design day storage withdrawal deliverability will be reduced by 0.67 PJ/d. The in-franchise withdrawal deliverability cap would be equal to 1.2 PJ/d between 99.4 to 43.5 PJ, and below 43.5 PJ withdrawal deliverability would decrease linearly to 0.3 PJ/d at 5.6 PJ inventory. Figure 1 provides a graphical representation of the impacts upon storage withdrawal deliverability and storage capacity.

- Injection capacity will be reduced above 25 PJ inventory and 14.7 PJ of storage capacity will be effectively eliminated. Figure 2 provides a graphical representation of the impacts upon storage injection capacity.

Figure 1: EGD Rate Zone Storage Withdrawal Deliverability

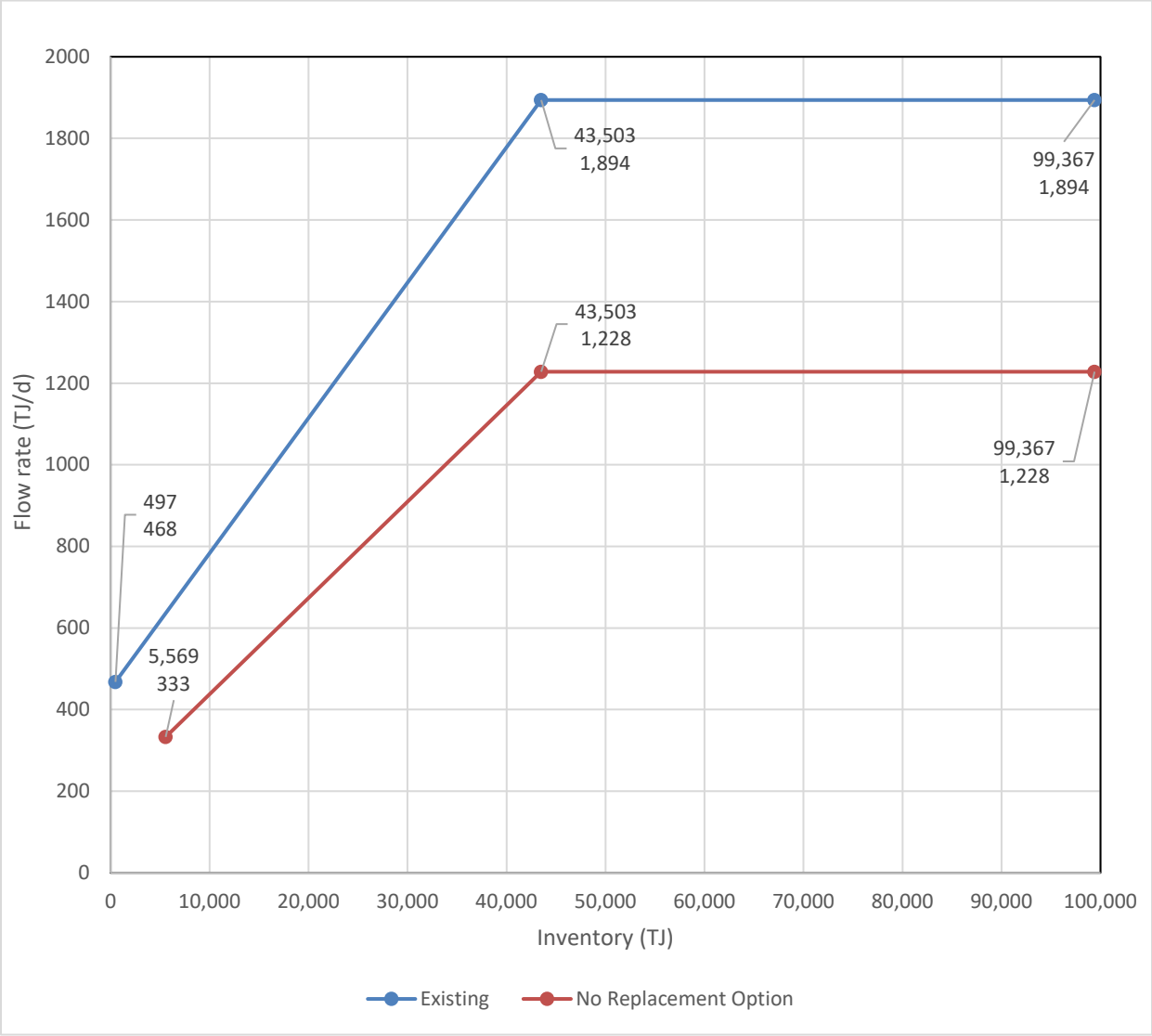
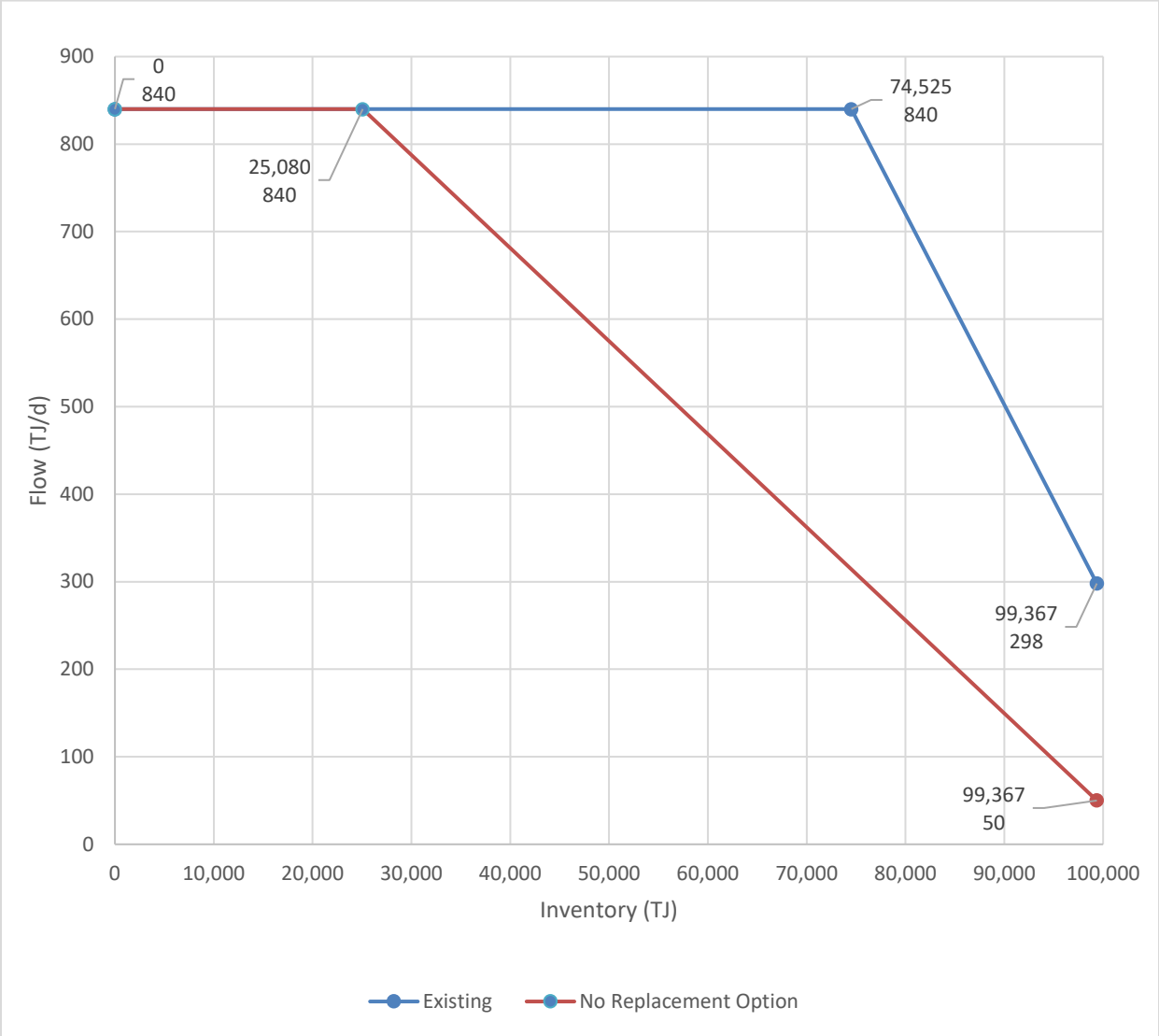


Figure 2: EGD Rate Zone Storage Injection Capacity



6. The elimination of 20 PJ (5.6 TWh) of cost-based storage capacity and 0.67 PJ/d (7.8 GW) of design day storage withdrawal deliverability for EGD rate zone customers will have significant long-term consequences to the province.[4] For

[4] These figures are direct energy conversions provided for illustrative purposes only, to give a sense of scale of the amount of energy stored and delivered through the Company's facilities to EGD rate zone

comparative purposes, 5.6 TWh is approximately equal to the embedded electrical generation capacity in Ontario (6 TWh).[5] 7.8 GW is approximately equal to:

- 19% of Ontario's total electrical generation, import and storage capacity;
- 74% of Ontario's existing nuclear generation capacity;
- 83% of Ontario's existing hydro generation capacity;
- 141% of Ontario's existing wind generation capacity; or
- 287% of Ontario's existing solar generation capacity.

7. As far as Enbridge Gas is aware, there are no plans (either in the short or longer-term) to expand electricity infrastructure in the province at the scale required to replace the energy equivalent of natural gas storage and deliverability made accessible via Tecumseh storage and the existing CCS units.[6] Accordingly, Enbridge Gas has assessed alternatives (both facility and non-facility) based on their ability to provide characteristics commensurate to the physical capacity made accessible and deliverability currently provided by the 7 CCS compressor units proposed to be retired and abandoned.

B. Assessment of Non-Facility Alternatives

8. The risks of CCS site reliability and obsolescence, and more recently employee safety (all of which are discussed in detail within Exhibit B), have been known to be escalating for years. However, given the timing of both this Application and the issuance of the OEB's IRP Framework for Enbridge Gas (EB-2020-0091), the Company applied the OEB-approved Binary Screening Criteria to the Project and

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customers. No consideration has been made for the efficiency of end use or energy loss due to combustion etc.

[5] IESO Annual Planning Outlook (December 2021), section 2.2, p. 19; https://www.ieso.ca/-/media/Files/IESO/Document-Library/planning-forecasts/apo/Dec2021/2021-Annual-Planning-Outlook.ashx

[6] Based on the Company's understanding of the IESO's long-term plans and Annual Planning Outlook. Enbridge Gas is not positioned to comment on the specific feasibility of electrifying the EGD rate zone.

determined that it is not possible to implement and resolve the identified system constraint within the timeframe required.[7] As stated in the OEB's IRP Framework for Enbridge Gas:[8]

> **ii. Timing -** If an identified system constraint/need must be met in under three years, an IRP Plan could not likely be implemented and its ability to resolve the identified system constraint could not be verified in time. Therefore, an IRP evaluation is not required. Exceptions to this criterion could include consideration of supply-side IRPAs and bridging or market-based alternatives where such IRPAs can address a more imminent need.

9. Further, considering the exception to the Timing criteria discussed above, Enbridge Gas pro-actively evaluated several supply-side (and/or market-based) IRPAs in combination with demand-side IRPAs (Enhanced Targeted Energy Efficiency ("ETEE")) in 2021 that could replace the equivalent storage capacity lost through the proposed retirement and abandonment of the existing 7 CCS compressor units.[9] The Company found that no non-facility alternatives, either alone or in combination with other facility and/or non-facility alternatives, can avoid or reduce the proposed facilities needed to replace the storage capacity lost at a reasonable cost to ratepayers in comparison to the proposed Project. Further, investments in supply-side alternatives alone would serve only to defer the proposed Project on a short-term basis,[10] resulting in greater exposure of ratepayers to risk of shortfall/outage

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[7] EB-2020-0091, OEB Decision and Order, July 22, 2021, pp. 47-49 & Appendix A. The IRP Framework for Enbridge Gas establishes Binary Screening Criteria that allow the Company to determine whether or not any IRP alternative could reasonably be expected to, efficiently and economically, resolve an identified system constraint/need.
[8] EB-2020-0091, OEB Decision and Order, July 22, 2021, Appendix A, p. 10
[9] EB-2020-0091, OEB Decision and Order, July 22, 2021, p. 35; As discussed in the IRP Framework proceeding, the value of bridging or supply-side IRPAs primarily comes from their successful combination with other non-facility or facility alternatives in the long-term.
[10] Reliance upon a supply-side alternative over the long-term would expose ratepayers to an unacceptable level of price and reliability risk.

and a greater long-term cost to ratepayers than simply proceeding with the proposed Project. The results of this evaluation are set out below:

i. Supply-Side Alternatives

Enbridge Gas evaluated supply-side IRPAs capable of replacing the storage capacity lost through the retirement and abandonment of the existing 7 CCS compressor units. To accomplish this, the Company structured its evaluation according to the cost of each alternative, and the storage space made accessible and deliverability currently provided by, the existing CCS storage compressor units:

- **Space –** The CCS provides access to 20 PJ of cost-based underground storage space for EGD rate zone customers at the Tecumseh storage facility. By enabling Enbridge Gas to purchase and inject lower priced gas in the summer months (when natural gas commodity prices are traditionally lower) and to withdraw and transport those same volumes to EGD rate zone customers in the winter months (when natural gas commodity prices are traditionally higher) this storage space minimizes exposure to price volatility and provides a financial benefit to EGD rate zone customers. In addition, this space provides customers with reliability and security of supply. Enbridge Gas maintains enough inventory in storage to meet design day withdrawal demands until February 28. This inventory provides reliable supply throughout the winter that is not subject to potential upstream interruptions that some supply-side services may be impacted by.

- **Deliverability –** The CCS facility provides EGD rate zone customers up to 0.67 PJ/d of design day withdrawal deliverability which is an extremely reliable and cost-effective means of balancing operational requirements within the day. As weather sensitive load fluctuates, Enbridge Gas relies on withdrawal deliverability from storage to adjust deliveries more closely to system demands. Further, this

deliverability provides the benefit of mitigating the amount of gas required to be purchased at peak prices for EGD rate zone customers. Enbridge Gas relies on the full 1.9 PJ/d of Tecumseh storage deliverability on a peak day.

10. As noted above, the Company engaged ICF consulting to review and evaluate supply-side alternatives relative to the proposed Project. In summary, ICF concluded:[11]

> 1) The storage capacity and deliverability that would be lost with the retirement of the Corunna compressors represents a significant share of the infrastructure needed to meet Enbridge in-franchise customer demands.
> 2) The retirement of the Enbridge storage compression facilities will have important impacts on gas markets at Dawn and throughout Ontario if the physical storage capacity and deliverability is not replaced. These impacts include an average increase in annual natural gas prices at Dawn of C$0.013 per GJ, and an average increase in the seasonal natural gas price basis (Winter minus Summer prices) at Dawn of $0.072/GJ between April 2024 and March 2045.
> 3) ICF evaluated a range of available options to replacing the loss in cost-of-service based storage capacity. Based on ICF's analysis, the Dawn to Corunna project provides the least cost option to replacing the storage capacity and deliverability lost due to the retirement of the Corunna compressors.
>   - The Dawn to Corunna project is expected to cost C$206.4 million in direct investment costs (excluding indirect overhead allocated to the project). When spread over the 40-year asset life of the investment, the overall cost of service associated with this investment, including return, depreciation, taxes, and O&M costs would have a NPV of about $276 million.[12]
>   - The access to storage capacity provided by the Dawn to Corunna project will reduce the NPV of commodity purchase costs over the 40-year life of the asset by $794 million, leading to a total reduction in the NPV of the cost-of-service to in-franchise customers of about $589 million relative to the Non-Replacement option.
>   - ***The annual reduction in commodity costs enabled by the Dawn to Corunna project more than offset the annual cost of service of the new infrastructure, resulting in a reduction in the overall cost of service to Enbridge in-franchise customers, relative to the cost of service in the "no-replacement" option.***
>   - The alternative supply side approaches to replacing the storage capabilities lost due to the retirement of the Corunna compressors are projected to lead to a

[11] Attachment 2, pp. 12-13
[12] The investment cash flow reflects 40-year declining balance depreciation and a before tax cost of capital of 6.69%. ICF discounted the cash flow at the after-tax cost of capital, 4.92%.

higher cost-of-service to Enbridge in-franchise customers relative to the Dawn to Corunna project. Over the 40-year lifetime of the Dawn to Corunna project, reliance on the least cost alternative to the Dawn to Corunna project would lead to an increase in the cost-of-service of about C$519 million relative to the Dawn to Corunna project.

4) While the initial costs of the Dawn to Corunna project option are higher than the initial costs of the other alternatives considered, the annual cost savings associated with the Dawn to Corunna project are significantly higher than the other options.
   - On a NPV basis, the Dawn to Corunna project option becomes the lowest cost option after year 2038.
   - On an annual cost-of-service basis, Dawn to Corunna is the lowest cost option to replacing the storage capacity and deliverability lost due to the Corunna compressor retirements during every year of the analysis.
5) The Dawn to Corunna project provides significant reliability and resiliency benefits to the regional natural gas system that would not be provided by other supply side alternatives.

11. All costs for supply-side alternatives set out in Attachment 2 and discussed herein are based on a normal winter weather scenario. However, as discussed in Exhibit B, the frequency and severity of extreme weather events experienced across North America has increased. Whereas access to physical storage capacity at Dawn has sheltered EGD rate zone customers from significant short-term price increases and interruption of services in the past, reliance upon supply-side alternatives for these purposes going forward may expose customers to greater price volatility and risk of system shortfall/outage.

12. In summary, all of the supply-side alternatives assessed introduce an unacceptable level of incremental risk to EGD rate zone customers relative to, and are considerably more expensive than, the proposed Project.

Market-Based Storage Alternative

13. Enbridge Gas considered the alternative of contracting for additional market-based storage to replace the attributes provided by the existing 7 CCS compressor units proposed to be retired and abandoned. To replace these attributes, Enbridge Gas could contract for either 55.5 PJ of storage capacity with 1.2% deliverability, or 14.7

PJ of storage capacity with 4.5% deliverability. In its analysis, ICF evaluated both contracting options. Assuming these contract parameters, this alternative would replace the space, deliverability and inventory provided by the CCS units proposed to be retired.

14. ICF concluded that the cost of this alternative over a 40-year time horizon would likely range between $519 – $556 million dollars more expensive than the Project, making this alternative unreasonably uneconomic.[13]

15. In addition, while market-based storage may theoretically replace the physical attributes of the CCS, it also introduces additional risk to EGD rate zone customers. For this to be a feasible alternative, Enbridge Gas would be required to rely on the availability of market-based storage for the long-term and, as noted by ICF, most existing market-based storage capacity is currently contracted.[14] Further, while ICF assumed that market-based storage would be available to Enbridge Gas in order to complete its assessment of this alternative, ICF notes that it is "…unlikely this space would be made available to Enbridge in a timely matter without significantly impacting the market price for storage."[15] This is particularly true when trying to contract 55 PJ of space to commence in a similar timeframe. In addition, storage is generally offered for terms without renewal rights, increasing the frequency at which Enbridge Gas would be exposed to this risk of market-availability.

16. Because the cost of this alternative is significantly greater than the cost of the Project and given the significant contracting risk, the Company has determined that this alternative is not preferrable.

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[13] Attachment 2, Section 2, pp. 14-24 and Exhibit 1-1, p. 13
[14] Ibid., Section 4.2, p. 38
[15] Ibid., Section 1.2, p. 7

Delivered Services Alternative

17. Enbridge Gas considered the alternative of purchasing a delivered service at either Dawn or within the delivery area (EGD rate zone – Central Delivery Area ("CDA")) to replace the attributes provided by the existing 7 CCS compressor units proposed to be retired and abandoned. This alternative would involve Enbridge Gas purchasing a product from a third-party to deliver supply as called upon by the Company to meet requirements on a set number of days per year.[16] This would involve a contracted relationship with a third-party to deliver gas under specific terms which is different than purchasing gas on the spot market when needed. Delivered services contracts would be subject to market-availability, introducing contracting risk compared to the proposed Project.

18. While delivered services may be available within Ontario, this would be a significant increase in demand for these services representing an increase to 18% of the Gas Supply Plan. These services would come at a much greater cost to EGD rate zone customers compared to the proposed Project. Over 40 years, ICF estimates that the cost of delivered services would be $1.2 to $2.2 billion dollars more than the cost of the Project.

19. Delivered services do not provide benefits equivalent to the physical storage space associated with the CCS and Tecumseh storage facilities. As demonstrated in the cost estimate above, there is a significant amount of risk related to the range of purchase prices that Enbridge Gas may have to pay in order to secure these services. The cost of a delivered service would be subject to market conditions, significantly increasing the price volatility risk within the Gas Supply Plan. By contrast, cost-based storage is not subject to the same degree of volatility and

[16] Currently, Enbridge Gas relies on delivered services to meet peak demands in its rate zones with a cap of 2% of design day demands.

natural gas commodity purchased in the injection season is subject to even less volatility than commodity purchased during peak demand periods (e.g. winter/withdrawal season). In other words, utilizing cost-based storage and summer gas purchases provides an implied hedge against winter pricing volatility that cannot be replicated by delivered services.

20. Delivered services also would not provide benefits equivalent to the physical deliverability associated with the CCS and Tecumseh storage facilities. The CCS facilities provide flexibility, both intra-day and within the season, to load shape withdrawals to match heat sensitive demand as the temperature fluctuates. Delivered services would not provide the option to load shape within the day.

21. The CCS and Tecumseh storage facilities provide security and reliability of supply to EGD rate zone customers. Delivered services, even if contractually obligated, are not guaranteed to be delivered. While delivered services can be purchased on a firm contractual basis with monetary penalties built-in for failing to deliver, such penalties may be less than the benefit to suppliers of delivering to other markets and will not resolve operational imbalances that could result in the event of a failure.

22. As a result of the increased costs and risk associated with delivered services as compared to the proposed Project due to: cost volatility, reduced flexibility and reliability, and risk of failure to deliver, the Company has determined that this alternative is not preferrable.

Upstream Pipeline Capacity Alternative

23. Enbridge Gas considered the alternative of contracting for additional upstream pipeline capacity and commodity purchases to replace the attributes provided by the existing 7 CCS compressor units proposed to be retired and abandoned. To replace

the deliverability of the CCS, Enbridge Gas would need to contract for 0.67 PJ/d of incremental pipeline capacity. ICF completed an analysis on this alternative and, using multiple upstream capacity options to meet the total requirements, determined that the incremental costs to ratepayers would be $4.7 billion dollars more than the cost of the Project. In addition, as noted within Attachment 2 to this Exhibit at Section 4.1, this incremental cost is conservatively offset by the assumption that the contracted capacity could be released for full basis value when not in use, providing some recovery of costs. ICF has likely overestimated the offsetting value that could be received for such capacity release, meaning that the actual cost of this alternative is likely higher than estimated.

24. In addition, similar to the delivered supply alternative discussed above, this alternative does not provide benefits equivalent to the physical storage space associated with the CCS facilities. Pipeline capacity would need to be contracted on a long-term basis with renewal rights to ensure access to upstream capacity. This alternative would then be subject to market availability of transportation or require significant commitments to build that capacity. Further, with less storage available at Dawn, commodity would need to be purchased to ensure balancing is available, which may require daily or weekly commodity purchases during peak demand periods. This would expose the Company's Gas Supply Plan to increased commodity price volatility. As a result of the increased costs and price volatility risk associated with the upstream pipeline capacity alternative compared to the proposed Project, the Company has determined that this alternative is not preferrable.

ii. ETEE Alternatives

25. An ETEE IRPA, enabled by a delivered supply alternative in the short-term (from 2023-2027), and combined with reduced facilities to replace the equivalent storage capacity lost through the retirement and abandonment of the existing 7 CCS

compressor units, was also evaluated. This alternative examined the extent to which the pipeline size of the preferred alternative (proposed NPS 36 pipeline) could be reduced (by one nominal pipe size from NPS 36 to NPS 30) through investment in ETEE and the cost for delivered supply to bridge the gap between the year that the system is constrained (2023) to the first year that the Company expects it could realize the requisite demand reductions from ETEE investments (2027). In order to facilitate the reduced facility scope by a single pipeline size, Enbridge Gas has determined that a reduction of 90 TJ/d would be required from any ETEE (or portfolio of the same).

26. The cost of an ETEE program that could deliver 90 TJ/d of demand reduction in the most favorable market downstream (EGD rate zone – CDA) of the Project is estimated to be approximately $980 million. Further, this alternative would require additional expenditures of a similar magnitude every 10-15 years to maintain this reduction over the depreciable life of the proposed Project, which is currently anticipated to be approximately 40 years. The cost savings resulting from reducing the facility scope from NPS 36 to NPS 30 are approximately $15 million, totaling approximately $235 million in facilities costs for the construction of an NPS 30 pipeline. However, the total costs of this Delivered Supply + ETEE+ NPS 30 alternative would be approximately $4.2-4.3 billion over approximately 40 years in order to avoid approximately $15 million in facility materials and labour costs.

27. The assessment of this Delivered Supply + ETEE+ NPS 30 alternative is based on a number of assumptions, including:
    - That sufficient potential for demand reduction is available for the depreciable life of the Project at these marginal costs for future ETEE investments. If that is not the case, incremental investments may be required, either in IRPAs or replacement facilities.

- That a program of this size is practically feasible to deploy in Enbridge Gas's CDA where it delivers maximum impact to the Project. If this is not the case, total costs to achieve this reduction would be higher, making it less cost-effective.[17]
- The size of this ETEE budget would be potentially 6 times the size of the Company's existing yearly DSM activities in the CDA. From a practical perspective it is unknown whether Enbridge Gas can deliver this program at the prescribed unit costs.

28. NPV analysis was not completed for ETEE alternatives. Assumptions required to complete an NPV analysis on the Delivered Supply + ETEE+ NPS 30 alternative are difficult to estimate, and beyond that, the capital costs are so exorbitant that the NPV analysis would not provide any value. The Company has summarized the costs for the Delivered Supply + ETEE+ NPS 30 alternative in Table 1 below.

[17] For the purposes of this high-level assessment, the Company chose to site this ETEE program in the CDA because it is downstream of the entire Dawn-Parkway system, meaning that any resulting demand reduction in the CDA will be maximally efficient in reducing storage demand. By contrast, if the program were rolled out more broadly to Union South rate zone, the impact of demand reduction at CCS may be less depending on the location, which would increase the costs of the program. Further, the 2019 Achievable Potential Study suggests the CDA has the potential to offer the level of demand reduction needed in this theoretical analysis.

Table 1: Estimated Costs of Delivered Supply + ETEE + NPS 30

Year	Year 1	Year 2	Year 3	Year 4 (2)	Years 5-10	Years 11-20 (3)	Years 21 - 30	Years 31-40	Total Investment Required
O&M Costs									
Bridging Cost - Delivered Supply (low estimate)	16	16	16	16	0	0	0	0	
Bridging Cost - Delivered Supply (high estimate)	47	47	47	47	0	0	0	0	
ETEE Program Implementation & Maintainence Cost (1	326.6	326.6	326.6	0	0	980	980	980	
Capital Costs									
Reduced Facilities Cost	235	0	0	0	0	0	0	0	
Project Cost per Year (low estimate)	577.6	342.6	342.6	16	0	980	980	980	4,219
Project Cost per Year (high estimate)	608.6	373.6	373.6	47	0	980	980	980	4,343

Notes

(1) 3 year period required for initial implementation of the ETEE Program

(2) Demand reduction from ETEE Program Investment occurs in the following year, as such a Bridging Cost will occur for 4 years.

(3) Reoccuring investment in ETEE Program is required every 10-15 years, for the purposes of this table 10 year increments were assumed.

C. Assessment of Facility Alternatives

29. Enbridge Gas assessed 4 facility alternatives capable of providing design day storage capacity equivalent to the existing 7 CCS compressor units proposed to be retired and abandoned, including:
    i. Natural Gas Fired Compression;
    ii. Electric Drive Motor Compression;
    iii. NPS 36 Pipeline; and
    iv. Liquified Natural Gas ("LNG") storage.

i. Natural Gas Fired Compression

30. This alternative includes a 1:1 replacement in total horsepower via the installation of two new Taurus 70 gas turbine compressor units on the west side of the CCS, station modifications at the CCS and Dawn, and retirement and abandonment of the existing compressor units and related facilities. This alternative has been estimated to cost approximately $211 million.

31. Natural gas fired compression has higher operating and maintenance costs compared to the proposed NPS 36 pipeline alternative based on standard operating practices to maintain the compressors, including: routine maintenance, engine overhauls, and replacement of mechanical parts and equipment. Further, as discussed in Attachment 1 to this Exhibit, Enbridge Gas has also included the cost of compressor fuel associated with the operation of natural gas fired compressors and an estimate of the carbon cost associated with the same based on proposed federal pricing.

32. As detailed in Attachment 1, the NPV for this alternative is $(212) million. The capital cost of this alternative is higher than the proposed Project alternative described below (NPS 36 Pipeline), as such, the Company has determined that this alternative is not preferable.

ii. Electric Drive Motor Compression

33. This alternative also provides a 1:1 replacement in total horsepower via installation of two new Spartan e90 electric motor drive ("EMD") compressor units on the west side of the CCS, station modifications at CCS and Dawn, and retirement and abandonment of the existing compressor units and related facilities. This alternative also includes additional costs for a new 27.7 KVA substation and backup generator to provide reliable power for the EMD compressor units.[18] This alternative has been estimated to cost approximately $217 million.

34. EMD compression has higher operating and maintenance costs compared to the NPS 36 pipeline based on standard operating practices to maintain the compressors including: routine maintenance, engine overhauls, and replacement of mechanical parts and equipment.

35. As detailed in Attachment 1, the NPV for this alternative is $(270) million. The capital cost of this alternative is higher than the proposed Project alternative described below (NPS 36 Pipeline), as such the Company has determined that this alternative is not preferable.

iii. NPS 36 Pipeline

36. This alternative provides a 1:1 replacement in design day storage system withdrawal capacity compared to the existing compressor units at the CCS facility that are proposed to be retired and abandoned. The NPS 36 pipeline will also provide equivalent storage injection capacity via existing compression units located within Dawn. This alternative includes station modifications at the CCS and the Dawn yard,

[18] Hydro One Ltd. has confirmed that there is sufficient existing capacity to service the increased electric load for this option. A load study (which carries an additional cost and duration) would be required before the Company could pursue this alternative.

and the retirement and abandonment of the existing compressor units and related facilities. This alternative has been estimated to cost approximately $206 million.

37. The operating and maintenance costs for the pipeline are lower than the other facility alternatives and include future costs for inline inspection, integrity digs and repairs.

38. As detailed in Attachment 1, the NPV for this alternative is $(200) million. The capital cost of this alternative is lower than the other facility alternatives contemplated. Further, the proposed pipeline simplifies Enbridge Gas storage operations by reducing the amount of rotating assets and running equipment. This opportunity to replace compression with a pipeline alternative also reduces emissions through utilization of existing hp compression at Dawn which have a lower burn rate (at higher efficiency). For all of these reasons, the Company has determined that this alternative is preferable.

iv. LNG Storage

39. An above ground LNG storage facility, including incremental compression to fill and empty the facility, was preliminarily evaluated to replace the equivalent amount of storage capacity and deliverability lost as a result of the proposed retirement and abandonment of the existing CCS compressor units.

40. The Company found that, in comparison to the existing compressor units at the CCS facility, while an LNG storage facility could replace an equivalent amount of storage deliverability, it could not replace an equivalent amount of storage injection capacity. Further, at an estimated cost of approximately $1 billion, this facility alternative is by far the most expensive.

41. NPV analysis was not completed for the LNG Storage alternative as it is not able to adequately satisfy the project need as described in Exhibit B. As an LNG facility

does not provide the equivalent operational requirements of the existing underground storage and would cost in excess of 5 times the capital cost of the proposed Project, the Company has determined that this alternative is not preferrable.

D. Repair + Replace Alternative

42. This alternative considers replacing the capacity of units K701-K703 with an NPS 20 pipeline that follows the same running line and requires the same station modifications as the proposed Project. In addition to the proposed NPS 20 pipeline alternative, compressor units K705-K708 would remain in service, requiring continued reactive repair, maintenance and support and subjecting ratepayers to ongoing and increasing risk of shortfall/outage.

43. As described in Exhibit B within the Obsolescence and Reliability Risks section, units K705-K708 account for 41% of the available compressor power at the CCS and face both increasing risk of unplanned outage and challenges to sourcing parts in a timely manner,[19] leading to increased compressor unit downtime (further exacerbating reliability issues due to increased runtime on backup units). In addition to the costs of unplanned outages, planned maintenance activities estimated at $9.7 million are required over the next 10 years on units K705-K708 to address known risks associated with: pressure control and overpressure protection, vibration detection equipment, valves, glycol systems, jacket water coolers, overhauls and cam upgrades. By leaving these compressor units in operation, the Company would expose ratepayers to increasing risk of interruption to storage withdrawal and injection operations and will incur significant maintenance costs.

[19] As described in Exhibit B where the Company explains the recent instance of a broken crankshaft on unit K705 which cost $4.25 million and resulted in 18 months of compressor unit downtime.

44. In addition, by leaving compressor units K705-K708 in operation, the employee safety risk associated with the number of compressor units and building occupancy in compressor buildings 1 & 2 remains unchanged. There is no risk reduction associated with building 2, and by leaving K705 in building 1 there is potential for multiple units to be operating in the building at the same time. Short-term mitigation policies constraining maintenance activity when more than one unit is operating in a building reduces maintenance windows for units K704-K710. These mitigations create other operational and maintenance challenges as discussed in Exhibit B. With increasing failures, extended repair time and given the Company's operational policies, a reduction in the compressor configurations available to accommodate system demands is expected.

45. NPV analysis was not completed for the Repair + Replace alternative as it is not able to adequately satisfy the project need as described in Exhibit B. While the capital cost of this alternative is lower than the proposed Project alternative described above (NPS 36 Pipeline), the O&M cost is nearly double. The alternative's inability to adequately satisfy the project need led the Company to determine that this alternative is not preferrable.

E. Relative Economics of Alternatives

46. Each of the alternatives assessed were analyzed to determine their effective capacity equivalent and relative costs (capital and O&M) for comparison. A cost per unit of capacity created and NPV was then calculated (where appropriate) in order to rank the alternatives. The results of that analysis are set out in Table 2.

Table 2: Relative Economics of Alternatives

Alternative	Capacity (TJ/d)	Capital Cost ($ Million)[20]	O&M Cost ($ Million)	Unitized Cost ($ Million/TJ/d)	NPV[21] ($ Million)
Non-Facility Alternatives					
Commercial Alternative + ETEE + Reduced Facilities	680	235	3,936 – 3,967	6.13 – 6.18	N/A
Facility Alternatives					
Natural Gas Fired Compression	680	211	3.88/yr	0.31	(212)
Electric Motor Drive Compression	680	217	6.84/yr	0.32	(270)
NPS 36 Pipeline	680	206	2.99/yr	0.30	(200)
LNG Storage	680	541	2.62/yr	0.80	N/A
Repair Alternative					
Repair + Replace	680	160	5.33/yr	0.24	N/A

[20] Capital costs reflect current estimates.
[21] See Attachment 1 to this Exhibit for details of NPV analysis.

F. Proposed Facilities

47. Enbridge Gas's preferred alternative is the approximately 20 km NPS 36 Dawn to Corunna pipeline from the Dawn Operations Centre in the Township of Dawn-Euphemia to the CCS in St. Clair Township (referred to as the Project or "TR 7"). This alternative provides an equivalent amount of storage withdrawal/deliverability capacity as the existing CCS compressor units proposed to be retired/abandoned (approximately 680 TJ/d) at an estimated cost of $206.4 million, making it the most economical alternative on the basis of cost per unit of capacity.[22]

48. As discussed in Section A above, the Company considered whether an NPS 36 was the optimal pipeline size and determined that it was as it represented the closest capacity equivalent in all regards compared to the existing CCS facilities at the lowest cost per unit of capacity. In summary, constructing an NPS 36 pipeline will enable Enbridge Gas to:
    - Maintain regulated withdrawal capacity of 1.89 PJ/d;
    - Maintain regulated injection capacity of 0.84 PJ/d; and
    - Maintain the regulated working capacity of 99.4 PJ.

49. Hydraulic modeling of the proposed Project demonstrates that:
    - During summer injection operations, the TR 7 pipeline will allow Dawn Hub compression to increase dry gas deliveries from 700 psi up to 1,350 psi, maintaining injection capacity into storage.
    - The TR 7 pipeline reduces flow on the existing pipelines, resulting in reduced pressure losses.
    - By installing the new TR 7 pipeline in parallel service to TR 1 and TR 2 less compression is required at the CCS because the flow will be shared across 3

[22] The total Project cost, including indirect overheads and loadings set out in Exhibit D is $250.7 million.

pipelines, thereby reducing the pressure drop between the CCS and Dawn. In addition, the 3 pipelines will be operated at varying pressure levels throughout the injection and withdrawal season to effectively utilize available compression at CCS and Dawn in the most efficient manner.

50. Please see Exhibit E for additional detail regarding engineering and construction of the Project.

NET PRESENT VALUE ASSESSMENT OF ALTERNATIVES

1. As discussed at Exhibits B and C, in support of the decision to proceed with the Project, Enbridge Gas conducted an analysis of the costs of three replacement facility alternatives.

2. The analysis set out in Table 1 below assumes a 40-year time horizon, consistent with the approximate depreciable life of the Project. The costs related to the 3 alternative replacement scenarios were then discounted using the methodology prescribed by the OEB's E.B.O. 188 to arrive at a net present value ("NPV") for each.

3. For the purposes of assessing the proposed Project (NPS 36 Pipeline), the Company:
   - Included the estimated cost of periodic cleaning and inspection as O&M expenses.
   - Included the cost of integrity digs and any required repairs as capital expenses.
   - Assumed that nine integrity digs would be required over the approximate 40-year life of the proposed Project.
   - Included the cost of compressor fuel associated with the operation of the pipeline and the estimated carbon cost associated with the compressor fuel used to operate the pipeline based on proposed federal pricing.[1]
   - Assumed nominal amount for normal annual maintenance of the pipeline based on comparable facilities.
   - Included an estimate of property tax expense based on comparable facilities in the same region.

[1] $40/tonne in 2021, $50/tonne in 2022 and increasing by $15/tonne annually beginning in 2023 until reaching $170/tonne in 2030+

4. For the purposes of assessing the Natural Gas Fired Compression alternative (Alternative 1), the Company:
   - Assumed that a compressor overhaul would be required every 10 years and included the costs associated with that work as capital expenses.
   - Included the cost of compressor fuel associated with the operation of compressors and the estimated carbon cost associated with the compressor fuel used to operate the compressors based on proposed federal pricing.[1]
   - Assumed nominal amount for normal annual maintenance of the compressors based on the amount spent on similar compressors.
   - Included an estimate of property tax expense based on comparable facilities in the same region.

5. For the purposes of assessing the Electric Drive Motor Compression alternative (Alternative 2), the Company:
   - Assumed that a compressor overhaul would be required once over the depreciable life of the asset and included the costs associated with that work as capital expenses.
   - Included the estimated cost of electricity associated with the operation of the compressors.
   - Assumed nominal amount for normal annual maintenance of the compressors based on the amount spent on similar compressors.
   - Included an estimate of property tax expense based on comparable facilities in the same region.

6. Table 1 provides a summary of the results of the cost comparison analysis. The NPV of the Project is more favourable than the NPV of Alternatives 1-2.

Table 1*:* NPV of Alternatives – 40-Year Term

Alternative		**NPV** ($ Millions)
Project	NPS 36 Pipeline	$(200)
Alternative 1	Natural Gas Fired Compression	$(212)
Alternative 2	Electric Drive Motor Compression	$(270)



Assessment of the Value of the Enbridge Gas Dawn to Corunna Storage Project

Potential Value of Incremental Storage Capacity and Market-Based Alternatives for Enbridge Gas

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1 Introduction

Enbridge Gas (Enbridge) currently owns and leases 125.6 PJ of underground storage in southwestern Ontario to serve Enbridge Gas Distribution bundled in-franchise customer gas supply requirements in the EGD rate zone. This capacity includes 99,400 TJ of utility-owned storage at Tecumseh near the Dawn Hub, operated by Enbridge Gas Storage, along with contracts for an additional 26 PJ of physical and "synthetic" storage capacity with other storage providers near the Dawn Hub.[1] The Tecumseh storage is provided to EGD rate zone customers on a cost-of-service regulated rate basis. The remaining storage capacity is contracted at market-based rates.[2]

The storage at Tecumseh is interconnected with storage at Dawn but relies on older storage and transmission infrastructure to interconnect with the broader system. Enbridge has determined that parts of this infrastructure need to be decommissioned due to obsolescence, reliability, and safety concerns. Prior to 2024, Enbridge intends to decommission up to seven of the 11 natural gas compressors currently located at the Corunna Compressor Station, which are approaching the end of their lifecycles.[3]

The decommissioning of the compressors at Corunna would reduce Enbridge's access to storage working gas space at Tecumseh from 99,400 TJ to 84,673 TJ and would reduce the withdrawal capacity at Tecumseh at full working gas inventory from 1,894 TJ/day to 1,228 TJ/day. The storage space and deliverability that would be lost due to the decommissioning of the compressors represent a significant component of the current Enbridge supply portfolio for its in-franchise customer base located in the EGD rate zone. Loss of this storage capacity would reduce the cost-of-service based storage working gas capacity available to this customer group by 15% percent and reduce the cost-of-service based storage deliverability available to this group by 35%.

Enbridge is proposing to replace this capacity by construction of a new 36-inch diameter steel pipeline between the Corunna Compressor Station in St. Clair Township and the Dawn Operations Centre in the Township of Dawn-Euphemia. The Dawn to Corunna project is designed to generally replicate the services provided by the retired compressor stations, effectively replacing the capacity provided by the storage compression assets scheduled to be retired existing compression at Dawn. Hence, the Dawn to Corunna project avoids the loss of 14,727 TJ of regulated cost-of-service storage capacity and 666 TJ/day of regulated cost-of-service storage deliverability.

Enbridge asked ICF to prepare an assessment of the value of the storage capacity that would be provided by the Dawn to Corunna project, based on as assessment of the cost and availability of alternatives to the development of Dawn to Corunna project. This report presents the results of that assessment.

[1] Storage capacity addressed in this report excludes the Crowland facility, with 0.3 PJ of storage capacity, which is not located near the Dawn Hub.
[2] The 26.5 PJ of non-cost-of-service based storage capacity includes 17.5 PJ of market-based storage capacity contracted from Enbridge Gas, Inc.
[3] https://www.enbridgegas.com/about-enbridge-gas/projects/dawn-corunna-project

1.1 Potential Impact of the Loss of Storage Capacity on Enbridge Distribution Customers

The loss of storage capacity resulting from the retirement of compression at Corunna would have several impacts on the overall natural gas market in Ontario, and on Enbridge distribution customers if the capacity is not replaced.

At the regional level, the loss of storage capacity and deliverability will reduce the physical availability of natural gas storage in Ontario, with moderate but widespread impacts on seasonal natural gas prices, and the reduction in winter gas system reliability and resiliency associated with a decline in storage deliverability.

The impacts on seasonal natural gas markets result in two critical market impacts on all natural gas users in Ontario. First, ICF projects prices at Dawn and throughout Ontario to increase during the winter months, when natural gas pipeline flows into Ontario will need to increase to offset the reduction in natural gas storage withdrawals in the province. These winter price increases will be partially offset by declines in natural gas prices during the summer, when demand in the province will decline due to the reduction in storage injections. Overall, ICF projects average natural gas prices to increase on an annual basis, as the increase in winter gas prices is expected to be greater than the decline in summer prices. This is due to the increase in the share of natural gas purchases that will need to occur during the winter period due to the loss of storage space in the province.

Second, Enbridge will be required to acquire additional natural gas deliverability to offset the loss in storage deliverability to maintain the same level of deliverability and the same level of system reliability in the absence of the cost of service-based storage capacity. This should be expected to lead to additional competition for alternative sources of natural gas deliverability, increasing the cost of market-based storage and other deliverability options in the province to all natural gas customers.

These impacts are discussed in more detail and the impacts are quantified in section 2 of this report.

1.2 Options for Replacing the Storage Capacity and Deliverability Lost Due to the Retirement of Corunna Compression

Enbridge is proposing to construct a 36-inch pipeline between the Corunna Compressor Station in St. Clair Township and the Dawn Operations Centre in the Township of Dawn-Euphemia. The Dawn to Corunna project is designed to generally replicate the services provided by the retired compressor stations, effectively replacing the capacity provided by the storage compression assets scheduled to be retired at Dawn. Hence, the Dawn to Corunna project avoids the loss of 14,727 TJ of regulated cost-of-service storage capacity and 666 TJ/day of regulated cost-of-service storage deliverability. The costs and impacts of this project are reviewed in more detail in Section 3 of this report.

Enbridge requested that ICF compare the impact of the Dawn to Corunna project on costs to in-franchise customers to the cost of duplicating the natural gas storage and deliverability characteristics of the Dawn to Corunna project using a range of alternative approaches to providing the same services. These alternatives were evaluated over the 40-year life of the Dawn to Corunna assets.

ICF evaluated three different alternative approaches to replacing the services that would be unavailable in the absence of Dawn to Corunna. The three approaches included:

1) Contracting for regional storage capacity and deliverability at market-based rates.

2) Contracting for additional pipeline capacity to the Enbridge supply portfolio to meet peak demand, combined with increased winter season reliance on contracted pipeline capacity and seasonal gas purchases at Dawn to replace storage withdrawals due to the reduction in available storage space.

3) Reliance on delivered services to meet design day supply requirements in the markets currently served by Tecumseh storage deliverability, combined with increased winter season reliance on contracted pipeline capacity and seasonal gas purchases at Dawn to replace the decline in storage withdrawals due to the reduction in available storage space.

These options are introduced below. Section 4 of this report provides a more detailed assessment of each alternative.

1.2.1 Market Rate Storage Capacity

Enbridge currently contracts for about 26,000 TJ of storage capacity and 272 TJ/day of storage deliverability at market-based rates from storage providers and marketers offering storage capacity in Southwestern Ontario in order to supplement the 99,400 TJ of cost-of-service storage capacity held for in-franchise customers. About 17,500 TJ of the 26,000 this capacity is contracted from Enbridge Gas Inc. in Ontario at market-based rates.[4]

While in theory, there is sufficient market-based storage capacity to offset the storage capabilities that would be lost due to the retirement of the Corunna compressor capacity, most if not all of the available storage capacity is currently contracted, hence Enbridge would be required to wait until current contracts with other storage users expire, and then bid higher prices than current market participants are willing to pay in order to contract for the rights to use this storage, or make sufficiently attractive offers to other storage contract holders to obtain the rights to storage capacity prior to the expiration of current contracts.

If sufficient quantities of market rate storage capacity could be made available to Enbridge, market-based storage capacity could be a viable alternative to the Dawn to Corunna project. However, it is unlikely that this space would be made available to Enbridge in a timely manner without significantly impacting the market price for storage. In addition, the use of market-based storage capacity would not address the increase in annual gas prices in Ontario, or the reduction in the regional system reliability and resiliency that would result from the loss of the physical storage space and deliverability.

For the purposes of the cost comparison between the Dawn to Corunna project and market rate storage capacity, ICF has assumed that sufficient incremental market rate storage capacity would be available to Enbridge to provide an alternative to the capacity and deliverability provided by the Dawn to Corunna

[4] Enbridge Gas Inc. is the largest provider of market-based storage capacity in Ontario, currently contracting 160,756 TJ of capacity to other parties at market-based rates, including contracts for 17,500 TJ of capacity to Enbridge. Additional storage capacity is available at market rates from third-party providers in Ontario as well as in Michigan, New York, and other storage locations further away from Dawn.

project, and that the increase in demand for market-based storage capacity would not significantly impact the price of the natural gas storage capacity

1.2.2 Natural Gas Pipeline Capacity

Contracting for incremental capacity on the pipelines serving Ontario was also considered as an alternative approach to providing the deliverability provided by the Dawn to Corunna project. ICF considered incremental pipeline capacity on a variety of different pipeline routes into Dawn.
The cost of the different pipeline capacity options relative to the Dawn to Corunna project includes the cost of the pipeline capacity.

The absence of storage space associated with a pipeline capacity option results in a change in natural gas purchase patterns. Instead of purchasing natural gas commodity during the summer for injection into storage at lower injection season prices, the pipeline capacity reduces commodity purchases during the summer and increases commodity purchases during the winter, which generally increases the cost of commodity purchases. As a result, the cost of the pipeline capacity option includes the cost of the pipeline capacity itself as well as the incremental cost of commodity purchases.

A share of the costs of holding incremental pipeline capacity can be offset by releasing capacity during periods when the capacity is not needed. ICF has estimated the value of pipeline capacity release at the basis value of the unused pipeline capacity. This likely overestimates the value of the extra capacity on the capacity release market.

1.2.3 Reliance on Delivered Services

Delivered services are products offered by third parties that have firm contractual rights to pipeline capacity or storage deliverability and are willing to sell the capacity/deliverability for short durations (10 to 30 days) to meet peak demand requirements.

Delivered services are frequently relied on by utilities that have rapidly growing demand to meet incremental capacity requirements during periods when new pipeline capacity is unavailable. Delivered services work best when the utility service territory has access to multiple pipelines where the pipelines have contracts to serve both upstream and downstream customers. While some utilities rely on delivered services to meet a share of capacity requirements on a long-term basis, delivered services are generally considered to be a stopgap measure. Delivered services contracts are generally signed for a year at a time, with no continuing obligation to provide the service beyond the contract year, and no assurances of future prices or availability.

1.3 Overview of Analytical Approach and Assumptions

Enbridge considers the retirement of the compressors at Corunna to be non-optional. In addition, Enbridge considers the replacement of the firm deliverability lost due to the retirement of the compressors to be non-optional in order to maintain the safety and reliability of the Enbridge system, and the ability to ensure service to Enbridge customers. However, replacement of the storage space lost due to the retirement of the Corunna compressors is considered optional, as the use of storage space is driven by economic benefits of purchasing natural gas during lower price periods in the summer rather than during higher priced periods during the winter. However, the storage space does provide additional flexibility and reliability due to the ability provided by storage to react to changes in demand caused by changes in weather and other factors without relying on the market for delivery.

The replacement of the storage capacity and deliverability can be accomplished by building new infrastructure that would replace the physical storage space and/or deliverability. Enbridge has determined that Dawn to Corunna represents the best option for achieving this result. Enbridge may also be able to replace the storage space and/or deliverability through contractual arrangements that rely on existing infrastructure without physical replacement. In this case, Enbridge would either contract for unused capacity or bid away the rights for capacity that is currently contracted by other parties. The scenarios that ICF evaluated, and general approach to the evaluations are summarized below.

1.3.1 Alternative Scenarios Evaluated

ICF estimated the long-term impacts of different options to address the loss of cost-of-service based storage capacity at Tecumseh that is expected to result from the retirement of the Corunna compressors for seven different scenarios. These included:

1) ***Without Replacement***: The loss of storage capability due to the Corunna Compression retirements is not replaced. Instead, incremental gas supply is purchased at Dawn and at other market centers when pipeline capacity is available, but the loss of storage deliverability is not replaced. This option is not considered to be a feasible alternative due to the increase in gas supply risk but represents a consistent point of comparison for the other alternatives.

2) ***Replacement with the Dawn to Corunna Project***: The storage capacity and deliverability lost due to the Corunna compressor retirements is fully replaced with the Dawn to Corunna project.

3) ***Replacement with Market-Based Storage***: Two approaches were used to assess the likely cost of market-based storage in order to provide a range of storage costs:

    a. ***Historic Storage Values***: The first approach is based on historical costs of market-based storage, adjusted to match the relationship between deliverability and space needed to replace the storage capabilities lost with the Corunna compression retirements. This approach does not account for the change in market conditions that will occur due to the reduction in physical storage capacity in the region and is considered to be a low-cost scenario.

    b. ***Projected Storage Values***: The second approach uses ICF's GMM and GSVM modeling tools to project the impact of changes in the market on storage values. The analysis incorporates the impact of the loss of physical storage capacity, and the impact of projected growth in demand over time on storage values. This scenario represents the expected cost of market-based storage.

4) ***Replacement with Incremental Pipeline Capacity Contracts***: ICF evaluated current pipeline markets to determine the least cost approach to replacing the deliverability lost with the Corunna compression replacement using pipeline capacity. Unused pipeline capacity is released back to the market and assumed to capture 100% of the available basis value.

5) ***Replacement with Delivered Services***: Two approaches were used to assess the likely cost of delivered services in order to provide a range of Delivered Services costs. In both scenarios, the deliverability cost associated with the delivered services is priced equivalent to 10-day storage deliverability (without the cost of storage space). We have used a low and a high estimate of the commodity cost component of delivered services to assess a range of values:

    a. ***Delivered Services Priced at Dawn***: Much of the delivered services market will be based on assets (storage and pipeline capacity) at Dawn. The first delivered services scenario is based on the assumption that all of the delivered services commodity are

priced at Dawn, this represents a conservative, or low cost, assessment of the cost of delivered services.

b. ***Delivered Services Priced at Iroquois***: However, given the magnitude of the required delivered services, ICF considers it unlikely that Enbridge will be able to contract for enough delivered services at Dawn commodity pricing to meet requirements. Instead, incremental delivered services will be priced at Iroquois. In this scenario, ICF priced all of the delivered services commodity at Iroquois.

Each of the six alternative approaches to replacing the storage capabilities lost due to the Corunna compressor retirements is compared to the results of the Without Replacement scenario.

1.3.2 Analytical Assumptions, Modeling Tools, and Data Sources

As part of this analysis, ICF has estimated the market impact of the loss of storage capacity and deliverability associated with the retirement of the Corunna compression, along with the cost impacts to Enbridge customers of offsetting the decline in storage capacity and deliverability needed to ensure continued reliability of natural gas service. This analysis is based on a series of analytical tools and assumptions and forecasts. Critical analytical assumptions include:

- Market-Based Storage contract data: ICF used data on market-based storage contracts published by Enbridge, as well as confidential storage offers made by third parties to Enbridge in response to storage RFPs to estimate the historical value of market-based storage capacity underlying the storage analysis. The storage market contract and bid information used to assess the historical value of natural gas storage space and deliverability is included in Appendix A.
- Regional Gas Market Forecasts: For this analysis, ICF used the Gas Markets Model (GMM) to assess the regional market impacts associated with the loss of the Tecumseh storage resulting from the compressor retirements. ICF developed monthly forecasts of natural gas market demand, prices, and storage values through 2045 using the ICF Gas Markets Model (GMM). A brief description of this model is provided in Appendix
- The GMM was used to develop two regional market scenarios:
    - The first scenario reflects the regional gas markets after the retirement of the Corunna compressors, without physical replacement of the loss in storage capability. This regional market scenario is used in the evaluation of the market alternatives to the scenario with Dawn to Corunna. All the alternatives to the Dawn to Corunna project considered in this analysis would rely on contractual approaches to replacing the lost space and deliverability, without replacing the overall loss in physical storage capacity and deliverability. To assess the impacts on regional natural gas markets of the loss of compression without replacement, ICF created a scenario using the GMM with a decline in storage capacity and deliverability associated with the retirement of the compressors. This scenario reduced Ontario storage capacity by 20.3 PJ and Ontario storage deliverability by 666 TJ/d. The regional natural gas prices from this scenario were used in the assessment of the costs of the alternatives to the Dawn to Corunna project, while the impact of the Dawn to Corunna project was captured in the ICF Base Case.
    - The second scenario reflects the regional gas market outlook after the replacement of the physical storage space and deliverability lost due to the Corunna compression retirement.

The ICF Base Case was used for this scenario.[5] ICF's forecast of natural gas market conditions and prices was based on the ICF Q4 2021 Base Case natural gas market outlook.

- Projections after 2045, are based on the long-term trends from 2040 through 2045.
- ICF used Enbridge Gas Distribution natural gas load forecasts for 2024 through 2028 for in-franchise customers. After 2028, the demand forecasts are based on the growth rate from ICF's Q4 2021 Base Case demand forecast for residential, commercial, and industrial customers in Ontario. The ICF forecast for annual residential, commercial, and industrial natural gas demand growth in Ontario is based on the Canada Energy Regulator 2020 Canada's Energy Future Reference Case forecast and is projected to increase by 0.61% per year between 2028 and 2045.[6]
- Enbridge Supply Portfolio Costs: ICF used the ICF Gas Storage Valuation Model (GSVM) to develop forecasts of the cost and value of market-based storage in Ontario, and to project the changes in Enbridge supply portfolio costs for the different options for replacing the deliverability and space associated with the retirement of the Corunna compression. The GSVM estimates daily natural gas prices using the monthly gas price forecasts from the GMM. A brief description the GSVM is provided in Appendix C.
    - The GSVM projects daily natural gas demand and optimizes the supply portfolio on a daily basis to meet projected daily natural gas demand.
    - The GSVM is run on a 12-month weather year basis (April-March). The GSVM was run for each year from 2023/24 through 2034/35, 2039/40, and 2044/45. Projections after 2045, are based on the long-term trends from 2035 through 2045.
- Net Present Value Calculations: ICF calculated the change in the annual cost of service to Enbridge in-franchise customers relative to the No-Replacement option for each of the alternative options considered as a replacement for the loss of storage space and deliverability resulting from the retirement of the Corunna compressors for each year between 2024 and 2063. The annual cost-of-service was discounted at the Enbridge after-tax cost of capital, 4.92% back to the start of 2024 to calculate the total impact of the cost of service on In-franchise customers for each option. This approach is somewhat different than the approach generally relied on by Enbridge to compare alternative capital projects. The standard approach used by Enbridge relies on a comparison of investment costs rather than the impact on the cost-of-service. The change in approach was deemed necessary by ICF in order to place all of the options on an equivalent basis for comparison purposes due to the range of different types of options being compared.

[5] While the ICF Base Case does not explicitly include the construction of the Dawn to Corunna project, it does assume that the physical capabilities of the retired compression are restored either through replacement of the compression capacity itself or through other means.
[6] The ICF 2021 Q4 Base Case was completed prior to the release of the CER 2021 Canada's Energy Future forecast. The 2021 CER forecast of Ontario natural gas demand is somewhat lower than the 2020 forecast.

1.4 Summary of Conclusions

Enbridge's forecast of peak day requirements indicates that the loss of deliverability provided by the Corunna compressors must be replaced in order to meet design day deliverability requirements. ICF's analysis indicates that the Dawn to Corunna project provides the most economical alternative to replacing the storage space and deliverability that will be lost due to the retirement of the compressors in the Corunna storage compression facility. The major conclusions of the ICF analysis include:

1. The storage capacity and deliverability that would be lost with the retirement of the Corunna compressors represents a significant share of the infrastructure needed to meet Enbridge in-franchise customer demands.
2. The retirement of the Enbridge storage compression facilities[7] will have important impacts on gas markets at Dawn and throughout Ontario if the physical storage capacity and deliverability is not replaced. These impacts include an average increase in annual natural gas prices at Dawn of C$0.013 per GJ, and an average increase in the seasonal natural gas price basis (Winter minus Summer prices) at Dawn of $0.072/GJ between April 2024 and March 2045.
3. ICF evaluated a range of available options to replacing the lost in cost-of-service based storage capacity. Based on ICF's analysis, the Dawn to Corunna project provides the least cost option to replacing the storage capacity and deliverability lost due to the retirement of the Corunna compressors.
    - The Dawn to Corunna project is expected to cost C$206.4 million in direct investment costs (excluding indirect overhead allocated to the project). When spread over the 40-year asset life of the investment, the overall cost of service associated with this investment, including return, depreciation, taxes, and O&M costs would have a NPV of about $276 million.[8]
    - The access to storage capacity provided by the Dawn to Corunna project will reduce the NPV of commodity purchase costs over the 40-year life of the asset by $794 million, leading to a total reduction in the NPV of the cost-of-service to in-franchise customers of about $589 million relative to the Non-Replacement option.
    - ***The annual reduction in commodity costs enabled by the Dawn to Corunna project more than offset the annual cost of service of the new infrastructure, resulting in a reduction in the overall cost of service to Enbridge in-franchise customers, relative to the cost of service in the "no-replacement" option.***
    - The alternative supply side approaches to replacing the storage capabilities lost due to the retirement of the Corunna compressions are projected to lead to a higher cost-of-service to Enbridge in-franchise customers relative to the Dawn to Corunna project. Over the 40-year lifetime of the Dawn to Corunna project, reliance on the least cost alternative to the Dawn to Corunna project would lead to an increase in the cost-of-service of about C$519 million relative to the Dawn to Corunna project.

[7] In the absence of the construction of the Dawn to Corunna project, or other new infrastructure to expand storage space and deliverability into Ontario markets.
[8] The investment cash flow reflects 40-year declining balance depreciation and a before tax cost of capital of 6.69%. ICF discounted the cash flow at the after-tax cost of capital, 4.92%.

4. While the initial costs of the Dawn to Corunna project option are higher than the initial costs of the other alternatives considered, the annual cost savings associated with the Dawn to Corunna project are significantly higher than the other options.
    - On a NPV basis, the Dawn to Corunna project option becomes the lowest cost option after year 2038.
    - On an annual cost-of-service basis, Dawn to Corunna is the lowest cost option to replacing the storage capacity and deliverability lost due to the Corunna compressor retirements during every year of the analysis.
5. The Dawn to Corunna project provides significant reliability and resiliency benefits to the regional natural gas system that would not be provided by other supply side alternatives.

Exhibit 1-1 Net Present Value of Incremental Cost of Meeting Enbridge Distribution Supply Portfolio Requirements After Retirement of Corunna Compression (C$Million)

Options to Replace Loss of Storage	Incremental Infrastructure Costs	Incremental Storage Contract Costs	Incremental Contract Cost (Pipeline or Delivered Service)	Incremental Pipeline Capacity Release	Incremental Commodity Cost	Total Incremental Costs Relative to "No Replacement" Option	Total Incremental Costs Relative to Dawn to Corunna Option
Option 1a: Replacement with Dawn to Corunna	$276	$0	$0	-$74	-$794	-$589	n.a.
Option 2a: Replacement with Market Based Storage - Projected Storage Pricing	$0	$714	$0	-$85	-$662	-$33	$556
Option 2b: Replacement with Market Based Storage - Historical Average Storage Pricing	$0	$677	$0	-$85	-$662	-$70	$519
Option 3: Incremental Contracted Pipeline Capacity	$0	$0	$7,200	-$646	-$2,490	$4,064	$4,653
Option 4a: Replacement with Delivered Services Priced at Dawn	$0	$0	$620	$0	$0	$620	$1,209
Option 4b: Replacement with Delivered Services Priced at Iroquois	$0	$0	$1,613	$0	$0	$1,613	$2,202

2 Impact of Corunna Compression Retirement on Natural Gas Markets

2.1 Impact of Corunna Compression Retirements on Enbridge Tecumseh Storage Capacity and Utilization at Tecumseh

Currently, Enbridge holds 99,400 TJ of cost-of-service based storage working gas capacity at Tecumseh used to serve customers in the EGD rate zone. This storage capacity is interconnected with storage at Dawn but relies on older storage and transmission assets to interconnect with the broader system. Enbridge has determined that parts of this infrastructure need to be decommissioned due to obsolescence, reliability, and safety concerns. Prior to 2024, Enbridge intends to decommission up to seven of the 11 natural gas compressors currently located at the Corunna Compressor Station, which are approaching the end of their lifecycles.

The decommissioning of the compressors at Corunna will reduce Enbridge's access to cost-of-service based storage working gas capacity at Tecumseh from 99,400 TJ to 84,673 TJ. The impact of the loss of storage compression at Corunna on the availability of Tecumseh natural gas storage is illustrated in Exhibit 2-1. The change in daily natural gas storage injections and withdrawal are shown in Exhibit 2-2.

Exhibit 2-1 Storage Working Gas Before and After Corunna Compression Retirement

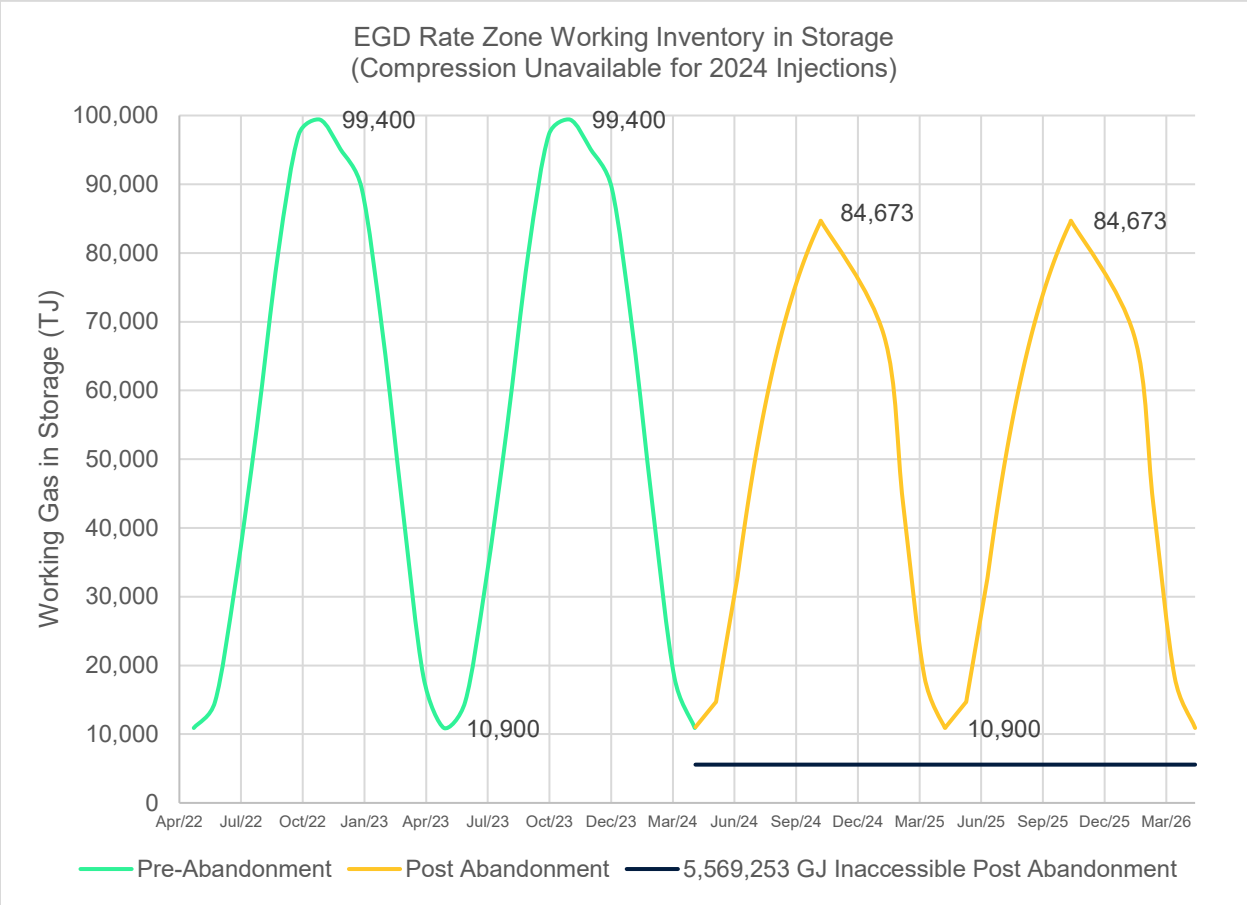
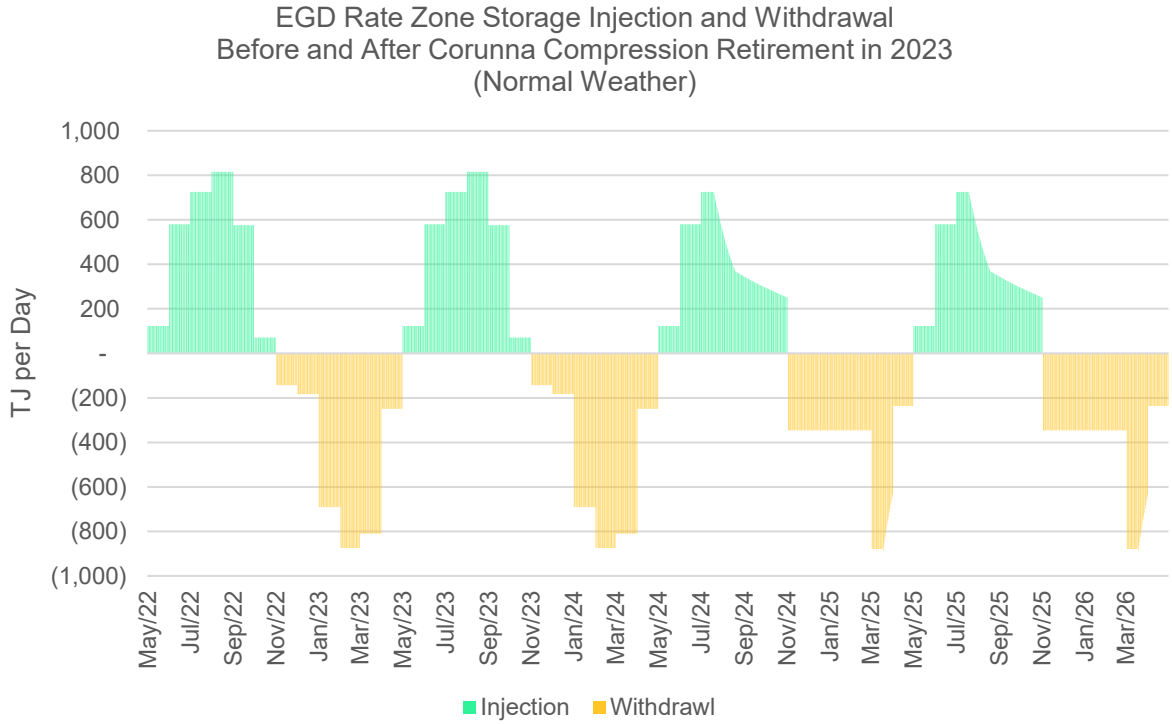


Exhibit 2-2 Storage Injections and Withdrawals Before and After Corunna Compression Retirement (Without the Dawn to Corunna project)



The retirement of the Corunna compressors will also reduce the peak deliverability of the Tecumseh storage. The withdrawal capacity at full working gas inventory will drop from 1,894 TJ/day to 1,228 TJ/day. The impact of the retirement of the Corunna compressors on storage withdrawal capacity and storage injection capacity are shown in Exhibit 2-3 and Exhibit 2-4.

The storage space and deliverability that will be lost due to the decommissioning of the compressors represent a significant component of the current Enbridge company natural gas supply portfolio for its in-franchise customer base in the EGD rate zone. The current projected 2024 Design Day demand for Enbridge is 4,175 TJ/day. Hence the reduction in peak day deliverability represents a loss of 16% of the deliverability required by Enbridge to meet in-franchise customer peak demand.

Exhibit 2-3 Storage Withdrawal Curves

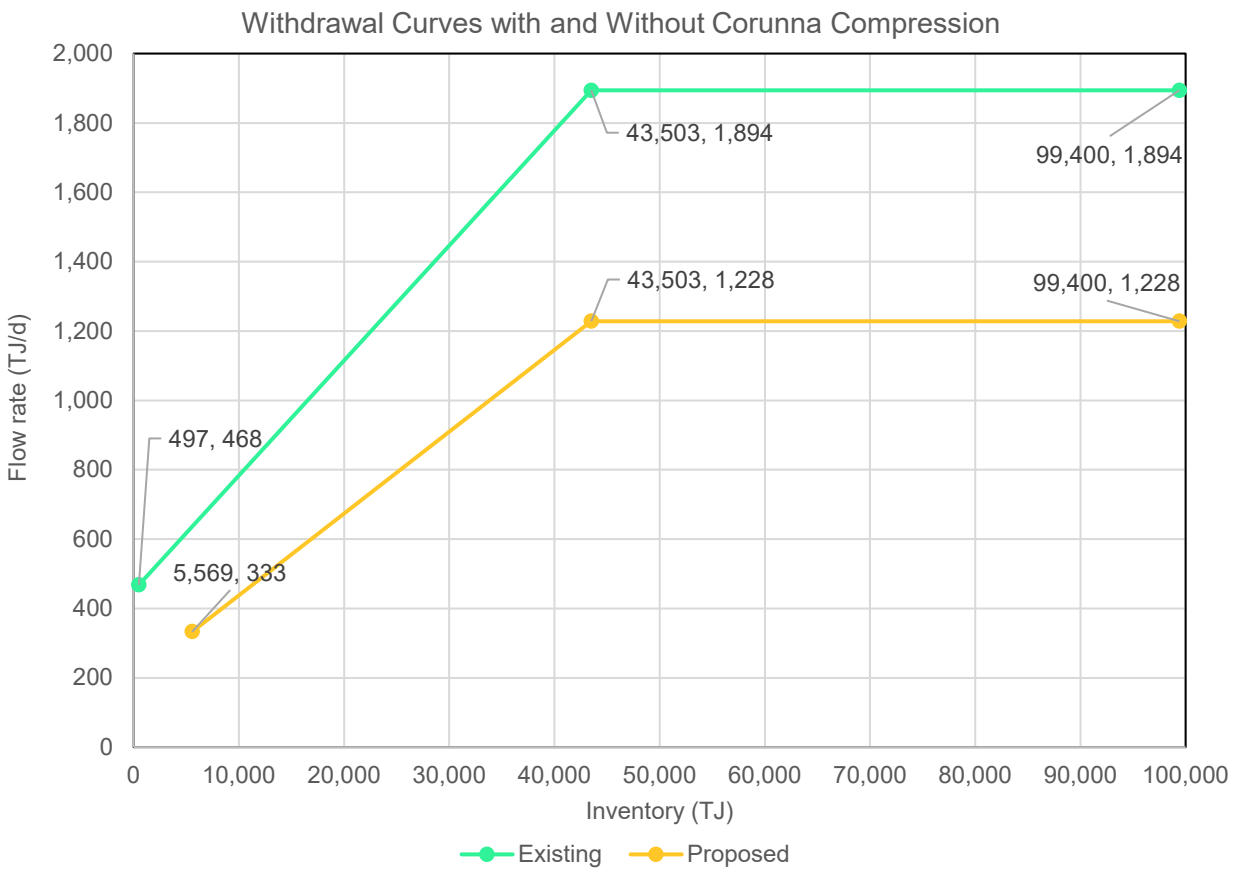
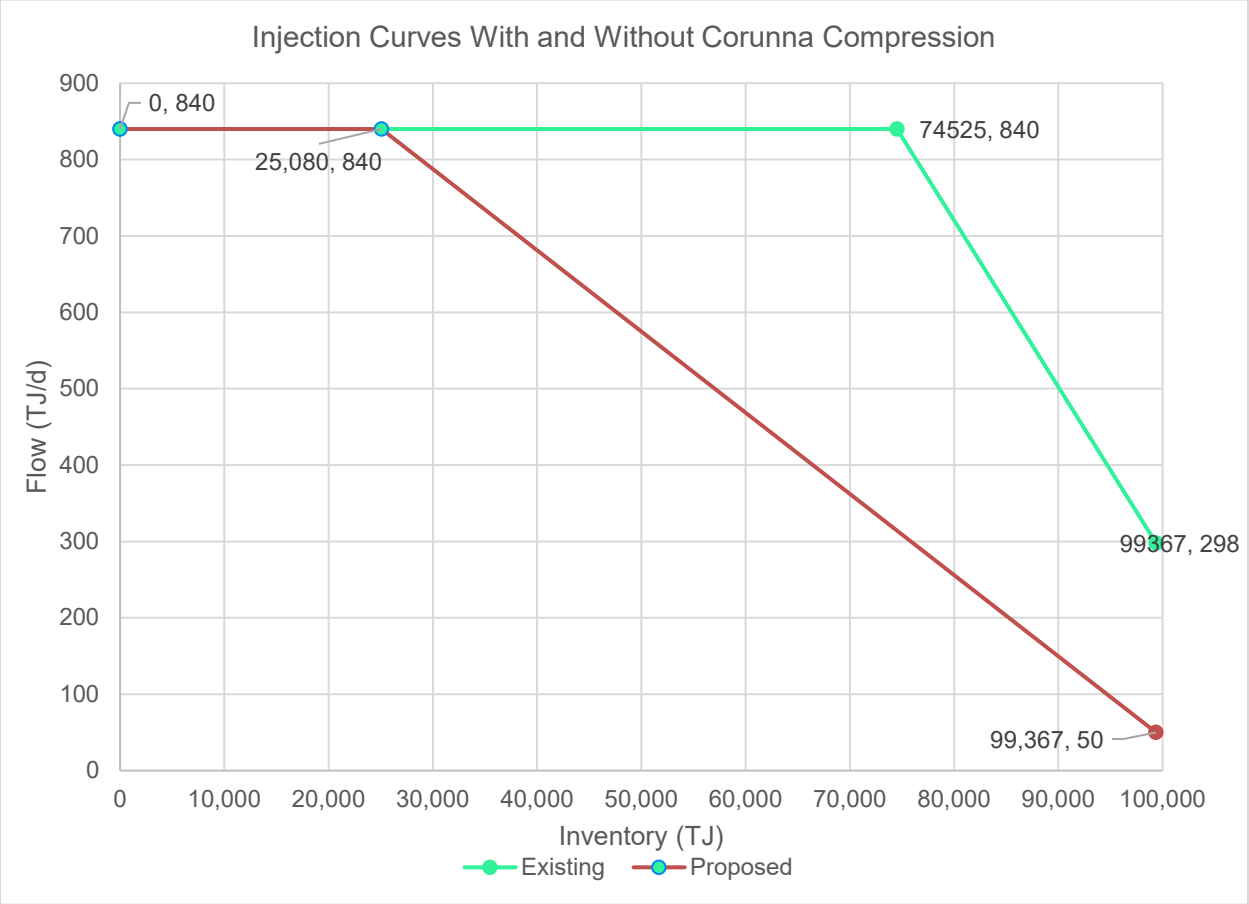


Exhibit 2-4 Storage Injection Curves



2.2 Impact of the Loss of Tecumseh Storage Capacity on Natural Gas Markets

The loss of 14,727 TJ of working gas space and 666 TJ/day of storage withdrawal capacity will have an impact on regional natural gas markets. To assess the impact of the loss of storage capacity, ICF projected natural gas market conditions and prices out through 2045 using the ICF Gas Markets Model to project monthly natural gas market prices with and without access to the storage, and the ICF Gas Storage Value Model to project the change in the cost of the commodity purchase portfolio to Enbridge in-franchise consumers. These models are described in Appendix B and Appendix C of this report.

2.2.1 Impact on Natural Gas Prices

The loss of Tecumseh storage capacity is not expected to have a significant impact on natural gas demand. While there will be a moderate price impact on demand, the larger impact will be on seasonal natural gas prices. The loss of storage capacity will reduce natural gas commodity purchases during the summer and increase purchases during the winter. As a result, natural gas prices are expected to decline in the summer and increase during the winter. Based on ICF's base case GMM modeling forecasts with and without the storage capacity that would be lost due to the retirement of the Corunna compressors, ICF is projecting an increase in withdrawal season (November – March) natural gas prices at Dawn

averaging about C$0.055/GJ and a decrease in injection season (April – October) natural gas prices at Dawn averaging about C$0.017/GJ. The annual average price is expected to increase by $0.013/GJ.

While the largest impact on prices occurs at Dawn, the change in purchasing patterns has an impact at all the markets where Enbridge purchases natural gas. The summer (June – August) and winter (December – February) price impacts are shown below in Exhibit 2-5. The changes in natural gas prices will impact all natural gas customers purchasing natural gas in these markets, including all Ontario natural gas consumers, and consumers in the broader region.

The change in seasonal prices results in an average increase of $0.07/GJ in the seasonal basis of natural gas at Dawn (Exhibit 2-6).

Exhibit 2-5 Summer and Winter Gas Price by Gas Hub (Nominal CAD/GJ)

	Dawn		Chicago		Empress		Clarington		Niagara	
	With	Without	With	Without	With	Without	With	Without	With	Without
2024 Summer	3.69	3.67	3.72	3.70	3.19	3.17	3.42	3.40	3.39	3.38
2024-2025 Winter	4.56	4.59	4.41	4.42	4.13	4.14	3.81	3.82	4.41	4.43
2025 Summer	3.61	3.61	3.75	3.75	3.19	3.19	3.25	3.25	3.24	3.24
2025-2026 Winter	4.31	4.36	4.24	4.23	3.81	3.83	3.53	3.50	4.13	4.17
2026 Summer	3.29	3.22	3.35	3.33	2.78	2.76	2.89	2.86	2.89	2.83
2026-2027 Winter	4.30	4.31	4.12	4.13	3.69	3.70	3.44	3.45	4.12	4.13
2027 Summer	3.26	3.18	3.35	3.32	2.73	2.71	2.80	2.80	2.82	2.77
2027-2028 Winter	4.48	4.51	4.33	4.34	3.95	3.96	3.57	3.59	4.30	4.33
2028 Summer	3.40	3.40	3.46	3.45	2.86	2.86	2.94	2.94	2.95	2.95
2028-2029 Winter	4.60	4.66	4.47	4.51	4.26	4.30	3.74	3.78	4.43	4.48
2029 Summer	3.62	3.62	3.68	3.67	3.23	3.22	3.13	3.13	3.16	3.15
2029-2030 Winter	4.96	5.02	4.79	4.82	4.47	4.51	4.07	4.10	4.79	4.84
2030 Summer	3.78	3.76	3.79	3.78	3.22	3.21	3.24	3.22	3.28	3.26
2030-2031 Winter	5.13	5.18	4.95	4.99	4.55	4.59	4.30	4.33	4.97	5.02
2031 Summer	4.02	4.01	3.98	3.97	3.39	3.38	3.44	3.43	3.54	3.53
2031-2032 Winter	5.37	5.43	5.21	5.25	4.74	4.79	4.52	4.56	5.20	5.26
2032 Summer	4.31	4.29	4.25	4.24	3.62	3.61	3.68	3.67	3.80	3.79
2032-2033 Winter	5.60	5.67	5.42	5.47	4.93	4.99	4.74	4.79	5.43	5.50
2033 Summer	4.54	4.53	4.49	4.48	3.84	3.83	3.95	3.94	4.06	4.05
2033-2034 Winter	5.82	5.88	5.62	5.68	5.06	5.12	4.93	4.98	5.64	5.71
2034 Summer	4.84	4.83	4.79	4.78	4.08	4.07	4.24	4.23	4.35	4.34
2034-2035 Winter	6.08	6.14	5.88	5.94	5.28	5.34	5.21	5.26	5.91	5.97
2035 Summer	4.94	4.93	4.90	4.90	4.14	4.14	4.36	4.36	4.45	4.45
2035-2036 Winter	6.19	6.24	5.96	6.00	5.22	5.27	5.25	5.28	6.01	6.06
2036 Summer	4.81	4.82	4.80	4.80	3.98	3.98	4.23	4.24	4.30	4.30
2036-2037 Winter	6.00	6.05	5.79	5.82	5.01	5.04	5.12	5.15	5.83	5.88
2037 Summer	4.91	4.92	4.90	4.91	4.06	4.08	4.36	4.37	4.41	4.43
2037-2038 Winter	6.26	6.31	6.00	6.02	4.97	4.99	5.28	5.30	6.07	6.12
2038 Summer	5.19	5.19	5.19	5.18	3.87	3.87	4.59	4.59	4.65	4.65
2038-2039 Winter	6.68	6.70	6.38	6.40	5.26	5.27	5.67	5.67	6.49	6.51
2039 Summer	5.43	5.41	5.44	5.42	4.06	4.05	4.78	4.76	4.83	4.82
2039-2040 Winter	6.90	6.93	6.59	6.59	5.42	5.41	5.82	5.82	6.70	6.73
2040 Summer	5.55	5.53	5.59	5.56	3.94	3.93	4.84	4.81	4.89	4.87
2040-2041 Winter	6.90	6.95	6.60	6.61	5.39	5.40	5.83	5.84	6.71	6.74
2041 Summer	5.48	5.45	5.49	5.46	3.87	3.85	4.79	4.77	4.86	4.84
2041-2042 Winter	6.84	6.91	6.52	6.57	5.30	5.35	5.80	5.83	6.65	6.72
2042 Summer	5.35	5.33	5.36	5.34	3.59	3.58	4.69	4.68	4.76	4.75
2042-2043 Winter	6.69	6.83	6.37	6.46	5.12	5.23	5.70	5.79	6.52	6.64
2043 Summer	5.55	5.55	5.53	5.52	3.80	3.80	4.94	4.94	5.02	5.02
2043-2044 Winter	6.79	6.98	6.44	6.59	5.24	5.41	5.79	5.93	6.61	6.79
2044 Summer	5.98	5.98	5.92	5.91	4.24	4.24	5.34	5.34	5.46	5.46
2044-2045 Winter	7.31	7.52	6.96	7.13	5.79	5.97	6.34	6.50	7.14	7.34

Exhibit 2-6 Dawn Seasonal Price (Nominal CAD/GJ)

	With Dawn to Corunna Storage Replacement	Without the Dawn to Corunna Storage Replacement
2024 Injection	3.87	3.87
2024-2025 Withdrawal	4.30	4.29
2025 Injection	3.51	3.46
2025-2026 Withdrawal	4.22	4.23
2026 Injection	3.50	3.45
2026-2027 Withdrawal	4.41	4.43
2027 Injection	3.62	3.62
2027-2028 Withdrawal	4.54	4.59
2028 Injection	3.84	3.83
2028-2029 Withdrawal	4.87	4.91
2029 Injection	3.96	3.94
2029-2030 Withdrawal	5.06	5.10
2030 Injection	4.16	4.15
2030-2031 Withdrawal	5.31	5.36
2031 Injection	4.45	4.43
2031-2032 Withdrawal	5.53	5.59
2032 Injection	4.69	4.67
2032-2033 Withdrawal	5.74	5.80
2033 Injection	4.99	4.98
2033-2034 Withdrawal	6.00	6.06
2034 Injection	5.11	5.10
2034-2035 Withdrawal	6.10	6.14
2035 Injection	5.01	5.01
2035-2036 Withdrawal	5.93	5.97
2036 Injection	5.11	5.12
2036-2037 Withdrawal	6.21	6.25
2037 Injection	5.44	5.43
2037-2038 Withdrawal	6.62	6.63
2038 Injection	5.70	5.68
2038-2039 Withdrawal	6.83	6.84
2039 Injection	5.85	5.81
2039-2040 Withdrawal	6.83	6.86
2040 Injection	5.75	5.71
2040-2041 Withdrawal	6.77	6.83
2041 Injection	5.62	5.59
2041-2042 Withdrawal	6.60	6.72
2042 Injection	5.79	5.78
2042-2043 Withdrawal	6.68	6.85
2043 Injection	6.18	6.17
2043-2044 Withdrawal	7.20	7.39
2044 Injection	3.87	3.87
2044-2045 Withdrawal	4.30	4.29
Injection Season Average	**$4.76**	**$4.75**
Withdrawal Season Average	**$5.72**	**$5.78**
Seasonal Spread	**$0.96**	**$1.03**

2.3 Impact of Weather on Market Prices and the Value of Storage

The analysis of the value of the lost storage capacity provided above is based on normal weather conditions. However, the value of natural gas storage differs from year to year based on whether the weather is colder than or warmer than normal. Much of the value of natural gas storage capacity is captured during a limited number of years when weather is colder than normal and natural gas market conditions result in significant price increases and constraints on natural gas market availability to meet the increase in demand.

ICF analyzed the effect of weather on natural gas prices using 89 different weather patterns reflecting the actual historical weather for each year between 1932 and 2020. The analysis was conducted for the period from April 2024 to March 2025.[9]

The charts below show the average prices at Dawn across the 89 weather scenarios and the price volatility for the base case (with the Dawn to Corunna storage compression replacement project) and alternate case (without the Dawn to Corunna storage project and the loss of storage capacity). The average price increase at Dawn was $0.04 CAD/GJ during the withdrawal season. The annual average increase in price volatility – the standard deviation across the 89 years of weather patterns – was 0.4% in the injection season (April through October) and 2.5% in the withdrawal season (November through March) when the Dawn to Corunna storage project was removed. The variability in weather conditions causes increased price volatility in the absence of the Dawn to Corunna storage project, particularly in the winter. The increase in volatility demonstrates the value of the storage in years that are not weather-normal.

[9] ICF conducted its cold and warm weather sensitivities based on a preliminary assessment of the impact of the loss of the Corunna compression of 19.4 PJ of storage capacity at Tecumseh. The final assessment of the loss of storage capacity increased to 20.3 PJ. Use of the higher final value would have increased the impact of the loss on pipeline flows to Ontario and slightly increased the price impacts in the weather sensitivities.

Exhibit 2-7 Average April 2024 – March 2025 Natural Gas Prices and Standard Deviation at Dawn for 89 Years of Historical Weather the Dawn to Corunna Compression Replacement Storage Project

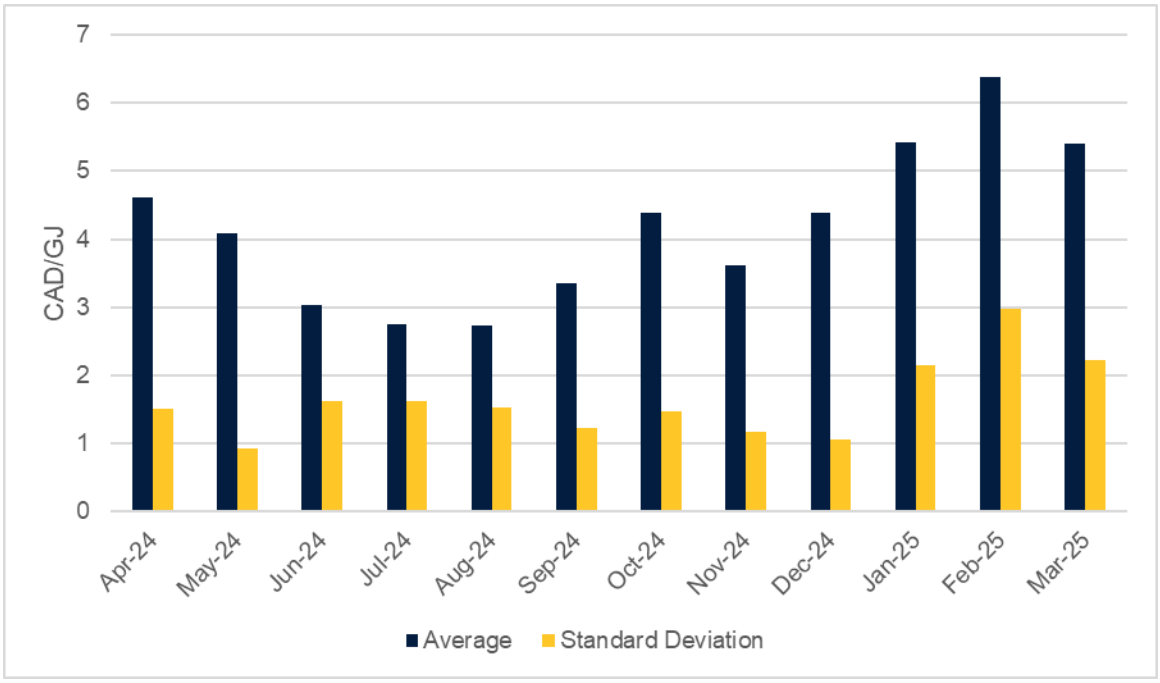


Exhibit 2-8 Average April 2024 – March 2025 Natural Gas Prices and Standard Deviation at Dawn for 89 Years of Historical Weather With Retirement of Corunna Compression and Without Replacement Project

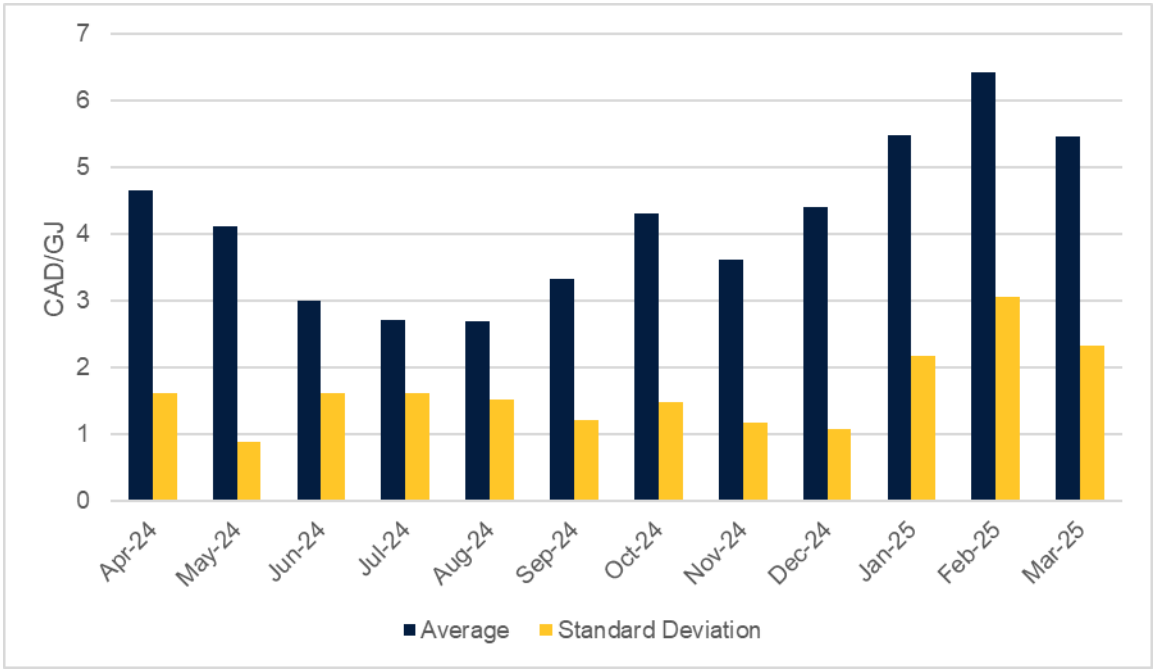
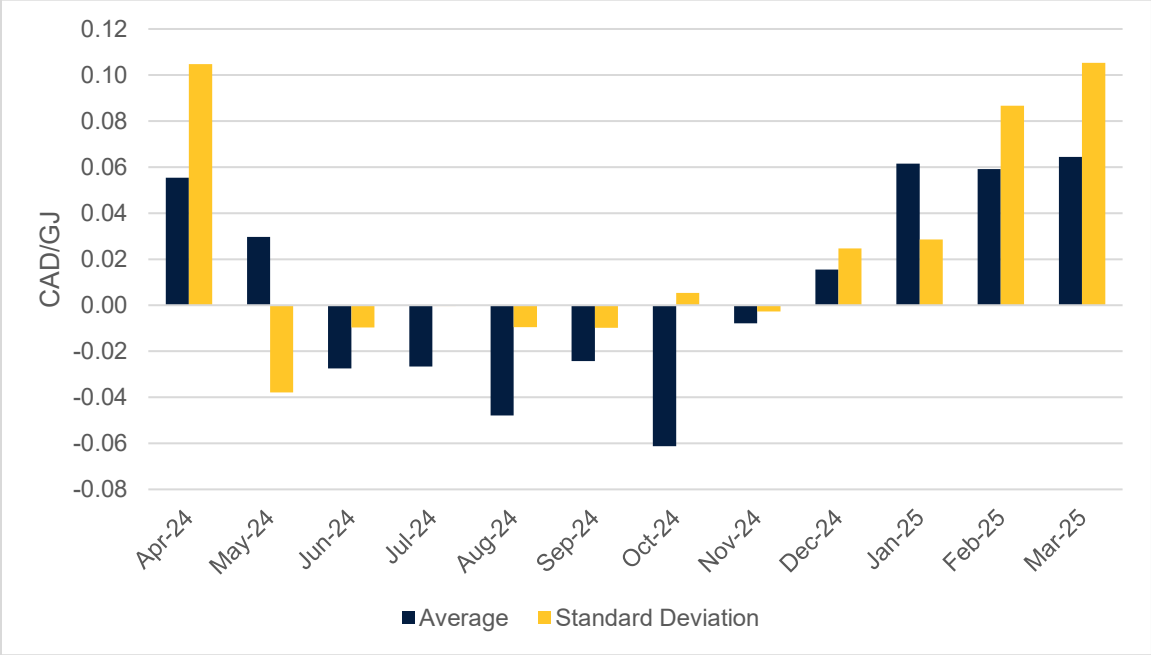


Exhibit 2-9 Impact of Retirement of Corunna Compression (without Replacement) on Natural Gas Prices



2.4 Impact of Lost Storage Capacity on Pipeline Flows into and out of Ontario

The table below summarizes the change in flows into Ontario in response to the loss of storage space resulting from the retirement of the Corunna compressors. The table shows the different in pipeline flows between the ICF Q4 2021 base case (with the Dawn to Corunna storage project replacement), the alternate case (without the storage replacement and normal weather), an extreme cold weather case (without the storage replacement and based on weather from 1976), and an extreme warm weather case (without the storage replacement and based on weather from 2015) scenarios between April 2024 to March 2025.

The change in flows have been summarized on a seasonal basis to access the impact of decrease in storage capacity in Ontario in the withdrawal season (November through March) and the injection season (April through October) season. The drop in the storage capacity amounts to 20.3 PJ.[10] During the winter, the change in net flows into Ontario between the ICF Q4 2021 base case and the alternate case cases amounts to 13,483 TJ. This change in flows signifies that the market is adjusting to the lack of storage and will increase the utilization at the remaining Ontario storage facilities by about 11% to meet the decline associated with the Dawn to Corunna project.

[10] The loss of compression at Corunna will reduce total usable storage space at Tecumseh by 20.3 PJ. This includes 14.7 PJ of space lost due to the inability to inject the same volumes of natural gas at the end of the injection season, and 5.6 PJ of space lost due to the inability to withdraw natural gas at the end of the withdrawal season. The 5.6 PJ of space lost at the end of the withdrawal season has never been included in the Enbridge supply portfolio plan, which is based on normal weather, hence the total storage capacity lost in the Enbridge supply portfolio is 14.7 PJ.

Exhibit 2-10 Difference in April 2024 - March 2025 Ontario Import and Export Natural Gas Volumes Between the ICF Q4 2021 Forecast and the ICF Q4 2021 Forecast Due to the Loss of Storage Capacity

Change in Flows into Ontario (TJ)	Normal Weather	Cold case	Warm case
Summer	-14,084	-15,241	-12,510
Winter	13,483	14,274	3,031
Annual	8,569	8,507	-14,012
Change in Flows out of Ontario (TJ)	**Normal Weather**	**Cold case**	**Warm case**
Summer	-1661	-489	-3113
Winter	-149	1674	-215
Annual	-3194	3214	-5829
Change in Net Flows (TJ)	**Normal Weather**	**Cold case**	**Warm case**
Summer	-15745	-15730	-15623
Winter	13334	15948	2816
Annual	5375	11721	-19840

3 Proposed Replacement for the Lost Storage Capabilities

According to Enbridge, decommissioning the compressors at Corunna is not optional. The facilities are approaching the end of their useful life and no longer will be capable of providing safe and reliable service. At the same time, the load served by these facilities has not disappeared, and an alternative to the storage space and deliverability facilitated by these compressors will be needed to ensure that in-franchise load can be served.

Enbridge is proposing to replace the storage working gas capacity and deliverability lost due to the retirement of the Corunna compressors with the construction of a new 36-inch diameter steel pipeline between the Corunna Compressor Station in St. Clair Township and the Dawn Operations Centre in the Township of Dawn-Euphemia. In effect, compression at Dawn will replace the retired compression capacity in Corunna, facilitated by the pipeline constructed between the two facilities. This will allow the continued utilization of the physical Tecumseh storage fields and facilities.

The Dawn to Corunna project is designed to generally replicate the capabilities currently provided by the Corunna compression that will be retired. The project will return the effective storage working gas capacity and deliverability at Tecumseh to the levels in effect prior to the retirement of the Corunna compressors.

3.1 Dawn to Corunna Project Costs and Impacts

The Dawn to Corunna project is projected to require an initial capital investment of C$206.4 million, excluding indirect overhead costs, with the costs occurring primarily in 2023. Enbridge is requesting that the cost of the facilities be included in the cost-of-service rates for Enbridge in-franchise customers. The Dawn to Corunna project will prevent the loss of 14,727 TJ of storage space and 666 TJ of storage deliverability and increase total Enbridge storage deliverability from 1.5% to 1.9%. The Dawn to Corunna project is also expected to reduce natural gas commodity purchase costs relative to a “no replacement” option. The additional space and deliverability provided by Dawn to Corunna will enable Enbridge to purchase more gas during low priced periods in the summer for use during higher priced periods in the winter. It also reduces the reliance on pipelines during the winter, increasing the value of pipeline capacity release.

In order to compare the costs of the Dawn to Corunna project option to other alternatives for replacing the storage capacity and deliverability lost due to the retirement of the Corunna compressors, ICF estimated the cost-of-service cash flow for the facility over the 40-year facility life. The cashflow analysis is based on the return on and off capital assuming 40-year declining balance depreciation, and a 6.69% before tax cost of capital. The cashflow was discounted at Enbridge’s after-tax cost of capital, 4.92%. The NPV of the cost of the Dawn to Corunna project is C$275.6 million.[11]

To examine the impact of storage capacity that will be provided from the Dawn to Corunna project on the gas supply portfolio cost, ICF conducted storage valuation analysis on two cases: a case with the Dawn to Corunna storage compression replacement project and a case without replacement of the Corunna compression after its retirement. The variable between the two cases is the storage capacity available from Enbridge’s Tecumseh storage while all the other input assumptions, such as contracted pipeline capacities by Enbridge, are kept the same across the two cases. The major differences between the two

[11] The difference between the capital cost of the Dawn to Corunna project (C$206.4 million), and the NPV of the cost-of-service of the project (C$275.6 million) is the NPV of the taxes associated with return on the project investment.

cases include differences in seasonal gas purchasing patterns, annual sources of natural gas supplies, and the price of natural gas purchases.

3.1.1 Annual Gas Flow by Gas Supply Sources

The loss of storage capacity and deliverability associated with the retirement of compressor assets at Corunna would significantly change natural gas purchasing patterns on both a seasonal and a locational basis. The impact on the location of gas commodity purchases is illustrated in Exhibit 3-1 through Exhibit 3-3.

Exhibit 3-1 With Dawn to Corunna Project Case – Annual Gas Flow by Gas Supply Sources (TJ)

Scenario Year	Chicago	Clarington	Niagara	Empress	Dawn	Storage Injection	Storage Withdrawal
2024	16,325	35,530	47,658	86,672	233,669	165,275	165,275
2025	15,487	38,170	49,372	82,250	236,151	166,750	166,750
2026	19,221	38,720	51,820	92,599	220,862	164,178	164,178
2027	18,147	39,160	51,830	86,332	229,976	165,130	165,130
2028	18,598	39,270	53,203	79,895	235,641	166,660	166,660
2029	17,219	38,610	50,620	73,564	249,184	165,332	165,332
2030	18,425	38,170	50,140	89,416	235,649	166,195	166,195
2031	20,328	38,060	50,334	91,249	234,943	165,655	165,655
2032	19,361	37,400	47,260	91,238	241,797	166,452	166,452
2033	20,206	36,960	48,493	92,004	242,045	168,260	168,260
2034	19,729	36,300	45,780	91,656	248,910	167,696	167,696
2035	19,089	35,530	43,407	94,046	253,493	167,139	167,139
2040	20,035	37,400	45,930	103,595	251,765	167,371	167,371
2044	22,624	35,530	49,318	103,595	258,893	166,249	166,249

Exhibit 3-2 Without Dawn to Corunna Project Case – Annual Gas Flow by Gas Supply Sources (TJ)

Scenario Year	Chicago	Clarington	Niagara	Empress	Dawn	Storage Injection	Storage Withdrawal
2024	18,272	35,530	51,894	89,667	224,490	136,714	136,714
2025	18,349	38,610	56,915	82,479	225,076	136,319	136,319
2026	19,784	38,830	57,472	92,020	215,115	135,568	135,568
2027	18,857	38,720	56,490	88,977	222,401	135,376	135,376
2028	20,814	39,270	57,100	85,551	223,872	133,639	133,639
2029	19,298	38,610	56,030	76,683	238,575	138,245	138,245
2030	20,570	37,730	55,005	89,126	229,368	136,668	136,668
2031	22,328	38,060	52,796	94,046	227,684	135,883	135,883
2032	20,060	37,400	51,963	93,079	234,554	137,452	137,452
2033	21,760	36,850	52,272	93,644	235,181	136,473	136,473
2034	21,590	36,080	50,781	93,453	240,471	137,578	137,578
2035	21,246	35,530	49,054	94,046	245,689	138,379	138,379
2040	22,262	37,180	52,668	98,097	237,552	139,367	139,367
2044	22,786	36,960	52,301	101,569	236,860	135,668	135,668

Exhibit 3-3 Delta of Annual Gas Flow by Gas Supply Sources (TJ) between With and Without Dawn to Corunna Project Cases

Scenario Year	Chicago	Clarington	Niagara	Empress	Dawn	Storage Injection	Storage Withdrawal
2024	-1,947	0	-4,236	-2,996	9,178	28,560	28,560
2025	-2,862	-440	-7,542	-230	11,074	30,431	30,431
2026	-563	-110	-5,652	579	5,746	28,609	28,609
2027	-710	440	-4,660	-2,645	7,575	29,754	29,754
2028	-2,216	0	-3,897	-5,656	11,769	33,021	33,021
2029	-2,079	0	-5,410	-3,119	10,608	27,087	27,087
2030	-2,144	440	-4,866	289	6,281	29,527	29,527
2031	-2,000	0	-2,462	-2,797	7,259	29,772	29,772
2032	-699	0	-4,703	-1,841	7,243	29,000	29,000
2033	-1,554	110	-3,780	-1,640	6,863	31,787	31,787
2034	-1,861	220	-5,001	-1,797	8,439	30,117	30,117
2035	-2,157	0	-5,648	0	7,805	28,761	28,761
2040	-2,228	220	-6,738	5,498	14,213	28,005	28,005
2044	-162	-1,430	-2,982	2,026	22,033	30,581	30,581

Exhibit 3-4 Replacement With Dawn to Corunna – Annual Average Commodity Price (Nominal CAD/GJ)

Scenario Year	Chicago	Clarington	Niagara	Empress	Dawn
2024	$4.007	$3.581	$3.845	$3.632	$4.156
2025	$3.955	$3.368	$3.696	$3.587	$4.080
2026	$3.672	$3.122	$3.450	$3.265	$3.850
2027	$3.756	$3.124	$3.498	$3.353	$3.910
2028	$3.877	$3.271	$3.633	$3.535	$4.057
2029	$4.139	$3.523	$3.893	$3.821	$4.305
2030	$4.276	$3.680	$4.038	$3.840	$4.462
2031	$4.490	$3.888	$4.262	$4.005	$4.717
2032	$4.738	$4.119	$4.507	$4.213	$4.938
2033	$4.960	$4.358	$4.745	$4.394	$5.192
2034	$5.241	$4.643	$5.029	$4.637	$5.473
2035	$5.344	$4.732	$5.138	$4.673	$5.557
2040	$6.006	$5.248	$5.793	$4.742	$6.291
2044	$6.347	$5.755	$6.210	$4.941	$6.688

Exhibit 3-5 Without Dawn to Corunna Project Case – Annual Average Commodity Price (Nominal CAD/GJ)

Scenario Year	Chicago	Clarington	Niagara	Empress	Dawn
2024	$4.001	$3.578	$3.843	$3.628	$4.153
2025	$3.949	$3.358	$3.693	$3.580	$4.077
2026	$3.667	$3.104	$3.433	$3.258	$3.831
2027	$3.749	$3.126	$3.490	$3.347	$3.892
2028	$3.892	$3.286	$3.650	$3.552	$4.075
2029	$4.149	$3.533	$3.906	$3.832	$4.317
2030	$4.280	$3.685	$4.045	$3.845	$4.468
2031	$4.503	$3.901	$4.278	$4.018	$4.732
2032	$4.753	$4.132	$4.524	$4.228	$4.955
2033	$4.976	$4.373	$4.763	$4.409	$5.210
2034	$5.258	$4.658	$5.047	$4.654	$5.491
2035	$5.356	$4.744	$5.152	$4.685	$5.571
2040	$5.994	$5.240	$5.789	$4.734	$6.285
2044	$6.416	$5.821	$6.284	$5.008	$6.765

Exhibit 3-6 Impact of Replacement with Dawn to Corunna Scenario on Gas Supply Portfolio Costs (Nominal $CAD)

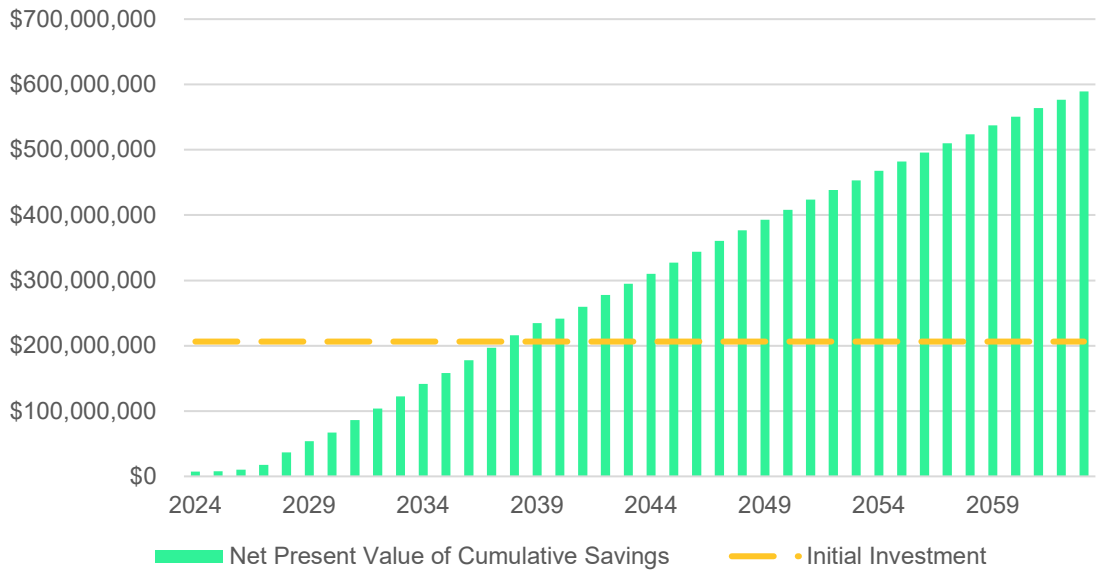
Year	Total Portfolio Cost without Replacement	Incremental Dawn to Corunna Infrastructure Costs	Value of Incremental Pipeline Capacity Release	Incremental Commodity Cost	Total Incremental Costs
NPV Summary					
2024-2063	**$46,581,647,169**	**$275,604,504**	**($74,444,578)**	**($794,470,250)**	**($589,256,114)**
2024-2043	**$28,410,150,180**	**$213,680,038**	**($53,340,480)**	**($459,252,468)**	**($294,858,700)**
Annual Cashflow Summary					
2024	$1,826,961,779	$17,852,578	($5,425,522)	($19,891,240)	($7,464,184)
2025	$1,786,014,334	$17,913,750	($4,455,767)	($14,169,859)	($711,876)
2026	$1,677,868,083	$17,913,252	($3,300,157)	($17,433,726)	($2,820,631)
2027	$1,720,814,134	$17,901,219	($4,250,029)	($22,655,625)	($9,004,435)
2028	$1,808,659,168	$17,878,401	($5,535,261)	($36,336,660)	($23,993,520)
2029	$1,935,201,163	$17,806,527	($5,082,293)	($35,815,319)	($23,091,085)
2030	$2,010,281,259	$17,765,431	($2,976,896)	($33,479,449)	($18,690,915)
2031	$2,135,352,145	$17,700,696	($4,998,402)	($40,833,732)	($28,131,438)
2032	$2,253,009,717	$17,673,029	($4,312,204)	($40,453,212)	($27,092,387)
2033	$2,382,783,747	$17,996,245	($4,996,626)	($42,603,068)	($29,603,449)
2034	$2,526,480,190	$17,236,757	($5,494,673)	($44,576,136)	($32,834,052)
2035	$2,579,809,314	$17,068,188	($4,803,168)	($42,203,472)	($29,938,452)
2036	$2,699,239,645	$16,893,457	($3,134,856)	($50,091,026)	($36,332,425)
2037	$2,755,923,678	$16,713,001	($3,200,687)	($51,142,938)	($37,630,624)
2038	$2,813,798,075	$16,527,235	($3,267,902)	($52,216,940)	($38,957,606)
2039	$2,872,887,835	$16,336,548	($3,336,528)	($53,313,495)	($40,313,475)
2040	$2,933,218,479	$16,141,309	($3,406,595)	($28,136,625)	($15,401,911)
2041	$2,994,816,067	$15,942,505	($3,478,133)	($55,576,173)	($43,111,801)
2042	$3,057,707,205	$15,886,146	($3,551,174)	($56,743,273)	($44,408,301)
2043	$3,121,919,056	$16,263,263	($3,625,749)	($57,934,882)	($45,297,368)
2044	$3,187,479,356	$15,325,975	($3,701,890)	($53,670,779)	($42,046,694)
2045	$3,254,416,423	$15,114,094	($3,779,629)	($60,393,696)	($49,059,231)
2046	$3,322,759,168	$14,899,478	($3,859,002)	($61,661,964)	($50,621,487)
2047	$3,392,537,110	$14,682,372	($3,940,041)	($62,956,865)	($52,214,533)
2048	$3,463,780,389	$14,463,013	($4,022,781)	($64,278,959)	($53,838,728)
2049	$3,536,519,778	$14,241,621	($4,107,260)	($65,628,817)	($55,494,456)
2050	$3,610,786,693	$14,018,406	($4,193,512)	($67,007,022)	($57,182,128)
2051	$3,686,613,213	$13,794,210	($4,281,576)	($68,414,170)	($58,901,536)
2052	$3,764,032,091	$13,746,805	($4,371,489)	($69,850,867)	($60,475,552)
2053	$3,843,076,765	$14,230,899	($4,463,290)	($71,317,736)	($61,550,127)
2054	$3,923,781,377	$13,115,651	($4,557,019)	($72,815,408)	($64,256,777)
2055	$4,006,180,786	$12,887,403	($4,652,717)	($74,344,532)	($66,109,845)
2056	$4,090,310,582	$12,658,389	($4,750,424)	($75,905,767)	($67,997,801)
2057	$4,176,207,105	$10,442,253	($4,850,183)	($77,499,788)	($71,907,718)
2058	$4,263,907,454	$9,187,266	($4,952,037)	($79,127,283)	($74,892,054)
2059	$4,353,449,510	$9,113,015	($5,056,029)	($80,788,956)	($76,731,970)
2060	$4,444,871,950	$9,038,548	($5,162,206)	($82,485,524)	($78,609,183)
2061	$4,538,214,261	$8,457,318	($5,270,612)	($84,217,720)	($81,031,015)
2062	$4,633,516,760	$7,863,343	($5,381,295)	($85,986,293)	($83,504,245)
2063	$4,730,820,612	$7,269,368	($5,494,302)	($87,792,005)	($86,016,939)

Note: discount rate is after tax cost of capital 4.92%. 2036-2063 cashflow is estimated based on the average cashflow of year 2035, 2040, and 2044.

As shown in Exhibit 3-6 above, the negative incremental cost of the Dawn to Corunna project indicates that construction of the Dawn to Corunna project is projected to reduce the overall cost of service to Enbridge in-franchise customers in every year after the project is brought online in late 2023. The NPV of the total saving is estimated to be C$589.3 million over 40 years. The Incremental Infrastructure Costs column shows the Dawn to Corunna project's cost of service, including the depreciation expenses of the initial capital investment of C$206.4 million, return on capital, O&M expenses, and taxes. The negative numbers in Incremental Pipeline Capacity Release column represents savings from leasing out unutilized pipeline capacity to other users. As the Dawn to Corunna project increases storage deliverability and space, it reduces the flow on pipelines, especially during the winter. The negative numbers in Incremental Commodity Cost column represents savings from gas supply portfolio. The increase in storage space and deliverability increases the storage ability to purchase cheap gas and utilize it when gas is expensive.

Exhibit 3-7 illustrates the cumulative reduction in the cost of service associated with the Dawn to Corunna project relative to the capital cost of the project. The initial capital cost of the Dawn to Corunna project will be fully offset by the reductions in the overall cost of service (including the incremental cost of service associated with recovery on and of the capital investment) by 2038 due to the reduction gas commodity costs and the increase in pipeline capacity release revenues, while also providing the necessary firm deliverability needed to maintain gas supply reliability.

Exhibit 3-7 Dawn to Corunna Project Cashflow Payback (Nominal C$)



4 Alternatives to the Dawn to Corunna Project

Enbridge is proposing to develop the Dawn to Corunna project to offset the decline in storage space and deliverability associated with the retirement of the storage compression assets located at the Tecumseh storage field. As part of the assessment of the value of the Dawn to Corunna project, ICF reviewed a range of alternative approaches to providing the same services that would be provided by the Dawn to Corunna project. These alternatives included:

1) Contracting for incremental pipeline capacity, or pipeline and storage capacity from outside of Ontario, including contracts for existing capacity as well as contracts supporting potential expansion of existing pipeline capacity into Ontario.

2) Contracting for market-based storage assets capable of providing both space and deliverability commensurate with the Dawn to Corunna project.

3) Contracting for delivered services to replace the decline in peak day deliverability, combined with additional winter season natural gas purchases to offset the loss of storage space.

Each of these options is addressed below.

4.1 Reliance on Incremental Pipeline Capacity as an Alternative to the Dawn to Corunna Project

ICF considered the potential to contracting for incremental capacity on the pipelines serving Ontario as an alternative approach to providing the deliverability provided by the Dawn to Corunna project. Replacing the deliverability lost due to the retirement on compression capacity at Corunna would require contracts for 666 PJ/Day of pipeline capacity from a liquid gas supply point or production center into Ontario. To put this into context, 666 PJ/Day would be close to 40% of the total pipeline capacity of the Vector pipeline capacity into Ontario.

The cost impacts of the different pipeline capacity options relative to the Dawn to Corunna project includes the impact on gas commodity purchasing practices and costs as well as the cost of the pipeline capacity. The absence of storage space associated with a pipeline capacity option results in a change in natural gas purchase patterns. Instead of purchasing natural gas commodity during the summer for injection into storage at lower injection season prices, the pipeline capacity reduces commodity purchases during the summer and increases commodity purchases during the winter, which generally increases the cost of commodity purchases. As a result, the cost of the pipeline capacity option includes the cost of the pipeline capacity itself as well as the incremental cost of commodity purchases.

Conceptually, Ontario consumers, including Enbridge have several options for accessing transportation services from Michigan, New York, or elsewhere into Ontario to offset the decline in storage space and deliverability associated the retirement of storage compression assets in the absence of the Dawn to Corunna project. In order to replace the loss of storage deliverability needed to meet in-franchise customer demand, Enbridge could:

- Acquire pipeline capacity by executing firm transportation contracts with pipelines to a storage field, where that capacity is available.
- Contract for new pipeline capacity, either on new pipelines or on pipeline expansions such as those offered by Vector and others.

- Use released pipeline capacity to access storage fields; or
- Acquire service from a trader or marketer who holds capacity on the pipelines into Ontario and buy a delivery service, synthetic storage, or merchant storage.

However, both the availability and the cost of incremental pipeline capacity limit the potential use of pipeline capacity into Ontario as an alternative to the Dawn to Corunna project.

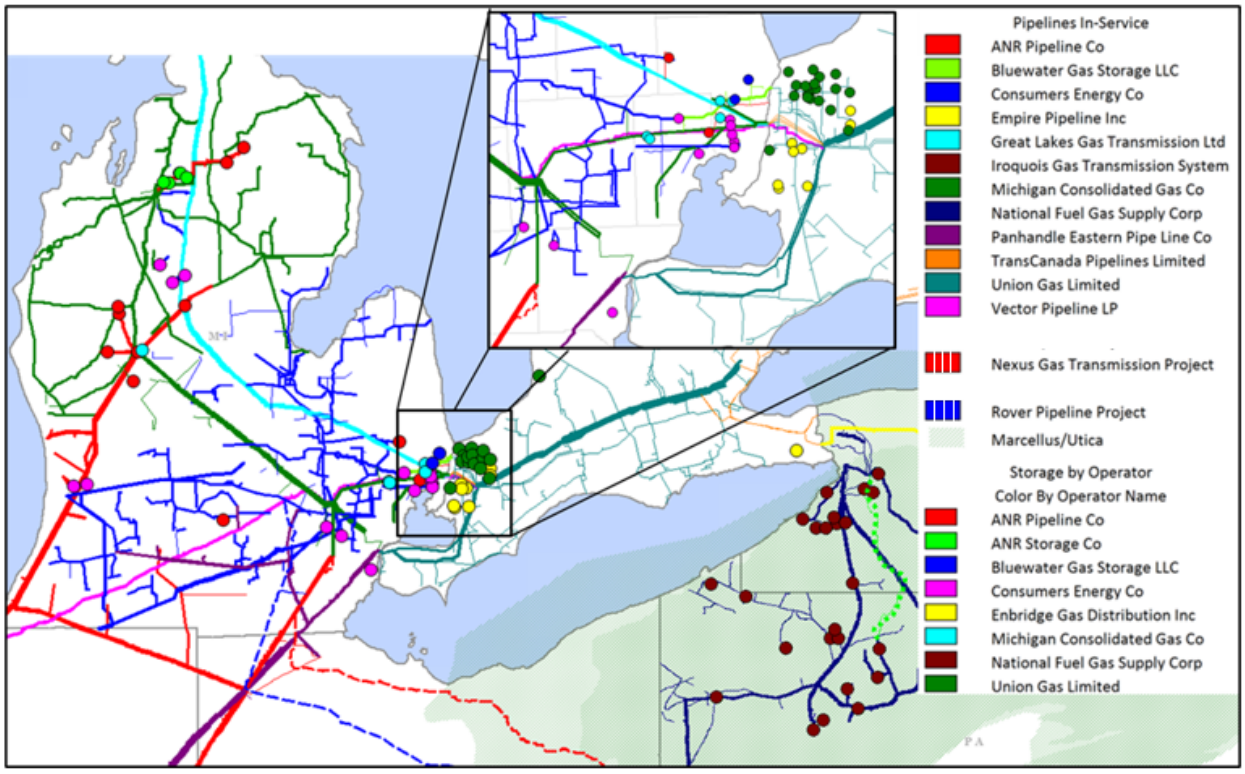
A share of the costs of holding incremental pipeline capacity can be offset by releasing capacity during periods when the capacity is not needed. ICF has estimated the value of pipeline capacity release as the basis value of the unused pipeline capacity. This likely overestimates the value of the extra capacity on the capacity release market.

This section addresses the availability of pipeline capacity into Ontario that is interconnected with storage fields in Michigan and New York. The principal pipelines are Great Lakes Gas Transmission and Vector for deliveries from Michigan and Tennessee Gas Pipeline and Natural Fuel Gas for deliveries from New York.

4.1.1 Review of Regional Pipeline Availability

In this section we look at the pipeline assets in the region that are available to customers in Ontario. Exhibit 4-1 below presents a map of the infrastructure around Dawn (inset) and the pipeline network serving the broader geographic market, including storage facilities outside Ontario connected to the broader pipeline network.

Exhibit 4-1 Pipeline and Storage Infrastructure for Ontario



Source: ABB Velocity Suite

Several pipelines that are interconnected within the broader North American gas market also feed into Dawn. These pipelines are summarized in Exhibit 4-2 below.

- Link Pipeline from EGD's Tecumseh storage field which also receives gas at the St. Clair River from the ANR pipeline that reaches back into Michigan, the Mid-Continent and Texas.
- Bluewater Pipeline feeds into Enbridge at the St. Clair River, connecting Enbridge to the Bluewater storage facilities in Michigan as well as to Great Lakes Pipeline, ANR, DTE Gas Pipeline (aka MichCon), and Vector Pipeline. Bluewater also offers its merchant storage customers the ability to take possession of their gas at Dawn rather than in Michigan.
- TC Energy feeds directly into the Dawn storage hub after receiving gas upstream from Great Lakes Pipeline at St. Clair River.
- The Vector Pipeline is directly connected to Dawn and reaches back to the Chicago area where the pipeline interconnects with Alliance. Vector has receipt points with ANR, DTE, Northern Border, Guardian, NEXUS, and Rover while at the Dawn end Vector connects with Enbridge. Vector also interconnects with Bluewater Storage and Washington 10 Storage in Michigan. NEXUS leases capacity on Vector, allowing its customers to schedule deliveries directly to Dawn.
- DTE Gas Pipeline (MichCon) directly connects with the Dawn storage hub through Enbridge at the St. Clair River. DTE pipelines are connected to production in Michigan, DTE storage facilities in Michigan, Vector, Panhandle, ANR, and NEXUS pipelines.
- Enbridge also connects with the Panhandle Eastern Pipeline at Ojibway, near Windsor. Panhandle provides access to gas production in the Gulf Coast and Mid-Continent regions.
- At the other end of the system, Enbridge pipelines are interconnected with TC Energy's pipeline at Kirkwall. TC Energy's line connects with the Niagara Line (National Fuel Gas, Eastern Gas, and Tennessee Gas Pipeline) at Niagara and the Empire pipeline at Chippawa. Tennessee Gas Pipeline (a Kinder Morgan company), which connects with TC Energy at Niagara provides access into the major storage fields around Ellisburg, Pennsylvania, and Marcellus production. All these pipelines are bi-directional. Today, the primary direction of flow is from New York to Ontario.

Exhibit 4-2 Pipeline Routes and Capacity from United States to Ontario[12]

MMcf/d	Michigan to Dawn					Northwest New York to Ontario			Total
Pipeline Route	Great Lakes (St. Clair) MI into Dawn	Vector St. Clair MI to Dawn	Panhandle to Union	Bluewater to Union	MichCon to Union	Niagara (TGP to ON)	Niagara (National Fuel to ON)	Empire into ON at Chippawa	
Pipeline Import Capacity	2,100	1,745	150	257	250	825			5,327
Pipeline	Great Lakes	Vector	Panhandle	Bluewater	MichCon	Tennessee Gas Pipeline	National Fuel Gas Supply	Empire Pipeline	
Owner	TC Energy	Enbridge (60%) & DTE Energy (40%)	Energy Transfer Partners	Plains GP Holdings, L.P.	DTE Energy	Kinder Morgan	National Fuel	National Fuel	
Operator	Great Lakes	Enbridge	Panhandle Eastern	Bluewater Gas Storage	DTE Energy	Tennessee Gas Pipeline	National Fuel	National Fuel	

Sources: ICF

4.1.1.1 Great Lakes Gas Transmission (GLGT)

The largest pipeline into Dawn from Michigan is the GLGT, which connects with TC Energy at the Michigan/Ontario border and interconnects with Dawn. Flows on GLGT to Ontario are below capacity, averaging about 505 MMcf/d in 2020 and 696 MMcf/d between January 2021 and November 2021.

[12] This table includes only capacity from Lower Peninsula MI to ON, and Western NY to ON.

During periods of high natural gas demand in the U.S. Midwest, the pipeline reverses flow back towards the U.S. These reversals are the result of the pipeline being contracted by customers in the Midwest. As a consequence, GLGT is underutilized and it has substantial spare capacity to provide Ontario consumers with access to merchant storage in Michigan and firm transportation from Western Canada via the TC Energy mainline.

GLGT is interconnected with the following pipelines and storage fields.

- Bluewater Gas Storage (and pipeline) at Rattle Run or Muttonville. This interconnect provides access to Bluewater's Columbia 3 and Kimball 27 storage fields as well as to Consumers Energy's Ray Field through its interconnect with Bluewater's pipeline.
- ANR Pipeline at Muttonville and the ANR Muttonville Field
- ANR Pipeline at South Chester and the South Chester storage field
- ANR Storage Co. at Deward where it interconnects with the Cold Springs 31 and 12 fields and Rapid River 35 field
- DTE Energy (MichCon) pipeline with interconnections to Belle River Mills field, Washington 10, and Washington 28 fields.

4.1.1.2 Vector Pipeline

Vector Pipeline currently has capacity of 1.745 Bcf/d into Dawn. The capacity from Joliet to Dawn on Vector is usually fully contracted, although it generally flows at less than full capacity. Vector is widely used to deliver natural gas storage withdrawals from Michigan to Dawn because of its interconnections with multiple storage fields in Michigan:

- Bluewater Gas Storage at the Lenox interconnect, with access to Columbia III and Kimball 27 storage fields as well as the Consumers Energy Ray Field.
- DTE Energy at Lenox, with access Washington 10 and Washington 28 storage
- DTE Energy at Belle River Mills and the Belle River Mills storage field.

Vector also delivers large amounts of Marcellus and Utica sourced natural gas to Ontario from deliveries from the Rover Pipeline and leased capacity to the NEXUS pipeline. The Rover Pipeline is fully contracted and often flows above its nameplate capacity. The NEXUS pipeline has some spare capacity; it flowed at about 79% of its capacity (1,180 MMcf/d) from December 2020 through November 2021 and was 90% contracted for 2021 in the Q3 2021 index of customers. About one third of the contracted capacity was held by marketers – which may be able to resell the capacity – and was set to expire by 2023. After 2023, 56% of the capacity was contracted through 2033.

4.1.1.3 Tennessee Gas Pipeline (TGP)

TGP connects with TC Energy's pipeline at Niagara with 700 MMcf/d of capacity. TGP is connected to a number of storage fields in New York and Pennsylvania that can be reached by Ontario shippers:

- Honeyoe Storage (NY)
- Arlington Storage, Thomas Corners (NY)
- Nashville Storage (NY)
- Colden Storage (NY)
- Stagecoach (PA)
- Ellisburg (PA)

4.1.1.4 National Fuel Gas Supply Corporation (NFG)

NFG has approximately 350 MMcf/d of capacity at Niagara to TC Energy. NFG is well integrated with several natural gas storage fields in New York: Limestone, Zoar, Nashville, Colden, Derby, Holland, and Bennington.

4.1.2 Pipeline Capacity Alternatives to the Dawn to Corunna Project

Replacing the deliverability lost due to the retirement on compression capacity at Corunna would require contracts for 666 PJ/Day of pipeline capacity from a liquid gas supply point or production center into Ontario. Based on our assessment of pipeline capacity availability, the lowest cost options would be to contract for the remaining available capacity on the NEXUS pipeline or on the TC Energy mainline if TC Energy would provide capacity on a long-term fixed price contract basis similar to the current North Bay Junction service that it currently offers. These two options are preferred as these pipelines may have available capacity as well as access to low-cost natural gas supplies in the Marcellus/Utica and the Western Canada Sedimentary Basin respectively. ICF calculated the cost of firm transportation on all of the pipeline routes to Dawn and assessed the routes that have available capacity to make this determination.

While firm transportation from Chicago (on Vector) or Niagara (on TGP, Empire, or NFG) is less expensive than the TC Energy and NEXUS options, it is fully contracted and likely would require new construction to meet Enbridge requirements. In addition, in the case of supplies from Chicago, Enbridge would likely require contracts for additional capacity upstream of Chicago in order to ensure access to low-cost supplies from the midcontinent or Western Canada.

Exhibit 4-3 Pipeline Firm Transportation Costs and Gas Supply Costs

	Firm Transportation Unit Rate	Quantity	Annual Transportation Cost (Thousands)	Gas Supply Cost (Avg 2023-2045)
	CAD/GJ	TJ	CAD	CAD/GJ
Chicago	$0.3350	666	$81,443.31	$4.9166
Clarington	$1.4108	666	$342,946.97	$3.5004
Niagara	$0.3267	666	$79,422.88	$3.8287
Empress	$0.9538	666	$231,858.62	$3.3823

Enbridge could contract for 666 TJ/d firm transportation capacity from Clarington via NEXUS and Empress via the TC Energy mainline and/or GLGT (assuming 333 TJ from Clarington and 333 TJ from Empress) to replace the gas storage deliverability lost due to the retirement of the Corunna compression. The additional pipeline capacity would provide two economic benefits. First, it would reduce the gas supply commodity cost as Enbridge would get more access to low-cost natural gas supplies in the Marcellus/Utica and the Western Canada Sedimentary Basin. Second, the pipeline capacity release savings would be higher as more pipeline capacity will not be fully utilized by Enbridge all year round. However, the incremental pipeline firm capacity contract cost is projected to be much higher than the reduction in gas supply costs from contracting for additional firm transportation. The exhibits below show the costs of the two cases and the column on the right shows the incremental cost that would occur if Enbridge were to contract for an additional 666 TJ of firm transportation capacity from Clarington and Empress. These costs and annual cashflows are outputs from ICF's Gas Storage Valuation Model for the years 2024-2035, 2040, and 2044. The Gas Storage Valuation Model simulates daily gas supply flows from a variety of sources to meet daily demand at the lowest annual cost. The model is constrained by pipeline capacity contracted by Enbridge and the storage injection and withdrawal capacity available. By optimizing daily gas purchases volumes from a variety of gas supply sources and gas storage injection and withdrawal volumes, the model solves to meet Enbridge's daily gas demand with the goal of producing the lowest gas supply portfolio cost. The gas supply portfolio cost includes all the costs

associated with gas supply, including gas commodity costs, storage facility inventory and commodity charges, and pipeline usage and fuel charges. The gas supply sources include purchases from Chicago, Clarington, Niagara, Empress, and Dawn. ICF assumes that from 2035 onward, the annual cashflows, in real terms, are equal to the average of 2035, 2040, and 2044's cashflows.

Exhibit 4-4 shows that while the saving from gas supply and pipeline capacity release is C$3.14 billion, the cost of purchasing incremental pipeline capacity contract would be C$7.2 billion, which results in a net present value of C$4.06 billion of total incremental costs to Enbridge in-franchise customers.

Exhibit 4-4 The Incremental Cost of Replace Lost Storage with Contracted Pipeline Capacity (Millions of CAD)

Year	Total Portfolio Cost without Replacement	Incremental Pipeline Capacity Cost	Incremental Pipeline Capacity Release	Incremental Commodity Cost	Total Incremental Costs
NPV Summary					
2024-2063	**$46,581,647,169**	**$7,199,549,901**	**($645,695,342)**	**($2,490,021,072)**	**$4,063,833,488**
2024-2043	**$28,410,150,180**	**$4,556,980,609**	**($435,068,597)**	**($1,398,483,594)**	**$2,723,428,418**
Annual Cashflow Projection					
2024	$1,826,961,779	$305,892,069	**($32,685,731)**	**($59,335,012)**	$213,871,325
2025	$1,786,014,334	$312,315,802	**($37,394,386)**	**($71,798,766)**	$203,122,650
2026	$1,677,868,083	$318,874,434	**($35,649,900)**	**($78,538,485)**	$204,686,048
2027	$1,720,814,134	$325,570,797	**($33,818,435)**	**($81,410,590)**	$210,341,773
2028	$1,808,659,168	$332,407,784	**($37,287,466)**	**($82,055,934)**	$213,064,384
2029	$1,935,201,163	$339,388,347	**($36,359,960)**	**($78,859,688)**	$224,168,699
2030	$2,010,281,259	$346,515,503	**($37,370,232)**	**($86,693,537)**	$222,451,733
2031	$2,135,352,145	$353,792,328	**($33,721,021)**	**($100,508,509)**	$219,562,798
2032	$2,253,009,717	$361,221,967	**($32,242,566)**	**($99,197,440)**	$229,781,961
2033	$2,382,783,747	$368,807,628	**($34,774,288)**	**($105,833,503)**	$228,199,838
2034	$2,526,480,190	$376,552,589	**($35,145,940)**	**($109,818,988)**	$231,587,661
2035	$2,579,809,314	$384,460,193	**($34,985,551)**	**($113,793,757)**	$235,680,886
2036	$2,699,239,645	$392,533,857	**($31,287,024)**	**($164,936,668)**	$196,310,165
2037	$2,755,923,678	$400,777,068	**($31,944,051)**	**($168,400,338)**	$200,432,679
2038	$2,813,798,075	$409,193,386	**($32,614,877)**	**($171,936,745)**	$204,641,765
2039	$2,872,887,835	$417,786,447	**($33,299,789)**	**($175,547,416)**	$208,939,242
2040	$2,933,218,479	$426,559,963	**($33,999,084)**	**($145,840,176)**	$246,720,703
2041	$2,994,816,067	$435,517,722	**($34,713,065)**	**($182,997,824)**	$217,806,833
2042	$3,057,707,205	$444,663,594	**($35,442,040)**	**($186,840,779)**	$222,380,776
2043	$3,121,919,056	$454,001,530	**($36,186,322)**	**($190,764,435)**	$227,050,772
2044	$3,187,479,356	$463,535,562	**($36,946,235)**	**($143,145,588)**	$283,443,739
2045	$3,254,416,423	$473,269,809	**($37,722,106)**	**($198,860,668)**	$236,687,034
2046	$3,322,759,168	$483,208,475	**($38,514,270)**	**($203,036,742)**	$241,657,462
2047	$3,392,537,110	$493,355,853	**($39,323,070)**	**($207,300,514)**	$246,732,269
2048	$3,463,780,389	$503,716,325	**($40,148,855)**	**($211,653,825)**	$251,913,646
2049	$3,536,519,778	$514,294,368	**($40,991,981)**	**($216,098,555)**	$257,203,833
2050	$3,610,786,693	$525,094,550	**($41,852,812)**	**($220,636,625)**	$262,605,113
2051	$3,686,613,213	$536,121,536	**($42,731,721)**	**($225,269,994)**	$268,119,821
2052	$3,764,032,091	$547,380,088	**($43,629,087)**	**($230,000,664)**	$273,750,337
2053	$3,843,076,765	$558,875,070	**($44,545,298)**	**($234,830,678)**	$279,499,094
2054	$3,923,781,377	$570,611,446	**($45,480,749)**	**($239,762,122)**	$285,368,575
2055	$4,006,180,786	$582,594,287	**($46,435,845)**	**($244,797,126)**	$291,361,315
2056	$4,090,310,582	$594,828,767	**($47,410,998)**	**($249,937,866)**	$297,479,903
2057	$4,176,207,105	$607,320,171	**($48,406,629)**	**($255,186,561)**	$303,726,981
2058	$4,263,907,454	$620,073,894	**($49,423,168)**	**($260,545,479)**	$310,105,247
2059	$4,353,449,510	$633,095,446	**($50,461,055)**	**($266,016,934)**	$316,617,457
2060	$4,444,871,950	$646,390,450	**($51,520,737)**	**($271,603,290)**	$323,266,424
2061	$4,538,214,261	$659,964,650	**($52,602,672)**	**($277,306,959)**	$330,055,019
2062	$4,633,516,760	$673,823,907	**($53,707,328)**	**($283,130,405)**	$336,986,174
2063	$4,730,820,612	$687,974,210	**($54,835,182)**	**($289,076,143)**	$344,062,884

4.2 Reliance on Market-Based Storage Capacity as an Alternative to the Dawn to Corunna Project

Enbridge currently contracts for about 26,000 TJ of storage capacity and 271 TJ/day of storage deliverability at market-based rates from storage providers and marketers offering storage capacity in Southwestern Ontario in order to supplement the 99,367 TJ of cost-of-service storage capacity currently held for in-franchise customers. About 17,500 TJ of the 26,000 this capacity is contracted from Enbridge Gas Inc. in Ontario at market-based rates.

In theory, there is sufficient market-based storage capacity to offset the storage capabilities lost due to the retirement of the Corunna compressors without investing in the Dawn to Corunna project. Enbridge Gas Inc. is the largest provider of market-based storage capacity in Ontario, currently contracting 160,756 TJ of capacity to other parties at market-based rates. Additional storage capacity is available at market rates from third-party providers in Ontario as well as in Michigan[13], New York[14], and other storage locations further away from Dawn. However, most existing market-based storage capacity is currently contracted. To acquire the rights to this storage capacity, Enbridge would be required to wait until current contracts with other storage users expire, and then bid higher prices than current market participants are willing to pay in order to contract for the rights to use this storage or make sufficiently attractive offers to other storage contract holders to obtain the rights to storage capacity prior to the expiration of current contracts.

Contracting for market-based storage capacity from third party providers would allow Enbridge to purchase gas using the same seasonal strategies available with the development of the Dawn to Corunna project. As a result, the market-based storage alternative to the Dawn to Corunna project has most of the same commodity cost savings benefits and pipeline capacity release benefits associated with the Dawn to Corunna project.

Unlike the Dawn to Corunna alternative to replacing the storage space and deliverability lost due to the Corunna compressor retirement, reliance on market-based storage does not require a significant upfront investment. Instead, the storage costs are determined by the market-based contract rates for storage capacity and deliverability. However, the market-based storage option would not replace the physical storage space and deliverability associated with the loss of Corunna compression, hence the broader regional market would experience the same changes in natural gas prices observed in the no replacement scenario. In addition, the use of market-based storage capacity and deliverability as an alternative to the Dawn to Corunna project would not address the reduction in the regional system reliability and resiliency.

4.2.1 Market Storage Value

In order to assess the costs of the market-based storage that would need to be contracted for as an alternative to the Dawn to Corunna project ICF estimated the future cost of the market-based storage in

[13] Michigan natural gas storage fields have 684 Bcf (721 PJ) of working gas capacity, New York Underground Natural Gas Storage Capacity (eia.gov). Much of this capacity is reserved for in-franchise customer use by Michigan LDC's

[14] New York State natural gas storage fields have 128 Bcf (134.5 PJ) of working gas capacity New York Underground Natural Gas Storage Capacity (eia.gov). Much of this capacity is reserved for in-franchise customer use by New York LDC's.

the region with the equivalent to the capacity and deliverability that would be provided by the Dawn to Corunna project if it were built. The deliverability to capacity ratio of the Tecumseh storage falls from 1.9% to 1.5% in the No Replacement case. Overall, the Dawn to Corunna project replaces 14.7 TJ of regulated storage space available to EGD and 666 TJ/day of storage deliverability for a deliverability to capacity ratio of 4.5%[15]. Hence, replacing the Dawn to Corunna project with market-based storage would require contracting for 14.7 TJ of storage space with 666 TJ of storage deliverability.

ICF estimated the cost of the incremental storage capacity using two approaches based on the historical cost of market-based storage capacity in Ontario, adjusted to reflect the characteristics of the storage service provided by the Dawn to Corunna project. The analysis was conducted using the ICF GSVM. The GSVM optimizes daily natural gas supply based on daily natural gas purchases, flows, and storage injections and withdrawals to meet daily demands consistent with the pipeline and storage infrastructure available to the Utility in order to achieve the lowest annual gas supply portfolio cost consistent with demand expectations and system reliability requirements.

The first approach evaluated the historic costs of contracting for market-based storage in the region, adjusted to reflect the specific space to deliverability ratio needed to replace the storage capabilities lost when the Corunna compression is retired. This approach relied on public records from Enbridge Gas detailing the costs and characteristics of the existing contracts for Enbridge market-based storage services, as well as offers of storage capacity to Enbridge from third party storage providers.

The second approach relied on the Gas Markets Model and the Gas Storage Valuation Model to project the expected changes in storage value over time as natural gas markets evolve over time. These projected values were calibrated to existing storage pricing.

For the purposes of the cost comparison between the Dawn to Corunna project and market rate storage capacity, ICF has made two optimistic simplifying assumptions. ICF assumed that sufficient incremental market rate storage capacity would be available to Enbridge to provide an alternative to the capacity and deliverability provided by the Dawn to Corunna project on a timely basis. ICF also assumed that Enbridge's purchase of incremental market-based storage capacity would not significantly impact the price of the market-based storage contracts.

4.2.1.1 Market Storage Value (Historic Storage Pricing)

ICF used historical data on market-based storage contracts from the Enbridge storage STAR Report[16] and the Enbridge Storage Holders Index of Customers[17] to create a database of market-based storage contracts with capacity, deliverability, and rates. ICF also included responses to recent Enbridge RFPs

[15] ICF also considered a scenario where 666 PJ/Day of storage deliverability was replaced with 1.2% deliverability storage, The 1.2% percent storage requires an incremental 55.5 PJ of contracted space vs. 14.9 PJ of contracted space for the 4.5% storage. This scenario would have significantly increased the cost of the storage space, but the increase in costs would have been more than offset by additional commodity cost savings. This scenario was not included as a primary storage replacement option given the magnitude of the required storage space relative to the overall volume of the market-based storage available in Ontario.

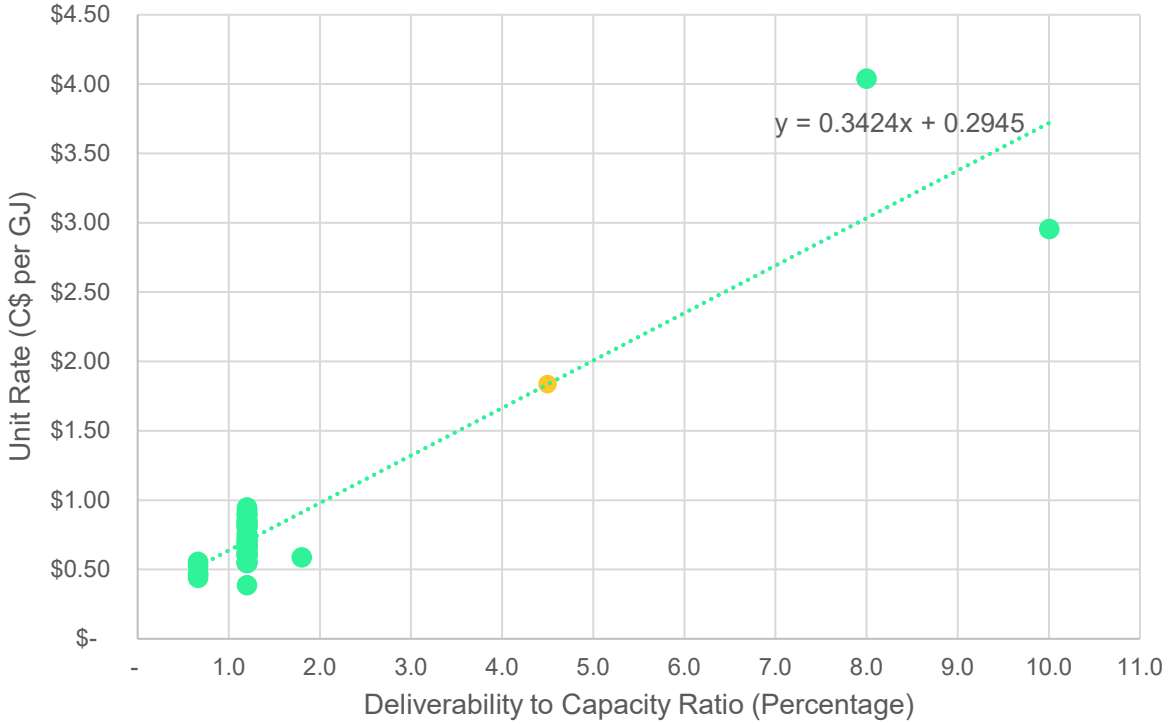
[16] STAR storage report for October 2021.xlsx (enbridgegas.com)

[17] https://www.enbridgegas.com/-/media/Extranet-Pages/Storage-and-transportation/operational-information/Index-of-customers/Storage_Report.ashx?rev=298043dc1c2241c9abf2a8a4ac8aa2d2&hash=9DA9849B78F15C206654F1E299C018B7

for market-based storage in the storage contract value database. ICF used the integrated storage contract value database to conduct a regression analysis of the value of storage based on the space and deliverability characteristics in each contract.[18] The contract database used in this analysis is included in Appendix A to this report.

The regression formula of unit rate and deliverability to capacity ratio is y = 0.3424x + 0.2945. Based on this regression, market-based storage with the deliverability to capacity ratio of 4.5% would cost C$1.84/GJ of storage space (indicated by the orange dot in Exhibit 4-5 below). The storage cost for the 4.5% deliverability storage was escalated at the rate of inflation for the cost of service analysis. The escalated prices are shown in Exhibit 4-6. These prices are used in the Market-Based Storage (Historical Prices) Scenario.

Exhibit 4-5 Scatter Plot of Enbridge Gas Storage Contracts' Unit Rate and Deliverability to Capacity Ratio



[18]Two high deliverability storage contracts with deliverability exceeding 10% of the storage space were excluded from the regression analysis. These contracts were designed to provide a specific service to power generation customers and were considered outliers for this analysis. Inclusion of these outliers would have increased the cost of the market-based services and delivered services estimated in this report and have reduced the cost effectiveness of these alternatives to the Dawn to Corunna project.

Exhibit 4-6 Dawn to Corunna Equivalent Market-Based Storage Unit (Historical Average Storage Pricing) (Nominal CAD$ per GJ)

Scenario Year	Dawn to Corunna Equivalent Market Base Storage Unit Rate (Historical Average Storage Pricing)
2024	$1.95
2025	$1.99
2026	$2.04
2027	$2.08
2028	$2.12
2029	$2.17
2030	$2.21
2031	$2.26
2032	$2.31
2033	$2.36
2034	$2.40
2035	$2.46
2040	$2.72
2044	$2.96

The use of historical storage pricing to assess the costs of Market Based Storage result in a decrease in the cost of service to Enbridge In-franchise customers relative to the Non-Replacement scenario of C$70 million on an NPV basis. This savings reflects the cost of the incremental storage capacity of C$714 million, offset by $85 million in incremental pipeline capacity release and $662 million reduction in commodity costs.

Exhibit 4-7 Market Storage Contract Incremental Costs (Historical Average Storage Pricing)

Year	Total Portfolio Cost without Replacement	Incremental Storage Capacity Cost	Incremental Pipeline Capacity Release	Incremental Commodity Cost	Total Incremental Costs
NPV Summary					
2024-2063	**$46,581,647,169**	**$677,070,653**	**($84,810,610)**	**($662,138,897)**	**($69,878,853)**
2024-2043	**$28,410,150,180**	**$428,554,268**	**($58,495,585)**	**($409,172,100)**	**($39,113,417)**
Annual Cashflow Summary					
2024	$1,826,961,779	$28,767,151	($5,744,844)	($22,151,464)	$870,844
2025	$1,786,014,334	$29,371,262	($5,269,979)	($19,951,070)	$4,150,213
2026	$1,677,868,083	$29,988,058	($3,283,372)	($25,354,286)	$1,350,400
2027	$1,720,814,134	$30,617,807	($4,361,331)	($29,396,017)	($3,139,541)
2028	$1,808,659,168	$31,260,781	($5,606,114)	($29,564,797)	($3,910,130)
2029	$1,935,201,163	$31,917,258	($5,005,800)	($31,590,629)	($4,679,172)
2030	$2,010,281,259	$32,587,520	($3,153,146)	($31,739,100)	($2,304,725)
2031	$2,135,352,145	$33,271,858	($5,950,226)	($34,306,204)	($6,984,572)
2032	$2,253,009,717	$33,970,567	($4,395,521)	($33,756,662)	($4,181,615)
2033	$2,382,783,747	$34,683,949	($5,255,097)	($34,851,175)	($5,422,323)
2034	$2,526,480,190	$35,412,312	($5,501,543)	($36,413,521)	($6,502,752)
2035	$2,579,809,314	$36,155,970	($4,843,096)	($36,334,701)	($5,021,826)
2036	$2,699,239,645	$36,915,246	($3,908,900)	($38,137,148)	($5,130,802)
2037	$2,755,923,678	$37,690,466	($3,990,986)	($38,938,028)	($5,238,549)
2038	$2,813,798,075	$38,481,966	($4,074,797)	($39,755,727)	($5,348,558)
2039	$2,872,887,835	$39,290,087	($4,160,368)	($40,590,597)	($5,460,878)
2040	$2,933,218,479	$40,115,179	($4,247,736)	($33,654,212)	$2,213,231
2041	$2,994,816,067	$40,957,598	($4,336,938)	($42,313,303)	($5,692,643)
2042	$3,057,707,205	$41,817,707	($4,428,014)	($43,201,882)	($5,812,189)
2043	$3,121,919,056	$42,695,879	($4,521,002)	($44,109,122)	($5,934,245)
2044	$3,187,479,356	$43,592,493	($4,615,943)	($34,683,938)	$4,292,611
2045	$3,254,416,423	$44,507,935	($4,712,878)	($45,981,157)	($6,186,100)
2046	$3,322,759,168	$45,442,602	($4,811,848)	($46,946,761)	($6,316,008)
2047	$3,392,537,110	$46,396,896	($4,912,897)	($47,932,643)	($6,448,644)
2048	$3,463,780,389	$47,371,231	($5,016,068)	($48,939,229)	($6,584,066)
2049	$3,536,519,778	$48,366,027	($5,121,405)	($49,966,953)	($6,722,331)
2050	$3,610,786,693	$49,381,713	($5,228,955)	($51,016,259)	($6,863,500)
2051	$3,686,613,213	$50,418,729	($5,338,763)	($52,087,600)	($7,007,634)
2052	$3,764,032,091	$51,477,523	($5,450,877)	($53,181,440)	($7,154,794)
2053	$3,843,076,765	$52,558,551	($5,565,346)	($54,298,250)	($7,305,045)
2054	$3,923,781,377	$53,662,280	($5,682,218)	($55,438,513)	($7,458,451)
2055	$4,006,180,786	$54,789,188	($5,801,544)	($56,602,722)	($7,615,078)
2056	$4,090,310,582	$55,939,761	($5,923,377)	($57,791,379)	($7,774,995)
2057	$4,176,207,105	$57,114,496	($6,047,768)	($59,004,998)	($7,938,270)
2058	$4,263,907,454	$58,313,900	($6,174,771)	($60,244,103)	($8,104,973)
2059	$4,353,449,510	$59,538,492	($6,304,441)	($61,509,229)	($8,275,178)
2060	$4,444,871,950	$60,788,801	($6,436,834)	($62,800,923)	($8,448,956)
2061	$4,538,214,261	$62,065,366	($6,572,008)	($64,119,742)	($8,626,385)
2062	$4,633,516,760	$63,368,738	($6,710,020)	($65,466,257)	($8,807,539)
2063	$4,730,820,612	$64,699,482	($6,850,930)	($66,841,048)	($8,992,497)

4.2.1.1 Market Storage Value (Projected Storage Pricing)

Estimating the cost of market-based storage based on historic costs of market-based storage ignores the impact of the loss of physical storage capacity in the region on storage market prices, and likely understates the most likely future value of market-based storage in the region. ICF also estimated the cost of market-based storage using the GSVM to project the change in storage values over time. The projected storage value is based on an allocation of storage prices between space and deliverability consistent with the current Enbridge in-franchise storage cost of service. Based on the Enbridge storage costs for 2019 deliverability represented 51% of the storage value and space represented 49% of storage costs.

To develop the Dawn to Corunna project equivalent market-based storage valuation, ICF used the Gas Storage Valuation Model valuation outputs for the No Replacement Scenario to assess the change in the value of storage space over time.[19] The results of this analysis are shown in Exhibit 4-8 below.

Exhibit 4-8 Dawn to Corunna Equivalent Market-Based Storage Unit Rate (Projected Storage Pricing) (Nominal CAD$ per GJ)

Scenario Year	Dawn to Corunna Equivalent Market-Based Storage Unit Rate (Projected Storage Pricing)
2024	$1.78
2025	$1.46
2026	$1.97
2027	$2.30
2028	$2.37
2029	$2.46
2030	$2.54
2031	$2.64
2032	$2.60
2033	$2.73
2034	$2.74
2035	$2.65
2040	$2.80
2044	$3.11

The increase in storage rates in the Projected Storage Pricing scenario reduced the benefits of the market-based storage option (relative to the No Replacement scenario by about C$37 million from $70 million to $33 million. However, both market-based storage scenarios are significantly more expensive in the long term than the Dawn to Corunna option.

[19] The storage valuation methodology is based on an optimized commodity purchasing profile where 50% of the arbitrage value of the natural gas storage space is captured by the storage holder. The 50% capture assumption is based on general discussions with gas market participants, but different market participants will have different purchasing behaviors and different results. Note that this assumption will have only limited impact on the comparative results of the analysis, since the change impacts both the Dawn Corunna costs and the market-based storage value in the same way.

Exhibit 4-9 Market Storage Contract Incremental Costs (Projected Storage Pricing)

Year	Total Portfolio Cost without Replacement	Incremental Storage Capacity Cost	Incremental Pipeline Capacity Release	Incremental Commodity Cost	Total Incremental Costs
NPV Summary					
2024-2063	**$46,581,647,169**	**$713,892,241**	**($84,810,610)**	**($662,138,897)**	**($33,057,266)**
2024-2043	**$28,410,150,180**	**$452,334,878**	**($58,495,585)**	**($409,172,100)**	**($15,332,807)**
Annual Cashflow Summary					
2024	$1,826,961,779	$26,156,265	($5,744,844)	($22,151,464)	($1,740,043)
2025	$1,786,014,334	$21,490,538	($5,269,979)	($19,951,070)	($3,730,511)
2026	$1,677,868,083	$28,997,398	($3,283,372)	($25,354,286)	$359,740
2027	$1,720,814,134	$33,854,347	($4,361,331)	($29,396,017)	$96,999
2028	$1,808,659,168	$34,849,707	($5,606,114)	($29,564,797)	($321,204)
2029	$1,935,201,163	$36,163,545	($5,005,800)	($31,590,629)	($432,884)
2030	$2,010,281,259	$37,467,134	($3,153,146)	($31,739,100)	$2,574,888
2031	$2,135,352,145	$38,866,074	($5,950,226)	($34,306,204)	($1,390,356)
2032	$2,253,009,717	$38,259,485	($4,395,521)	($33,756,662)	$107,303
2033	$2,382,783,747	$40,223,538	($5,255,097)	($34,851,175)	$117,266
2034	$2,526,480,190	$40,335,703	($5,501,543)	($36,413,521)	($1,579,361)
2035	$2,579,809,314	$39,073,619	($4,843,096)	($36,334,701)	($2,104,178)
2036	$2,699,239,645	$38,852,385	($3,908,900)	($38,137,148)	($3,193,663)
2037	$2,755,923,678	$39,668,285	($3,990,986)	($38,938,028)	($3,260,730)
2038	$2,813,798,075	$40,501,319	($4,074,797)	($39,755,727)	($3,329,205)
2039	$2,872,887,835	$41,351,847	($4,160,368)	($40,590,597)	($3,399,118)
2040	$2,933,218,479	$42,220,236	($4,247,736)	($33,654,212)	$4,318,288
2041	$2,994,816,067	$43,106,861	($4,336,938)	($42,313,303)	($3,543,380)
2042	$3,057,707,205	$44,012,105	($4,428,014)	($43,201,882)	($3,617,791)
2043	$3,121,919,056	$44,936,359	($4,521,002)	($44,109,122)	($3,693,765)
2044	$3,187,479,356	$45,880,023	($4,615,943)	($34,683,938)	$6,580,141
2045	$3,254,416,423	$46,843,503	($4,712,878)	($45,981,157)	($3,850,532)
2046	$3,322,759,168	$47,827,217	($4,811,848)	($46,946,761)	($3,931,393)
2047	$3,392,537,110	$48,831,588	($4,912,897)	($47,932,643)	($4,013,952)
2048	$3,463,780,389	$49,857,052	($5,016,068)	($48,939,229)	($4,098,245)
2049	$3,536,519,778	$50,904,050	($5,121,405)	($49,966,953)	($4,184,308)
2050	$3,610,786,693	$51,973,035	($5,228,955)	($51,016,259)	($4,272,179)
2051	$3,686,613,213	$53,064,469	($5,338,763)	($52,087,600)	($4,361,895)
2052	$3,764,032,091	$54,178,822	($5,450,877)	($53,181,440)	($4,453,494)
2053	$3,843,076,765	$55,316,578	($5,565,346)	($54,298,250)	($4,547,018)
2054	$3,923,781,377	$56,478,226	($5,682,218)	($55,438,513)	($4,642,505)
2055	$4,006,180,786	$57,664,269	($5,801,544)	($56,602,722)	($4,739,998)
2056	$4,090,310,582	$58,875,218	($5,923,377)	($57,791,379)	($4,839,538)
2057	$4,176,207,105	$60,111,598	($6,047,768)	($59,004,998)	($4,941,168)
2058	$4,263,907,454	$61,373,941	($6,174,771)	($60,244,103)	($5,044,932)
2059	$4,353,449,510	$62,662,794	($6,304,441)	($61,509,229)	($5,150,876)
2060	$4,444,871,950	$63,978,713	($6,436,834)	($62,800,923)	($5,259,044)
2061	$4,538,214,261	$65,322,266	($6,572,008)	($64,119,742)	($5,369,484)
2062	$4,633,516,760	$66,694,033	($6,710,020)	($65,466,257)	($5,482,244)
2063	$4,730,820,612	$68,094,608	($6,850,930)	($66,841,048)	($5,597,371)

4.3 Reliance on Delivered Services as an Alternative to the Dawn to Corunna Project

Delivered services are products offered by third parties that have firm contractual rights to pipeline capacity or storage deliverability and are willing to sell the capacity/deliverability for short durations (10 to 30 days) to meet peak demand requirements.

Delivered services are frequently relied on by utilities that have rapidly growing demand to meet incremental capacity requirements during periods when new pipeline capacity is unavailable. Delivered services work best when the utility service territory has access to multiple pipelines where the pipelines have contracts to serve both upstream and downstream customers. While some utilities rely on delivered services to meet a share of capacity requirements on a long-term basis, delivered services are generally considered to be a stopgap measure. Delivered services contracts are generally signed for a year at a time, with no continuing obligation to provide the service beyond the contract year, and no assurances of future prices or availability.

Conceptually, delivered services could be used to offset the loss of storage withdrawal capacity resulting from the retirement of the Corunna compressors without construction of the Dawn to Corunna project. However, delivered services would not offset the loss of seasonal storage space, or the loss of system reliability and resiliency that would be provided by the Dawn to Corunna project. As a result, the use of delivered services would require a shift in the pattern of natural gas commodity purchases, with additional purchases during the higher price winter season, and a reduction in purchases during the summer when prices are typically lower. As a result, the cost of the delivered services option includes both the direct cost of the services as well as the increase in the cost of commodity purchases.

4.3.1 Availability of Delivered Services in Ontario

Currently, the delivered services market in Ontario for firm capacity is relatively limited. Replacing the lost storage deliverability associated with the retirement of the Corunna compression capacity would require a significant expansion of the delivered services market in Ontario. Given the sources of delivered services and the structure of the Ontario gas market, it is likely that delivered services sufficient to offset the decline in storage deliverability could be acquired. Ontario in general, and Dawn in particular represent significant gas market hubs with a wide variety of natural gas services that could be used to create delivered services. However, acquiring the necessary volume of delivered services within the necessary time frame would be challenging. It will take time for potential delivered services providers to structure their gas supply portfolios in a way that would allow for the release of peak capacity to Enbridge. Even if the delivered services market could be established by the start of the 2023/24 winter, the pressure to establish a delivered services portfolio on that timeline would certainly increase the prices needed to be offered in the first few years

ICF's assessment of the potential availability of delivered services is based primarily on the ability of other utilities to acquire similar levels of delivered services. As an extreme example, ConEdison relied on delivered services to meet 17 percent of their peak day requirements in 2018, and at that time were projecting reliance on delivered services to increase to 22 percent by 2023.[20]

[20] Petition of Consolidated Edison Company of New York, Inc for Approval of the Smart Solutions for Natural Gas Customer Program, Case 17-G-0603.

On a percentage basis, this is roughly the same amount of delivered services that would be needed to offset the loss of storage deliverability associated with the retirement of the Corunna compression assets. As noted previously, the loss of deliverability would represent 16% of peak day requirements for Enbridge bundled in-franchise customers.

However, while the ConEdison experience illustrates the feasibility of acquiring large quantities of delivered services, Con Edison also recommends against reliance on this level of delivered services. According to ConEdison, "While an appropriate amount of Delivered Services can play an important role in a utility's pipeline capacity portfolio, undue reliance on Delivered Services should be avoided because of the risk that Delivered Services will not be available at needed levels in future years." [21]
In 2018 ConEdison requested approval to spend US$305 million to reduce the exposure to delivered services risk by about 84,400 Dth/day, or roughly 12% of the level of delivered services that Enbridge would require to avoid the C$250 million expenditure on the Dawn to Corunna project.[22]

4.3.2 Cost of Delivered Services in Ontario

The lack of a well-developed delivered services market in Ontario makes estimating the cost of the extremely large volumes of delivered services that would be required to offset the deliverability provided by the Dawn to Corunna project challenging.

We considered using the ConEdison efforts to reduce reliance on delivered services as a proxy for the full cost of the delivered services to that utility. Based on this calculation, we would expect the delivered services necessary to replace the Dawn to Corunna project to cost about C$2.8 billion.[23] However, the ConEd example likely overstates the cost of delivered services in Ontario, as it represents the cost that ConEd was willing to pay to reduce reliance on delivered services, rather than the price of the delivered services themselves. In addition, the New York market has fewer available options for delivered services, and a higher cost of alternatives.

In Ontario, large volumes of delivered services likely would need to be provided by holders of the market-based storage capacity in the region, and the pipeline capacity traversing the region. Based on our assessment of the market, the cost of very high deliverability market-based storage at Dawn likely would set the initial cost of delivered services. Using the ICF assessment of the likely cost of deliverability associated with high deliverability storage ICF estimated an initial cost of delivered services at $3.72/GJ/Day for 10 days of delivered services.[24] This is reflected in the storage price regression illustrated in Exhibit 4-5. The commodity costs for the 10-days of service reflect the commodity costs at Dawn.

In the initial year, this would result in a delivered services cost of C$24.7 million per year (in 2021 $). Over 40-years, this would have an NPV of $620 million. This value is based on the somewhat unrealistic assumptions that the demand for delivered services would be met by providers willing to price their

[21] ConEd, p.2
[22] NYPSC CASE 17-G-0606 - Petition of Consolidated Edison Company of New York, Inc. for Approval of the Smart Solutions for Natural Gas Customers Program. ORDER APPROVING WITH MODIFICATION THE NON-PIPELINE SOLUTIONS PORTFOLIO (Issued and Effective February 7, 2019).
[23] Based the ConEdison cost estimate of US$305 million to displace 84,400 Dth/day of delivered services.
[24] Excluding the value associated with storage space.

deliverability and delivered commodity based on the value at Dawn, and that the increase in the demand for delivered services would not increase the price relative to historic levels.

Given the total magnitude of the required delivered services, we anticipate that part of the demand would be met based on the value of capacity leaving Ontario rather than entering Ontario. While this would not necessarily increase the capacity cost associated with the delivered services, it would increase the commodity costs associated with the delivered services. If the incremental source of delivered services reflects capacity that otherwise would flow through Iroquois, the commodity price associated with the delivered services would be increased to reflect prices at Iroquois. We have estimated this cost to be C$5.95 per GJ, based on an assessment of the difference between the price of natural gas at Iroquois and the price of natural gas at Dawn for the 10 highest price winter days each year since the 2014/2015 winter. At this higher commodity cost, the incremental cost of using delivered services to offset the loss of storage deliverability associated with the loss of compression at Corunna would be C$1,613.

Exhibit 4-10 Incremental Cost of Delivered Services (Commodity Priced at Dawn)

Year	Total Portfolio Cost without Replacement	Incremental Delivered Service Cost	Total Incremental Costs
NPV Summary			
2024-2063	**$46,581,647,169**	**$620,377,975**	**$620,377,975**
2024-2043	**$28,410,150,180**	**$392,670,437**	**$392,670,437**
Annual Cashflow Summary			
2024	$1,826,961,779	$26,358,412	$26,358,412
2025	$1,786,014,334	$26,911,939	$26,911,939
2026	$1,677,868,083	$27,477,089	$27,477,089
2027	$1,720,814,134	$28,054,108	$28,054,108
2028	$1,808,659,168	$28,643,244	$28,643,244
2029	$1,935,201,163	$29,244,753	$29,244,753
2030	$2,010,281,259	$29,858,892	$29,858,892
2031	$2,135,352,145	$30,485,929	$30,485,929
2032	$2,253,009,717	$31,126,134	$31,126,134
2033	$2,382,783,747	$31,779,782	$31,779,782
2034	$2,526,480,190	$32,447,158	$32,447,158
2035	$2,579,809,314	$33,128,548	$33,128,548
2036	$2,699,239,645	$33,824,248	$33,824,248
2037	$2,755,923,678	$34,534,557	$34,534,557
2038	$2,813,798,075	$35,259,783	$35,259,783
2039	$2,872,887,835	$36,000,238	$36,000,238
2040	$2,933,218,479	$36,756,243	$36,756,243
2041	$2,994,816,067	$37,528,124	$37,528,124
2042	$3,057,707,205	$38,316,215	$38,316,215
2043	$3,121,919,056	$39,120,855	$39,120,855
2044	$3,187,479,356	$39,942,393	$39,942,393
2045	$3,254,416,423	$40,781,183	$40,781,183
2046	$3,322,759,168	$41,637,588	$41,637,588
2047	$3,392,537,110	$42,511,978	$42,511,978
2048	$3,463,780,389	$43,404,729	$43,404,729
2049	$3,536,519,778	$44,316,229	$44,316,229
2050	$3,610,786,693	$45,246,869	$45,246,869
2051	$3,686,613,213	$46,197,054	$46,197,054
2052	$3,764,032,091	$47,167,192	$47,167,192
2053	$3,843,076,765	$48,157,703	$48,157,703
2054	$3,923,781,377	$49,169,015	$49,169,015
2055	$4,006,180,786	$50,201,564	$50,201,564
2056	$4,090,310,582	$51,255,797	$51,255,797
2057	$4,176,207,105	$52,332,168	$52,332,168
2058	$4,263,907,454	$53,431,144	$53,431,144
2059	$4,353,449,510	$54,553,198	$54,553,198
2060	$4,444,871,950	$55,698,815	$55,698,815
2061	$4,538,214,261	$56,868,490	$56,868,490
2062	$4,633,516,760	$58,062,729	$58,062,729
2063	$4,730,820,612	$59,282,046	$59,282,046

Exhibit 4-11 Incremental Cost of Delivered Services (Commodity Priced at Iroquois)

Year	Total Portfolio Cost without Replacement	Incremental Delivered Service Cost	Total Incremental Costs
NPV Summary			
2024-2063	**$46,581,647,169**	**$1,613,255,712**	**$1,613,255,712**
2024-2043	**$28,410,150,180**	**$1,021,115,917**	**$1,021,115,917**
Annual Cashflow Summary			
2024	$1,826,961,779	$68,543,469	$68,543,469
2025	$1,786,014,334	$69,982,882	$69,982,882
2026	$1,677,868,083	$71,452,523	$71,452,523
2027	$1,720,814,134	$72,953,026	$72,953,026
2028	$1,808,659,168	$74,485,039	$74,485,039
2029	$1,935,201,163	$76,049,225	$76,049,225
2030	$2,010,281,259	$77,646,259	$77,646,259
2031	$2,135,352,145	$79,276,830	$79,276,830
2032	$2,253,009,717	$80,941,643	$80,941,643
2033	$2,382,783,747	$82,641,418	$82,641,418
2034	$2,526,480,190	$84,376,888	$84,376,888
2035	$2,579,809,314	$86,148,802	$86,148,802
2036	$2,699,239,645	$87,957,927	$87,957,927
2037	$2,755,923,678	$89,805,044	$89,805,044
2038	$2,813,798,075	$91,690,950	$91,690,950
2039	$2,872,887,835	$93,616,460	$93,616,460
2040	$2,933,218,479	$95,582,405	$95,582,405
2041	$2,994,816,067	$97,589,636	$97,589,636
2042	$3,057,707,205	$99,639,018	$99,639,018
2043	$3,121,919,056	$101,731,438	$101,731,438
2044	$3,187,479,356	$103,867,798	$103,867,798
2045	$3,254,416,423	$106,049,021	$106,049,021
2046	$3,322,759,168	$108,276,051	$108,276,051
2047	$3,392,537,110	$110,549,848	$110,549,848
2048	$3,463,780,389	$112,871,395	$112,871,395
2049	$3,536,519,778	$115,241,694	$115,241,694
2050	$3,610,786,693	$117,661,770	$117,661,770
2051	$3,686,613,213	$120,132,667	$120,132,667
2052	$3,764,032,091	$122,655,453	$122,655,453
2053	$3,843,076,765	$125,231,217	$125,231,217
2054	$3,923,781,377	$127,861,073	$127,861,073
2055	$4,006,180,786	$130,546,155	$130,546,155
2056	$4,090,310,582	$133,287,625	$133,287,625
2057	$4,176,207,105	$136,086,665	$136,086,665
2058	$4,263,907,454	$138,944,485	$138,944,485
2059	$4,353,449,510	$141,862,319	$141,862,319
2060	$4,444,871,950	$144,841,428	$144,841,428
2061	$4,538,214,261	$147,883,098	$147,883,098
2062	$4,633,516,760	$150,988,643	$150,988,643
2063	$4,730,820,612	$154,159,404	$154,159,404

5 Regional Reliability and Resiliency Value of the Dawn to Corunna project

The primary focus of the ICF assessment of the Dawn to Corunna project so far has been on the cost effectiveness of using the Dawn to Corunna project to meet the gas supply portfolio requirements of Enbridge natural gas ratepayers. However, the Enbridge storage system also plays a critical role in regional natural gas markets, and the reduction in storage capacity and deliverability associated with the retirement of Enbridge compression assets without the Dawn to Corunna project would have a noticeable impact on the reliability and resiliency of the broader regional natural gas system. While we have not assigned a value to this particular aspect of the Dawn to Corunna project system, we note that the capacity and deliverability associated with the Dawn to Corunna project has played a critical role in stabilizing the regional natural gas system during previous regional natural gas supply and infrastructure crises.

The role of the existing storage assets at Tecumseh and Corunna during the January 2019 polar vortex in Eastern Canada and the U.S. Midwest and the coinciding compression outage in Michigan at the Consumers Gas Ray storage facility illustrates this value.

5.1 January 2019 Polar Vortex and Consumer Gas Storage Outage

The week with the two coldest days since the NEXUS and Rover pipelines began serving Michigan and Ontario shows the importance of maintaining the Dawn storage capacity at its current levels. On Wednesday, January 30, 2019, during a polar vortex, the temperature in Toronto was -19 degrees Celsius and natural gas storage withdrawal volumes were the greatest that they have been in the past five years. This occurred as natural gas demand in the U.S. Midwest reached record high levels and as Consumers Energy in Michigan experienced a fire incident at the Ray compressor station that took the Ray storage complex offline. The fire at the Ray Station was precipitated by a safety venting fire-gate process that is considered safe and effective under normal conditions prior to the fire event. However, under the extreme weather conditions experienced at that time, the process became hazardous.[25]

The Consumers Energy Ray storage complex is the single largest source of peak day gas supply in the U.S. Midwest with a peak daily withdrawal capacity of 1.8 Bcf/d (1,898 TJ/day). According to Consumer Energy's Natural Gas Delivery Plan, during peak winter days, the Ray storage facility has the capability to deliver sufficient natural gas to meet approximately 35% to 65% of the total regional gas load from storage, depending on the customer demand, inventories of the other storage fields, and how many Needle-Peaker storage facilities have been dispatched at that given time.[26]

After the Ray facility fire, Consumers Energy's Gas Control Center dispatched all Needle-Peaking storage fields at maximum flow rates. This added approximately 975 MMcf/d (1,028 TJ/d) of additional gas supply to the system. However, Consumer Energy also noted that the peaking capacity was forecasted to decline by approximately 500 MMcf/d (527 TJ/d) by the next morning's peak hour as field inventories were depleted,

[25] Consumer Energy Press Release (News Release | Consumers Energy)
[26] Natural Gas Delivery Plan (2021-2031) by Consumer Energy (Working Versions 1.1 (consumersenergy.com)) Page 40

leading to a significant expected shortfall in regional natural gas supplies in the days immediately after the incident.[27]

In order to meet the regional gas supply requirements resulting from the heightened demand from the polar vortex and the Ray facility outage, flows on the Great Lakes Pipeline, which usually serves Dawn, reversed and began to flow towards Michigan and the Midwest. Flows on the Empire Pipeline, which usually flows from New York State to Ontario, reversed and flowed into New York. Withdrawals out of Dawn storage reached 5,133 TJ on January 30, 2019 (about double what they were two days prior to the Ray outage) in order to make up for the loss of inflows on the Great Lakes and Empire Pipelines and a reduction of inflows on every other pipeline that serves Ontario (including a reduction of 916 TJ of inflows on the Vector Pipeline).

Even though the weather was much colder than normal and demand was high, it was not near to design day levels. Natural gas demand in the Enbridge service territory was 3,760,030 GJ on January 30, 2019, and 3,659,363 GJ on January 31, 2019. Based on a regression of historical daily demand data from 2017 to 2020, ICF projects that the demand on January 30, 2019, would have been approximately 4,214,664 GJ if it had been a design day, increasing load by about 554,000 GJ/day or 12%.[28]

[27] Michigan Public Service Commission Staff Investigation Report (*068t0000009Z76PAAS (force.com)) Appendix L, Page 8

[28] Enbridge's design day for the EGD Rate Zone 41.4 HDDs (Celsius) for the Central Weather Zone, 48.2 HDDs for the Eastern Weather Zone, and 38.8 HDDs for the Niagara Weather Zone. Design day weather conditions are based on the coldest observed HDD experienced in each of the delivery areas. The Union South design day demand is the total firm requirement of in-franchise sales service, bundled DP, and T-Service customers. The design day weather condition for Union South is based on the coldest observed HDDs of 43.1 degrees as measured in London. The design degree day for the six Union North delivery areas range from 47.1 to 54.7 HDDs. The Union North delivery areas are connected to TCPL TC Energy Mainline and are physically separated from EGI's Dawn storage and transmission pipeline assets. Therefore, EGI requires firm transportation services on TCPL TC Energy Mainline to connect each of the six Union North delivery areas to a supply source. Further, since there is no physical storage in Union North, EGI is required to purchase transportation services to move the firm design day demand from Parkway, Dawn, or Empress to the delivery areas where the gas is consumed. https://www.rds.oeb.ca/CMWebDrawer/Record/640773/File/document

Exhibit 5-1 2019 Historical Peak Ontario Natural Gas Supply

Terajoules	1/26/2019	1/27/2019	1/28/2019	1/29/2019	1/30/2019	1/31/2019	2/1/2019	2/2/2019
Toronto HDD (°C)	28.5	29.1	30.7	26.8	37	36.6	32.6	24.9
Dawn (USD/MMBtu)	$3.08	$3.08	$3.08	$3.08	$3.03	$5.11	$3.26	$2.62
Storage Withdrawals	2,133	2,422	2,630	4,119	5,234	3,852	2,597	1,080
Dawn Storage Withdrawals	1,934	2,243	2,478	4,017	5,133	3,768	2,455	1,059
Other Ontario Storage Withdrawals	78	65	57	11	10	20	21	21
Bluewater, MI Storage Withdrawals	122	114	95	90	90	64	122	0
Michigan to Ontario	2,372	2,359	2,330	1,152	686	2,356	2,793	2,767
Vector	1,408	1,388	1,385	517	469	1,267	1,732	1,632
Great Lakes	507	513	487	179	-178	626	604	709
ANR Pipeline	117	117	117	117	88	86	86	86
Panhandle Eastern	139	139	139	138	106	140	139	139
St Clair (Michcon)	200	200	200	200	200	237	232	200
Niagara to Ontario	650	650	632	521	311	311	432	732
Tennessee Gas Pipeline/NFG	547	547	539	495	371	354	427	640
Empire	103	104	92	26	-60	-43	5	91
Manitoba to Ontario	1,911	1,901	1,939	1,877	1,897	1,849	1,895	1,931
TC Energy Mainline	1,911	1,901	1,939	1,877	1,897	1,849	1,895	1,931
Great Lakes (Sault Ste. Marie)	102	97	113	100	84	98	91	84
Ontario and Quebec Exports to U.S.	1,445	1,392	1,531	1,495	1,425	1,451	1,443	1,380
Iroquois	1,145	1,093	1,242	1,196	1,145	1,165	1,162	1,092
PNGTS	299	299	289	299	279	286	280	288
Michigan to Ontario	4,270	4,270	4,274	4,329	4,259	4,319	4,388	4,306
NEXUS Ohio to Michigan	957	957	957	1,007	974	1,153	1,064	972
Rover Ohio to Michigan	3,314	3,314	3,317	3,321	3,285	3,166	3,324	3,335

Exhibit 5-2 2019 Historical Peak Ontario Natural Gas Supply Source Utilization

	1/26/2019	1/27/2019	1/28/2019	1/29/2019	1/30/2019	1/31/2019	2/1/2019	2/2/2019
Storage Withdrawals	38%	44%	47%	74%	94%	69%	47%	19%
Dawn Storage Withdrawals	38%	44%	48%	78%	100%	73%	48%	21%
Other Ontario Storage Withdrawals	54%	45%	40%	8%	7%	14%	14%	14%
Bluewater, MI Storage Withdrawals	45%	42%	35%	33%	33%	24%	45%	0%
Michigan to Ontario	55%	55%	54%	27%	16%	55%	65%	64%
Vector	76%	75%	75%	28%	25%	69%	94%	89%
Great Lakes	27%	27%	26%	9%	-9%	33%	32%	37%
ANR Pipeline	74%	74%	74%	74%	56%	54%	54%	54%
Panhandle Eastern	88%	88%	88%	87%	67%	88%	88%	88%
St Clair (Michcon)	76%	76%	76%	76%	76%	90%	88%	76%
Niagara to Ontario	75%	75%	73%	60%	36%	36%	50%	84%
Tennessee Gas Pipeline/NFG	74%	74%	73%	67%	50%	48%	58%	87%
Empire	28%	28%	25%	7%	-16%	-12%	1%	25%
Manitoba to Ontario	49%	49%	50%	49%	49%	48%	49%	50%
TC Energy Mainline	49%	49%	50%	49%	49%	48%	49%	50%
Great Lakes (Sault Ste. Marie)	65%	61%	71%	63%	53%	62%	58%	53%
Ontario and Quebec Exports to U.S.	88%	85%	93%	91%	87%	88%	88%	84%
Iroquois	90%	86%	98%	94%	90%	92%	92%	86%
PNGTS	79%	79%	76%	79%	74%	75%	74%	76%
Michigan to Ontario	82%	82%	82%	83%	82%	83%	84%	83%
NEXUS Ohio to Michigan	60%	60%	60%	64%	62%	73%	67%	61%
Rover Ohio to Michigan	92%	92%	92%	92%	91%	88%	92%	92%

**The interstate state pipeline capacity was determined by using pipeline bulletin boards, the U.S. EIA, and ICF databases.*

Regional natural gas markets responded to the crisis in an extraordinary way. The CEO of Consumers Energy and the Governor of Michigan both called for efforts by natural gas consumers to reduce demand, including shutting down production at major industrial facilities in the region. The five major pipelines that interconnect with Consumer Energy's system agreed to assist the company on a best-efforts basis, and the entire regional natural gas system changed operational patterns to meet the crisis.

In order to provide additional natural gas supplies, Enbridge storage withdrawals at Dawn increased from 4.0 PJ/day on the day before the incident to 5.1 PJ/day on the day of the incident. Consumer Energy reported that net gain above the scheduled nominations from all sources on January 30th was approximately 309 MMcf (326 TJ) as pipelines and storage facilities in the region responded to the event.

During the period in the two days after the incident, every available natural gas supply source capable of providing service into this region was at capacity. This included the Enbridge natural gas storage system. A reduction in the withdrawal capacity of the Enbridge system of the magnitude of the storage compression retirements without replacement by the Dawn to Corunna project could have compromised the system recovery from the Ray compression outage.

Consumers Energy estimated that the Ray Compressor Station outage led to costs of $25,514,000, including the cost of additional natural gas to replace the lost gas and the cost of repairs to the compressor station. This cost does not include the much larger economic costs that resulted from the shutdown of industrial facilities and increased natural gas commodity prices resulting from the sudden decrease in supply. These costs would have been even larger, however, if there had not been flexibility in the Dawn storage system to increase withdrawals by more than 1 Bcf between January 29th and January 30th.

Exhibit 5-3 Costs Incurred by Consumers Energy Due to the Ray Compressor Station Incident

Cost Estimates	
Lost and Unaccounted for Gas Estimate	$ 14,000
Emergency Natural Gas Purchases Incremental Estimate	$ 7,200,000
Purchase of Customer Owned Natural Gas Estimate	$ 300,000
Ray Compressor Facility Repair Cost Estimate	$ 18,000,000
Total Cost Estimate as of 04/05/19	**$ 25,514,000**

After the incident, Consumers Energy addressed the issue at the Ray Compressor Station by implementing new procedures to further enhance resiliency and help avoid failure under these extraordinary circumstances. Hence, the specific circumstances associated with the Ray storage outage are unlikely to reoccur. However, the event illustrated the importance of the overall regional system of natural gas infrastructure, and the value of the high deliverability storage that would be provided by the Dawn to Corunna project.

6 Conclusions

ICF's analysis indicates that the Dawn to Corunna project provides the most economic supply side approach to replacing the storage space and deliverability that will be lost due to the retirement of the compressors in the Corunna storage compression facility. The major conclusions of the ICF analysis include:

1) ***The reduction in storage working gas capacity and deliverability lost due to the retirement of Corunna storage compression represents a significant share of the total storage capacity used to support Enbridge retail customer base.***

Loss of the storage capacity that would occur due to the retirement of storage compression at Corunna would reduce the cost-of-service based storage working gas capacity at Tecumseh available to Enbridge customers by 15% and would reduce the cost-of-service based peak day storage deliverability at Tecumseh available to Enbridge customers by 35%.

- The peak day capacity provided by Dawn to Corunna would account for about 16% of total Enbridge Distribution Customer design day requirements in 2024.
- The peak day capacity provided by Dawn to Corunna would account for about 2.3% (in the year 2024) of total regional storage deliverability.

2) ***The retirement of the Enbridge storage compression facilities would have important impacts on gas markets at Dawn and throughout Ontario if the reduction in physical storage capacity and deliverability is not replaced***

Regional natural gas market impacts associated with the loss of Tecumseh storage capacity and deliverability include:

- An average increase in annual natural gas prices at Dawn of C$0.013 per GJ between April 2024 and March 2045.
- An average increase in the seasonal basis of natural gas prices at Dawn of C$0.072 per GJ between April 2024 and March 2045, including:
    - Injection season prices fall by C$0.017 per GJ
    - Withdrawal season prices increase by C$0.055 per GJ
- An increase in the average market price of the remaining natural gas storage capacity in Ontario of about $0.04 per GJ of capacity, or 3.9%.

The decrease in storage space also results in a significant increase in the cost of natural gas commodity purchases due to the shift in the timing of commodity purchases from summer to winter. When combined with the market impact of the loss of storage space, commodity purchases for Enbridge in-franchise customers are expected to increase by around C$794 million over 40 years.

3) ***The decrease in storage deliverability resulting from the retirement of the Corunna storage compression assets must be replaced in order to continue to meet Enbridge customer requirements.***

Enbridge is projecting continued growth in design day demand for in-franchise customers for the next five years, and CER is projecting continued long-term growth in Ontario gas demand for residential, commercial, and industrial customers.

- As long as demand continues to grow or remains stable, the reduction in storage deliverability and space associated with the retirement of the Corunna compression assets must be replaced in order to meet demand and maintain system reliability.

4) Enbridge is proposing the Dawn to Corunna project to replace the access to storage space and deliverability lost with the retirement of the Corunna compression assets. If constructed, the Dawn to Corunna project will reduce the overall cost-of-service to Enbridge by significantly more than the cost of the project.

The Dawn to Corunna project is expected to cost C$206 million, excluding indirect overhead costs. When spread over the 40-year asset life of the investment, this would lead to an increase in the storage cost-of-service of about C$276 million on a net present value (NPV) basis.[29]

- However, the increase in infrastructure costs is more than offset by the ability to continue to purchase gas supply in the summer for injection into storage and for use during the winter. This capability is projected to reduce the overall commodity cost to serve Enbridge in-franchise customers in the EGD rate zone by around C$794 million relative to the costs of purchasing gas supply to meet in-franchise customer demand without the ability to inject natural gas into the storage capacity lost due to the Corunna compression retirements.

- After accounting for the increase in infrastructure costs associated with the construction of the Dawn to Corunna project, the savings in commodity purchasing costs facilitated by the access to storage provided by the Dawn to Corunna project, and the savings associated with incremental pipeline capacity release, construction of the Dawn to Corunna project is expected to lead to a total reduction in the cost-of-service to Enbridge in-franchise customers of around C$589 million relative to the non-replacement option.

5) ICF considered a range of alternatives to the Dawn to Corunna project. All of the alternatives considered by ICF appear likely to be significantly more expensive than the Dawn to Corunna project.

The alternative supply side approaches to duplicating the capacity and deliverability of the Dawn to Corunna project that were considered by ICF were higher cost than the Dawn to Corunna project.

- Reliance on incremental pipeline capacity contracts to meet deliverability requirements would increase the cost-of-service by more than $4 billion over the 40-year life of the Dawn to Corunna project, (if the pipeline capacity can be made available without the construction of new construction). This estimate includes an estimate of the value of capacity release for unused pipeline capacity. Given the reduction in the cost of service attributed to the Dawn to Corunna project, reliance on incremental pipeline capacity would be about $4.6 billion more expensive than Dawn to Corunna.

[29] The investment cash flow reflects 40-year straight line depreciation, with a before tax cost of capital of 6.69%. ICF discounted the cash flow at the after-tax cost of capital, 4.92%.

- Reliance on market-based storage is expected to increase the cost-of-service by between $153 and $363 million over the 40-year life of the Dawn to Corunna project. This includes an estimate of at least $679 million for the storage contracts.
    - The cost of the storage contracts would be partially offset by reductions in the commodity costs of natural gas. However, the commodity cost savings are lower than the commodity cost savings associated with the Dawn to Corunna project due to the differences in physical Ontario storage capacity and deliverability between the two options.
- Reliance on delivered services to meet deliverability requirements is projected to increase the cost-of-service by at least $571 million over the 40-year life of the Dawn to Corunna project. There would be no commodity cost savings associated with the delivered services option.

The major cost components of each option, relative to the baseline scenario after retirement of the Corunna storage assets are shown in Exhibit 6-1.

Exhibit 6-1 Net Present Value of Incremental Cost of Meeting Enbridge Distribution Supply Portfolio Requirements After Retirement of Corunna Compression (C$Million)

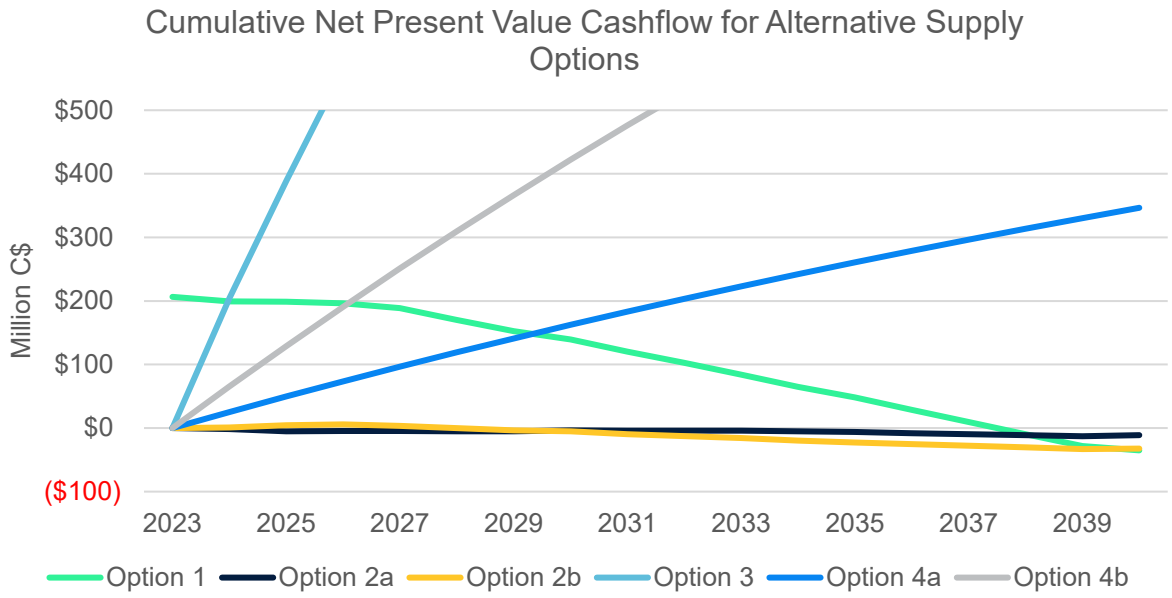
Options to Replace Loss of Storage	Incremental Infrastructure Costs	Incremental Storage Contract Costs	Incremental Contract Cost (Pipeline or Delivered Service)	Incremental Pipeline Capacity Release	Incremental Commodity Cost	Total Incremental Costs Relative to "No Replacement" Options	Total Incremental Costs Relative to Dawn to Corunna Option
Option 1a: Replacement with Dawn to Corunna	$276	$0	$0	-$74	-$794	-$589	n.a.
Option 2a: Replacement with Market Based Storage - Projected Storage Pricing	$0	$714	$0	-$85	-$662	-$33	$556
Option 2b: Replacement with Market Based Storage - Historical Average Storage Pricing	$0	$677	$0	-$85	-$662	-$70	$519
Option 3: Incremental Contracted Pipeline Capacity	$0	$0	$7,200	-$646	-$2,490	$4,064	$4,653
Option 4a: Replacement with Delivered Services Priced at Dawn	$0	$0	$620	$0	$0	$620	$1,209
Option 4b: Replacement with Delivered Services Priced at Iroquois	$0	$0	$1,613	$0	$0	$1,613	$2,202

6) The Dawn to Corunna project investment costs are recouped by 2038

The Dawn to Corunna project includes an up-front investment in long term capital, but significantly reduces annual commodity costs relative to a "no replacement" option for the storage capacity and deliverability lost due to the retirement of the Corunna compression. The reduction in commodity costs is greater than the annual cost of service throughout the 40-year life of the asset, leading to a reduction in overall customer costs in each year. The annual commodity cost savings fully offset the initial investment costs by 2038.

The Dawn to Corunna project also becomes the lowest cost option on a cumulative expenditure basis in 2039. The alternatives to the Dawn to Corunna project do not require an upfront capital cost. However, they have higher annual costs and lower commodity cost savings than the Dawn to Corunna project. As illustrated in Exhibit 6-2, the cumulative costs of the delivered services options and the pipeline capacity option exceed the cumulative costs of the Dawn to Corunna project by 2030 or earlier. The market-based storage option is the most economical of the alternatives to the Dawn to Corunna project considered in this analysis. The incremental market-based storage costs are largely offset by the potential savings in commodity costs, hence the cumulative costs of the market-based storage remain around zero. However, the cost savings associated with the reduction in commodity costs attributed by the Dawn to Corunna project offset the Dawn to Corunna project capital cost, and by 2039, the cumulative costs of the Dawn to Corunna project fall below the cumulative costs of the market-based storage options by 2039.

Exhibit 6-2 Cumulative Net Present Value Cashflow for Alternative Supply Options



7) The alternatives to the Dawn to Corunna project provide additional long-term flexibility to Enbridge customers, at the cost of increased market risk.

The Dawn to Corunna project represents a long-lived physical asset that Enbridge customers will be expected to pay for through cost-of-service based rates. While the projections of market demand growth used by ICF suggest that natural gas demand should be expected to continue to increase for the foreseeable future, factors including changes in environmental policies and changes in economic growth outlook could result in a slowdown in growth or a decline in demand, reducing the value of the Dawn to Corunna project alternative. However, there are also very significant risks with the alternatives to the Dawn to Corunna project, and the cost and availability assumptions used by ICF for these options could be overly optimistic. The inability to acquire delivered services, or the ability to contract for market-based storage assets at prices consistent with the current market could lead to much higher costs and potentially to peak day supply reliability concerns.

8) The storage capacity provided by Dawn to Corunna provides significant regional natural gas system reliability and resiliency,

Recent market behavior during the Consumers Gas storage outage in January 2019 provided a dramatic illustration of the value of physical storage capacity interconnected with the broader regional market. While we cannot say with certainty what the impact of the storage outage would have been on regional gas markets in the absence of the Tecumseh storage capacity, the market came perilously close to experiencing catastrophic gas outages even with the Tecumseh storage capacity operating at full capacity.

Appendix A: Ontario Market Based Storage Contract Database

The market-based storage cost analysis in section 4.1 of this report is based on an analysis of storage contract data developed by combining multiple data sources. These data sources include:

1) The Enbridge index of storage customers https://www.enbridgegas.com/-/media/Extranet-Pages/Storage-and-transportation/operational-information/Index-of-customers/Storage_Report.ashx?rev=f1cbc47f701341bc98c29f353995a70d&hash=3C14D646A2882C749640BD536C2EF7F8

2) The Enbridge Semi-Annual Storage Report (STAR) for the period from March 1, 2021 to August 31, 2021: STAR storage report for October 2021.xlsx (enbridgegas.com)

The STAR report provides unit rates and total revenue for each storage contract, along with the customer's name. ICF used this data to calculate the capacity associated with each contract. The Index of Customer database provides space and deliverability information for each storage contract, along with the customer's name. ICF combined the records from these two public reports by matching customer names and contract capacity in order to develop a database of storage contracts with price, space, and deliverability. The combined database is included in Table A-1 below.

ICF also included the regression analysis the prices, space, and deliverability data from third party storage offers provided to Enbridge in response to RFPs for storage services. These records are confidential in nature and not included in this report.

Exhibit A-1 Integrated Enbridge Storage Contract Database

Customer Name	Contract Identifier	Maximum Storage Quantity(GJ)	Start Date	Expiry Date	Maximum Firm Daily Withdrawal Quantity(GJ)	Maximum Firm Daily Injection Quantity(GJ)	Unit Rate ($CDN/GJ)
1425445 Ontario Limited o/a Utilities Kingston	LST127	200,000	4/1/2021	3/31/2022	2,400	1,500	$0.85
1425445 Ontario Limited o/a Utilities Kingston	LTP265	250,000	4/1/2020	3/31/2023	-	3,750	$1.45
BP Canada Energy Group ULC	LTP262	1,055,056	4/1/2020	3/31/2025	12,661	-	$0.69
BP Canada Energy Group ULC	LTP275	2,110,112	4/1/2020	3/31/2025	25,321	-	$0.69
BP Canada Energy Group ULC	LTP302	1,055,056	4/1/2021	3/31/2026	12,661	-	$0.71
Castleton Commodities Merchant Trading L.P.	LTP280	1,055,056	4/1/2020	3/31/2022	12,661	-	$0.61
Castleton Commodities Merchant Trading L.P.	LTP322	1,055,056	5/7/2021	3/31/2024	12,661	-	$0.71
Castleton Commodities Merchant Trading L.P.	LTP299	1,582,584	4/1/2021	3/31/2024	18,991	10,551	$0.62
Castleton Commodities Merchant Trading L.P.	LTP310	2,110,112	4/1/2021	3/31/2024	25,321	-	$0.55
Connecticut Natural Gas Corporation	LST108	1,300,000	4/1/2018	3/31/2022	15,600	9,750	$0.67
EDF Trading North America, LLC	LTP263	1,055,056	4/1/2020	3/31/2022	12,661	-	$0.68
EDF Trading North America, LLC	LTP284	2,110,112	4/1/2020	3/31/2022	25,321	-	$0.74
EDF Trading North America, LLC	LTP320	1,055,056	4/10/2021	3/31/2024	12,661	-	$0.55
Enbridge Gas Inc formerly known as Enbridge Gas Distribution	Formerly LST087	5,000,000	3/31/2017	3/31/2022	60,000	37,500	$0.90
Enbridge Gas Inc formerly known as Enbridge Gas Distribution	Formerly LST106	3,000,000	4/1/2018	3/31/2023	36,000	22,500	$0.80
Enbridge Gas Inc formerly known as Enbridge Gas Distribution	Formerly LST111	3,000,000	4/1/2019	3/31/2024	36,000	22,500	$0.82
Enbridge Gas Inc formerly known as Enbridge Gas Distribution	Formerly LST117	4,000,000	4/1/2020	3/31/2025	48,000	30,000	$0.90
Enbridge Gas Inc formerly known as Enbridge Gas Distribution	Formerly LST118	1,000,000	4/1/2020	3/31/2024	12,000	7,500	$0.92
Energir, L.P. by its General Partner Energir Inc	LST114	7,725,000	4/1/2019	3/31/2022	92,700	115,875	$0.85
Energir, L.P. by its General Partner Energir Inc	LST116	2,125,000	4/1/2020	3/31/2023	25,500	31,875	$0.93
Energir, L.P. by its General Partner Energir Inc	LST133	1,681,500	4/1/2021	3/31/2024	20,178	25,223	$0.82
ENGIE Energy Marketing NA, Inc.	LTP285	327,067	4/1/2020	3/31/2022	3,925	-	$0.76
EPCOR Natural Gas Limited Partnership	LST115	100,000	5/15/2020	3/31/2030	1,200	750	$0.85
Exelon Generation Company, LLC	LTP277	1,055,056	4/1/2020	3/31/2022	12,661	-	$0.74
Exelon Generation Company, LLC	LTP287	1,055,056	5/1/2020	4/30/2022	12,661	-	$0.95
Exelon Generation Company, LLC	LTP289	1,055,056	4/1/2021	3/31/2023	12,661	-	$0.81
Freepoint Commodities LLC	LTP264	1,055,056	4/1/2020	3/31/2022	12,661	-	$0.73
Greenfield Energy Centre LP	HDS013	211,011	11/1/2018	########	42,202	42,202	$9.02
Greenfield South Power Corporation	HDS012	162,400	9/1/2017	2/28/2037	16,248	16,248	$2.96
Hartree Partners, LP	LTP294	3,165,168	4/1/2021	3/31/2024	37,982	-	$0.67
J. Aron & Company	LST099	1,055,056	9/1/2017	3/31/2023	18,991	15,826	$0.59
J. Aron & Company	LTP212	1,055,056	4/1/2018	3/31/2022	12,661	-	$0.62
J. Aron & Company	LTP238	1,582,584	4/1/2019	3/31/2023	18,991	-	$0.62
J. Aron & Company	LTP249	2,110,112	5/8/2019	3/31/2023	25,321	-	$0.65
J. Aron & Company	LTP297	1,055,056	3/31/2021	3/31/2024	12,661	-	$0.60
J. Aron & Company	LTP304	1,055,056	4/1/2021	3/31/2024	12,661	-	$0.56
Koch Canada Energy Services, LP	HUB584PS0012	527,528	6/18/2021	3/31/2022	6,330	-	$0.61
Koch Canada Energy Services, LP	LTP240	2,110,112	1/1/2019	3/31/2022	25,321	-	$0.66
Koch Canada Energy Services, LP	LTP278	1,055,056	4/1/2020	3/31/2022	12,661	-	$0.70
Koch Canada Energy Services, LP	LTP308	2,110,112	4/1/2021	3/31/2024	25,321	-	$0.55
Mercuria Commodities Canada Corporation	HUB336PS0001	1,055,056	4/1/2021	3/31/2022	12,661	-	$0.39
NJR Energy Services Company	LTP161	2,110,112	3/31/2017	3/31/2023	25,321	-	$0.62
NJR Energy Services Company	LTP186	1,055,056	4/1/2018	3/31/2023	12,661	-	$0.66
Portlands Energy Centre L.P Napanee	HDS017	500,000	4/29/2020	3/31/2033	126,000	126,000	$13.06
Portlands Energy Centre L.P. by its General Partner, Portlands	HDS016	500,000	4/1/2019	4/21/2029	40,000	40,000	$4.04
Powerex Corp.	LTP239	1,055,056	3/31/2019	3/31/2022	12,661	-	$0.64
Powerex Corp.	LTP244	1,055,056	4/1/2019	3/31/2022	12,661	-	$0.62
Powerex Corp.	LTP260	1,055,056	4/1/2020	3/31/2023	12,661	-	$0.68
Powerex Corp.	LTP279	1,055,056	4/1/2020	3/31/2023	12,661	-	$0.71
Powerex Corp.	LTP303	1,055,056	4/1/2021	3/31/2024	12,661	-	$0.59
Powerex Corp.	LTP311	2,110,112	4/1/2021	3/31/2024	25,321	-	$0.56
Repsol Oil & Gas Canada Inc. dba Repsol Energy Canada	LTP270	1,055,056	3/31/2020	3/31/2022	12,661	-	$0.76
Repsol Oil & Gas Canada Inc. dba Repsol Energy Canada	LTP281	1,055,056	4/1/2020	3/31/2022	12,661	-	$0.82
Repsol Oil & Gas Canada Inc. dba Repsol Energy Canada	LTP288	1,055,056	5/1/2020	3/31/2022	12,661	-	$0.90
Repsol Oil & Gas Canada Inc. dba Repsol Energy Canada	LTP292	2,110,112	4/1/2021	3/31/2023	25,321	-	$0.66
Repsol Oil & Gas Canada Inc. dba Repsol Energy Canada	LTP317	1,055,056	3/19/2021	3/31/2023	12,661	-	$0.55
Sequent Energy Canada Corp.	LTP315	3,165,168	4/1/2021	3/31/2024	37,982	-	$0.55
Shell Energy North America (Canada) Inc.	LTP183	6,330,336	4/1/2017	3/31/2022	75,964	126,607	$0.76
Spotlight Energy, LLC	LTP314	527,528	3/31/2021	3/31/2024	6,330	-	$0.55
Suncor Energy Marketing Inc.	LTP261	1,055,056	4/1/2020	3/31/2022	12,661	-	$0.66
Suncor Energy Marketing Inc.	LTP272	1,055,056	4/1/2020	3/31/2022	12,661	-	$0.68
Tenaska Marketing Canada - a division of TMV Corp.	LTP228	1,055,056	4/1/2019	3/31/2022	12,661	-	$0.66
Tenaska Marketing Canada - a division of TMV Corp.	LTP233	3,165,168	4/1/2019	3/31/2022	37,982	-	$0.60
Tenaska Marketing Canada - a division of TMV Corp.	LTP255	3,165,168	4/1/2020	3/31/2023	37,982	-	$0.66
Tenaska Marketing Canada - a division of TMV Corp.	LTP293	1,055,056	8/12/2020	3/31/2022	12,661	35,169	$0.83
Thorold CoGen L.P. by its General Partner Northland Power Th	HDS014	170,000	4/1/2019	3/31/2030	44,000	44,000	$10.76
Tidal Energy Marketing Inc.	LST104	844,045	9/1/2017	3/31/2022	10,129	6,330	$0.64
Tidal Energy Marketing Inc.	LTP242	1,582,584	4/1/2019	3/31/2022	18,991	-	$0.62
Tidal Energy Marketing Inc.	LTP266	1,055,056	4/1/2020	3/31/2022	12,661	-	$0.67
Tidal Energy Marketing Inc.	LTP273	1,055,056	4/1/2020	3/31/2022	12,661	-	$0.72
Tidal Energy Marketing Inc.	LTP286	1,055,056	3/13/2020	3/31/2022	12,661	-	$0.71
Tourmaline Oil Corp.	LTP258	1,055,056	4/1/2020	3/31/2022	12,661	-	$0.66
Twin Eagle Resource Management Canada, LLC	LTP232	1,055,056	4/30/2019	4/30/2022	12,661	-	$0.59
Vitol Inc.	LTP257	1,055,056	4/1/2020	3/31/2022	12,661	-	$0.66
Vitol Inc.	LTP306	2,110,112	4/1/2021	3/31/2024	25,321	-	$0.55

Appendix B: ICF's Gas Market Model (GMM)

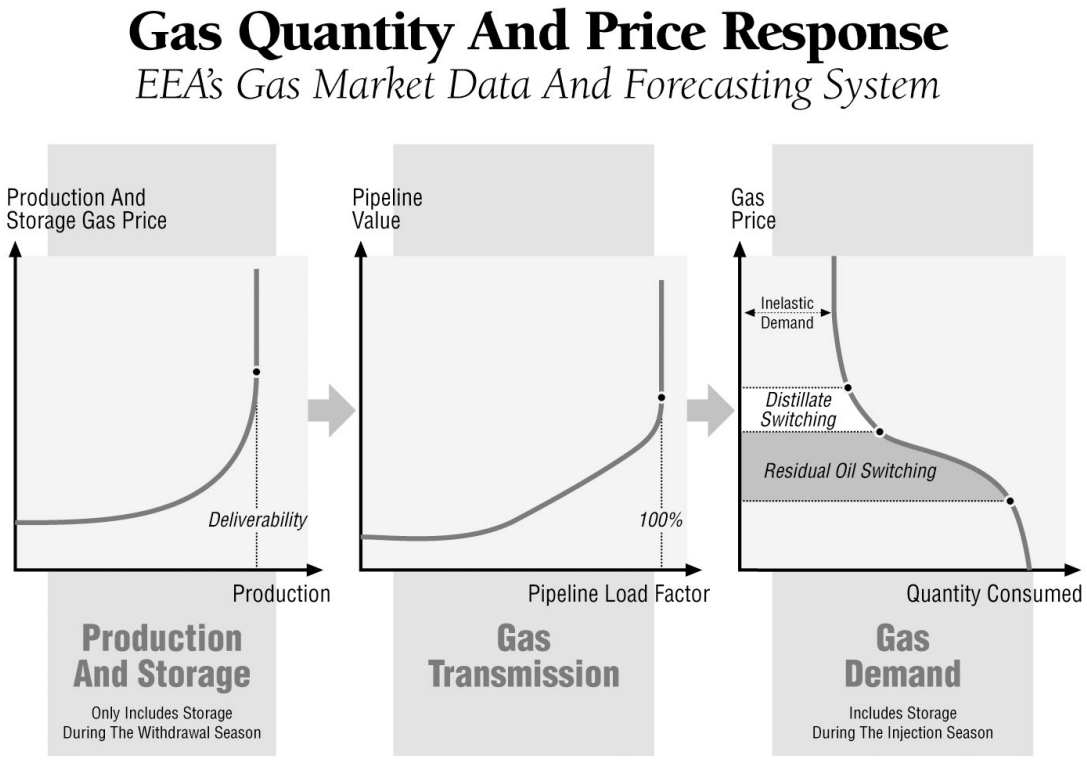
ICF's Gas Market Model (GMM) is an internationally recognized modeling and market analysis system for the North American gas market. The GMM was developed in the mid-1990s to provide forecasts of the U.S. and Canada natural gas market under different assumptions. In its infancy, the model was used to simulate changes in the gas market that occur when major new sources of gas supply are delivered into the marketplace. Subsequently, GMM has been used to complete strategic planning studies for many private sector companies. The different studies include:

- Analyses of different pipeline expansions
- Measuring the impact of gas-fired power generation growth
- Assessing the impact of low and high gas supply
- Assessing the impact of different regulatory environments

In addition to its use for strategic planning studies, the model has been widely used by a number of institutional clients and advisory councils, including Interstate Natural Gas Association of America (INGAA), which has relied on the GMM for multiple studies over the past ten years. The model was also the primary tool used to complete the widely referenced study on the North American Gas market for the National Petroleum Council in 2003, and the 2010 Natural Gas Market Review for the Ontario Energy Board.

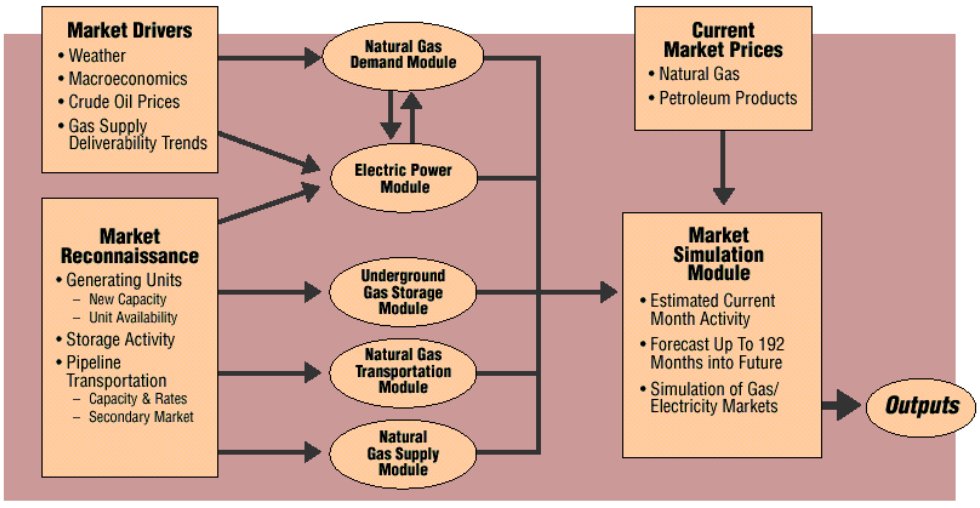
GMM is a full supply/demand equilibrium model of the North American gas market. The model solves for monthly natural gas prices throughout North America, given different supply/demand conditions, the assumptions for which are specified by scenario. Overall, the model solves for monthly market clearing prices by considering the interaction between supply and demand curves at each of the model's nodes. On the supply-side of the equation, prices are determined by production and storage price curves that reflect prices as a function of production and storage utilization (Exhibit C-1) Prices are also influenced by "pipeline discount" curves, which reflect the change in basis or the marginal value of gas transmission as a function of load factor. On the demand-side of the equation, prices are represented by a curve that captures the fuel-switching behavior of end-users at different price levels. The model balances supply and demand at all nodes in the model at the market clearing prices determined by the shape of the supply and curves. Unlike other commercially available models for the gas industry, ICF does significant backcasting (calibration) of the model's curves and relationships on a monthly basis to make sure that the model reliably reflects historical gas market behavior, instilling confidence in the projected results.

Exhibit B-1 ICF's Gas Market Data and Forecasting System



There are nine different components of GMM, as shown in Exhibit C-2. The user specifies input for the model in the "drivers" spreadsheet. The user provides assumptions for weather, economic growth, oil prices, and gas supply deliverability, among other variables. ICF's market reconnaissance keeps the model up to date with generating capacity, storage and pipeline expansions, and the impact of regulatory changes in gas transmission. This is important to maintaining model credibility and confidence of results.

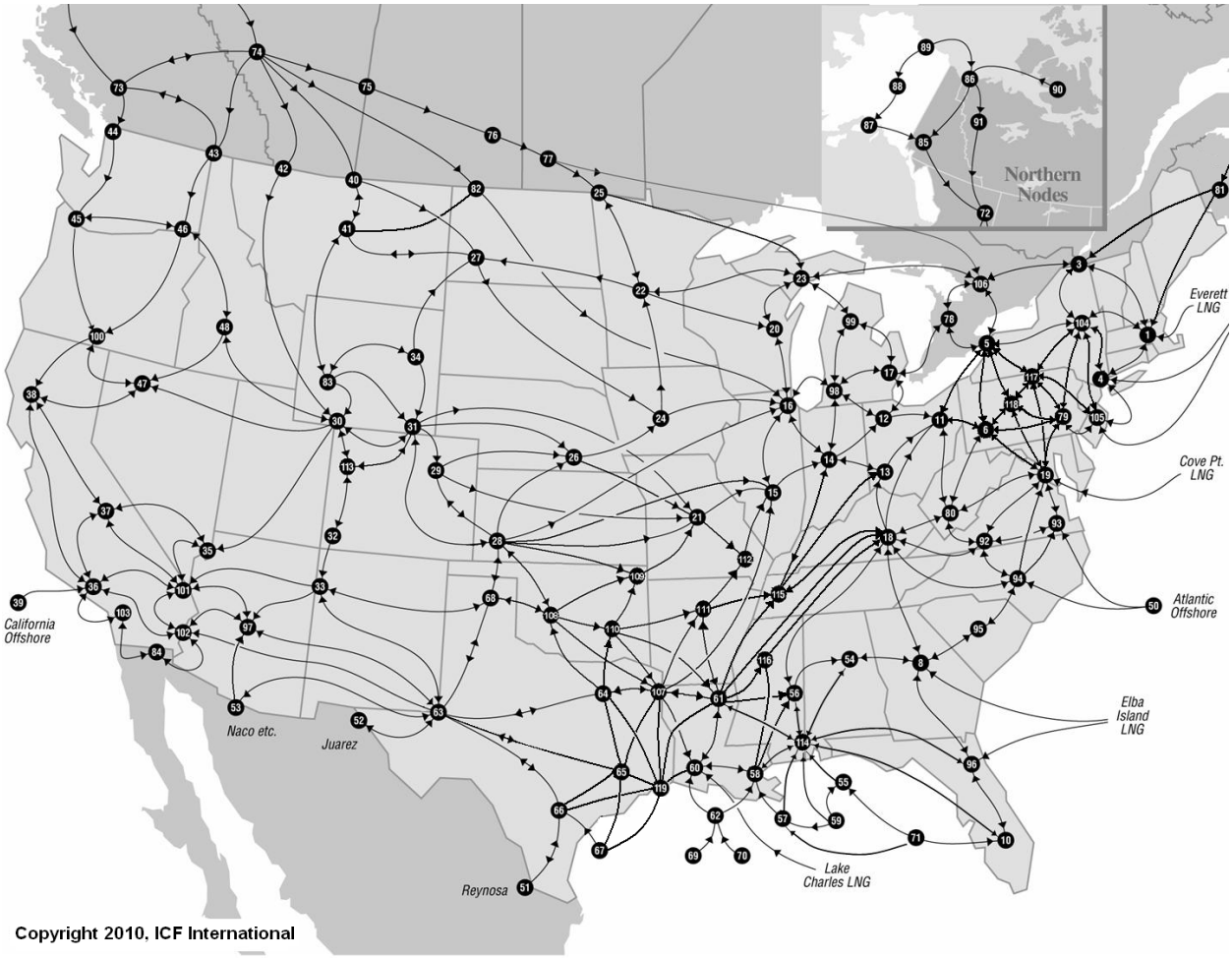
Exhibit B-2 GMM Components



The first model routine solves for gas demand across different sectors, given economic growth, weather, and the level of price competition between gas and oil. The second model routine solves the power

generation dispatch on a regional basis to determine the amount of gas used in power generation, which is allocated along with end-use gas demand to model nodes. The model nodes are tied together by a series of network links in the gas transportation module. The structure of the transmission network is shown in Exhibit C-3. The gas supply component of the model solves for node-level natural gas deliverability or supply capability, including LNG import and export levels. The last routine in the model solves for gas storage injections and withdrawals at different gas prices. The components of supply (i.e., gas deliverability, storage withdrawals, supplemental gas, LNG imports, and Mexican imports) are balanced against demand (i.e., end-use demand, power generation gas demand, LNG exports, and Mexican exports) at each of the nodes and gas prices are solved for in the market simulation module.

Exhibit B-3 GMM Transmission Network



Appendix C: ICF's Gas Storage Valuation Model (GSVM)

ICF developed the Gas Storage Valuation Model (GSVM) to assess the value of natural gas storage and to optimize the amount of natural gas storage in a utility's gas supply portfolio. The model is based on a daily value optimization model based on daily forecast of natural gas prices and demand. The long-term price and demand forecast is based on the monthly gas prices projected by the GMM. Price volatility used to generate future daily gas price forecasts from GMM monthly prices is estimated using a modified Black-Scholes approach. The higher the price volatility, the higher potential value of storage. The model evaluates storage value from the perspective of both a risk-averse customer focusing primarily on seasonal value of natural gas storage as well as a risk tolerant customer willing to undertake the risk associated with natural gas price arbitrage to maximize storage value.

The model takes into account all gas supply options available to the client. These can include pipeline gas bought on a full or interruptible transportation basis, or gas from storage. For pipeline gas, common parameters include pipeline costs (reservation, commodity, and fuel costs) as well as costs of the gas. Gas can be purchased on a daily basis or a monthly average basis. When storage is used, pipeline gas is injected into storage and withdrawn at different times of the year to take advantage of gas price fluctuations and to ensure that demand requirements are satisfied. Parameters considered include storage characteristics (e.g., storage type, minimum inventory, withdrawal, and injection limits, etc.), injection, withdrawal, and reservation fees, and inventory holding costs.

Demand is exogenous to GSVM and typically specified by the client. ICF looks at different drivers of demand such as base load, average daily demand, design day and temperature to create a daily demand forecast. For a utility client, the sum of pipeline purchases and storage withdrawals minus injections in a day equals the forecasted demand on that day. For a more risk tolerant customer who might use gas storage for purely arbitraging purpose, demand does not enter the model, i.e., daily storage withdrawals and injections are only subject withdrawal and injection limits and gas price fluctuations.

The model includes an explicit representation of storage injection and withdrawal decisions modeled on a daily basis to determine the full optimized value of natural gas, rather than the more typical approach based on the use of implied options values. The model also solves for the daily pipeline purchases, pipeline, and storage capacities. Various constraints are set up within GVSM to make sure the solutions reflect the demand profile of the client as well as future weather.

The primary drivers of storage value include the projected seasonal value of natural gas, projected volatility of daily natural gas prices, and the configuration of the storage field, including space, deliverability, fuel costs and inventory holding costs (including the time value of money). The optimized storage values represent the theoretical "maximum" value of storage, which is discounted to reflect observed storage valuation practices by different types of companies.

The deliverability of the storage field has a fundamental impact on the estimated value of the storage field, with higher deliverability substantially increasing the value of storage used for arbitrage.

PROJECT COSTS AND ECONOMICS

1. The purpose of this section of evidence is to provide an overview of the costs of the Project. The total estimated cost of the Project is $250.7 million as shown in Table 1 below.

2. This Exhibit of evidence is organized as follows:
   A. Project Costs
   B. Project Economics

A. Project Costs

3. Project costs set out in Table 1 include: (i) materials; (ii) construction and labour; (iii) environmental protection measures; (iv) land acquisitions; (v) contingencies; (vi) interest during construction; and (vii) indirect overheads and loadings. Excluding indirect overheads and loadings, the total estimated cost of the Project is $206.4 million.

Table 1: Estimated Project Costs

Item #	Description	Pipeline Costs	Ancillary Costs	Total Costs
1.0	Materials	$11,800,354	$36,643,592	$48,443,946
2.0	Construction & Labour	$51,310,846	$28,993,020	$80,303,866
3.0	External Permitting & Lands	$15,322,222	$0	$15,322,222
4.0	Outside Services	$19,230,385	$15,702,325	$34,932,710
5.0	Direct Overheads	$1,295,000	$0	$1,295,000
6.0	Contingency	$13,180,351	$10,816,348	$23,996,699
7.0	IDC	$2,093,000	$0	2,093,000
8.0	**Project Cost**	**$114,232,158**	**$92,155,285**	**$206,387,443**
9.0	Indirect Overheads & Loadings	$26,277,051	$18,085,209	44,362,260
10.0	**Total Project Costs**	**$140,509,209**	**$110,240,494**	**$250,749,703**

NOTE:
The total costs set out in Table 1 include abandonment of the existing seven CCS compressor units K701-K703 and K705-K708 amounting to $14.5 million.

4. The cost estimate set out in Table 1, includes a 13.6% contingency applied to all

direct capital costs to reflect the preliminary design stage of the Project. This contingency amount has been calculated based on the risk profile of the Project, and is consistent with contingency amounts calculated for similar projects completed by Enbridge Gas and approved by the OEB.

5. The cost estimate set out in Table 1 is a Class 4 estimate following the Company's Cost Estimating and Management Standard. It is built using contractor/third party estimates, material and service estimates provided by industry, and actual costs up to November 1, 2021, based on preliminary (early) engineering design.

6. The cost estimate set out in Table 1 includes an estimate for land acquisition and temporary working space, retirement and abandonment of the existing seven (7) CCS compressor units, and ancillary facilities (including connection of the proposed pipeline to the Dawn Hub).

B. Project Economics

7. A Discounted Cash Flow report has not been completed as the Project is driven by the need to address system obsolescence and reliability and employee safety concerns as discussed in Exhibit B. The Project will create design day storage capacity equivalent to the capacity lost due to the retirement and abandonment of the existing seven (7) CCS compressor units. Importantly, no material incremental storage capacity (space, deliverability or injections) will be created by the Project.

ENGINEERING AND CONSTRUCTION

1. The purpose of this section of evidence is to provide an overview of the proposed Project facilities including their schedule, design, and construction.

2. This Exhibit of evidence is organized as follows:
   A. Proposed Facilities
   B. Project Schedule
   C. Design and Pipeline Specifications
   D. Pipeline Construction

A. Proposed Facilities

3. Enbridge Gas is proposing to construct approximately 20 km of NPS 36 pipeline from the Dawn Operations Centre in the Township of Dawn Euphemia to the Corunna Compressor Station in St. Clair Township.

4. Within the Dawn Operations Centre the Tecumseh 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. The new NPS 36 pipeline will be tied into the Dawn yard with connectivity to allow operational flexibility with compression and transmission sendout.

5. Work within the CCS will involve decommissioning 7 existing compressors and connection of the new NPS 36 pipeline to CCS facilities to allow compression, injection and withdrawal from underground storage.

B. Project Schedule

6. The overall schedule for the Project, including construction, is set out at Attachment 1 to this Exhibit.

7. Pipeline materials will need to be ordered in 2022 to facilitate an in-service date of November 1, 2023. Enbridge Gas anticipates no issues obtaining material for the Project within the proposed timelines. Enbridge Gas also anticipates no issues in obtaining a contractor to complete construction.

8. Construction of the pipeline is expected to commence by July/August of 2023. The construction schedule takes advantage of drier summer months thereby minimizing the impact of construction on agricultural lands and other features, such as watercourses. The planned Project in-service date is November 1, 2023.

C. Design and Pipeline Specifications

9. All design, installation and testing of the proposed pipeline will be in accordance with the specifications outlined in Enbridge Gas's Construction and Maintenance Manual ("Specifications") and with the requirements of *Ontario Regulation 210/01 Oil and Gas Pipeline Systems* under the *Technical Standards and Safety Act, 2000*.

10. The design meets or exceeds the requirements of *CSA Z662 Standard for Oil and Gas Pipeline Systems (latest edition)* in accordance with the Code Adoption document under the Ontario Regulations.

11. The Project is within Class 1 and 2 locations. Considering future potential development along the route, the Project is designed to meet Class 2 location requirements.

12. The proposed NPS 36 pipeline will have an outside diameter of 914 mm, a minimum wall thickness of 12.7 mm, Category II notch toughness at design temperature of M5C and minimum specified yield strength of 483 MPa. Maximum Operating Pressure ("MOP") of the pipeline will be 9,308 kPa. The pipe will be manufactured to *CSA Z245.1 Steel Line pipe Standard for Pipeline Systems and Materials* (latest edition). Table 1 below illustrates minimum design and pipe parameters.

Table 1: Minimum Pipeline Design Specifications

NPS 36 (914 mm)	**Class 2 General Location**	**Class 2 Road Location**
Location Factor	0.9	0.625
Design Factor	0.8	0.8
Maximum Operating Pressure (MOP)	9308 kPa	9308 kPa
Mainline Test Medium	Water	Water
Mainline Minimum Test Pressure	MOP x 1.25 (11,635 kPa)	MOP x 1.25 (11,635 kPa)
Grade (minimum)	483 MPa	483 MPa
Wall Thickness (minimum)	12.7 mm	17.7 mm
%SMYS	69%	50%
Category	II	II

13. The minimum depth of cover specified is 1.0 m from top of pipeline in general locations and 1.2 m under roads. Additional depth of cover will be provided to accommodate planned or existing underground facilities, or in specific areas in compliance with applicable regulated standards. In agricultural areas, the minimum depth of cover will be 1.2 m.

14. Modifications to existing stations will include the installation of launcher/receiver provisions for the new NPS 36 pipeline and connection of the new pipeline to the Dawn Operations Centre and CCS.

D. Pipeline Construction

15. This section of evidence describes the General Techniques and Methods of Construction that Enbridge Gas will employ for the construction of the Project.

16. Enbridge Gas will construct the Project using qualified construction contractors and Enbridge Gas employees who will follow approved construction Specifications and any site-specific adjustments to the same made to reflect conditions for the Project as per the findings in the ER discussed in Exhibit F. All construction, installation and testing of the Project will be witnessed and certified by a valid Gas Pipeline Inspection Certificate Holder or Professional Engineer.

17. The method of construction will be a combination of open trench and trenchless technology. Restoration and monitoring will be conducted through 2024 to ensure successful environmental mitigation for the Project.

18. Pipeline construction is divided into several crews that create a mobile assembly line. Each crew performs a different function, with a finished product left behind when the last crew has completed its work.

19. Contractors are required to erect safety barricades, fences, signs or flashers, or to use flag persons as may be appropriate, around any excavation across or along roads.

20. Construction of the pipeline generally includes the activities summarized at Exhibit E, Tab 2, Schedule 1.

21. Enbridge Gas will construct the proposed pipeline in compliance with engineering design, its current construction procedures and specifications, environmental

mitigation identified in the ER, permit conditions and commitments to regulators and landowners. Enbridge Gas continuously updates and refines its construction procedures and specifications and complies with environmental mitigation recommended to minimize potential impacts to the environment .

22. An Enbridge Gas Lands Agent will contact each directly affected landowner along the route prior to construction to obtain site specific requirements such as livestock fencing and access points. This information is included in the construction contract so that the pipeline contractor is contractually obligated to fulfill all commitments made to the landowner.

23. As part of the construction plan, each landowner with agricultural land directly impacted by the Project will be consulted to understand the impact to field tiling. This could result in the need to install tiling prior to construction (pre-construction tiling) to ensure field drainage systems and farm operations are not disrupted during construction. Enbridge Gas retains a qualified drainage consultant to determine if a property that contains a field drainage system could benefit from pre-construction tiling. The Enbridge Gas drainage consultant will contact landowners to discuss their tile needs. Landowner approval is required for tiling work conducted outside of the easement. The drainage consultant will prepare a tiling plan and provide a copy of the plan to both Enbridge Gas and the landowner.

24. All necessary permits, approvals and authorizations will be obtained by Enbridge Gas at the earliest appropriate opportunity. Enbridge Gas expects to receive all required approvals prior to commencing construction of the Project. Enbridge Gas will assign inspection staff to ensure that contractual obligations between Enbridge Gas and the pipeline contractor, provincial ministries, municipal government and landowners are complied with.

NPS-36 Dawn to Corunna Project Schedule

WBS / Task Name	2020	2021												2022												2023												2024											
	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
ENVIRONMENTAL																																															
Environmental Report																																															
Field surveys (species, arch, etc.)																																															
REGULATORY																																															
Prepare Evidances for OEB Filing																																															
OEB 'Leave to Construct' Application																																															
LAND & LAND RIGHTS																																															
NPS 36 Pipeline Easements / Land Expropriation																																															
ENGINEERING																																															
Pipeline Engineering Surveys																																															
Pipeline Engineering																																															
Procurement, Permits, and Construction																																															
Procurement																																															
Permits																																															
Construction																										Tree Clearing																		Clean up					
	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug	Sep	Oct	Nov	Dec
	2020	2021												2022												2023												2024											

GENERAL TECHNIQUES AND METHODS OF CONSTRUCTION

Locating Running Line –

1. The location where the pipeline is to be installed (the running line) is established initially. For pipelines within road allowances the adjacent property lines are identified and the running line is set at a specified distance from the property line. For pipelines located on private easement the easement is surveyed and the running line is set at the specified distance from the edge of the easement. The distance from the start of the pipeline (or other suitable point) is marked on the pipeline stakes and the drawings.

Clearing and Grading –

2. The right-of-way is prepared for the construction of the pipeline. When required, bushes, trees and crops are removed and the ground is leveled. When required, the topsoil is stripped and stored, and/or sod is lifted.

Stringing –

3. The joints of pipe are laid end-to-end along the right of way on supports that keep the pipe off the ground to prevent damage to the pipe coating.

Welding –

4. The pipe is welded/fused into manageable lengths. The welds in steel pipe are visually, radiographically or ultrasonically inspected and the welds are coated.

Installation –

5. Pipe may be installed using either the trench method or the trenchless method. All utilities that will be crossed or paralleled by the pipeline within the identified

construction area will be located by the appropriate utility owner prior to installing the pipeline. Prior to construction, all such utilities will be visually identified and located through non-mechanical excavation.

6. *Trench Method:* Trenching is done by using a trenching machine, backhoe or excavator depending upon the ground conditions. Provisions are made to allow residents access to their property, as required. All drainage tiles that are cut during the trench excavation are flagged to signify that a repair is required. All tiles are measured and recorded as to size, depth, type and quality and this information is kept on file.

7. For steel pipe the coating is then inspected and tested using a high voltage electrical conductance test as the pipe is lowered into the trench. All defects in the coating are repaired before the pipe is lowered in. Next, the trench is backfilled using suitable material such as sand or other approved material as per Enbridge Gas' Specifications. After the trench is backfilled, drainage tile is repaired as required.

8. *Rock Excavation:* Rock in solid beds or masses will be fractured and removed using either a Hoe Ram and/or an approved blasting method. Any blasting will be conducted in accordance with Enbridge Gas's construction procedures and the federal Explosives Act. The contractor shall obtain all necessary permits and shall comply with all legal requirements in connection with the use, storage and transportation of explosives as well as abiding by Enbridge Gas Specifications for rock excavation.

9. *Trenchless Method:* Trenchless methods are alternate methods used to install pipelines under railways, roads, sidewalks, trees and environmentally sensitive areas and water courses.

Tie-Ins –

10. The sections of pipelines that have been buried using either the trench or trenchless method are joined together (tied-in).

Cleaning and Testing –

11. To complete the construction, the pipeline is cleaned, hydrostatically tested in accordance with Enbridge Gas; Specifications, dewatered and placed into service. Testing will adhere to the requirements of CSA Z662 Oil and Gas Pipeline Systems Section 8 (current edition) at a minimum. Sources for pressure test water have not yet been determined. Any water taken from the environment for hydrostatic testing will be reviewed as part of the "Permit to Take Water" issued by the Ministry of Environment Conservation and Parks and will comply with all conditions of the permit. After the test water is removed, the line will be dried and cleaned. A caliper tool will be run to check for construction-related dents or ovality. Cathodic protection will be applied to the completed pipeline.

Backfilling and Restoration –

The final construction activity is restoration of lands. The work area is graded to the original contour and topsoil returned on agricultural lands, sod is replaced in lawn areas and other grassed areas are re-seeded. Where required, concrete, asphalt and gravel are replaced and all areas affected by the construction of the pipeline are returned to as close to original condition as possible. As a guide to show the original condition of the area, photos and/or a video will be taken before any work commences. When the clean-up is completed, the approval of landowners or appropriate government authority is obtained.

ENVIRONMENTAL MATTERS

1. The purpose of this section of evidence is to provide an overview of the Environmental Report ("ER") completed for the Project and to provide specific details on certain aspects of the ER.

2. This Exhibit of evidence is organized as follows:
   A. ER Background
   B. Species at Risk
   C. Archaeology
   D. Built Heritage Resources and Cultural Heritage Landscapes
   E. Wetlands
   F. Watercourses
   G. Tree Removal
   H. Socio-Economic Features

A. ER Background

3. Enbridge Gas retained Stantec Consulting Limited ("Stantec") to undertake a route evaluation and environmental and socio-economic impact study, which included a cumulative effects assessment, to select the preferred route ("PR") for the Project. As part of the development of the study, Enbridge Gas and Stantec implemented a consultation program to receive input from interested and potentially affected parties, including indigenous communities. The consultation program input was evaluated and integrated into the study. Mitigation measures designed to minimize environmental and community impacts resulting from construction of the Project were also developed as part of the study. The results of the study are documented in the ER. Due to its size, the ER is not included in the electronic filing of this Application. However, it is available on the Project webpage on Enbridge Gas's

website.[1] Enbridge Gas has included a cover sheet for the ER within its Application at Attachment 1 of this Exhibit.

4. The objective of the ER is to outline various environmental mitigation and protection measures for the construction and operation of the Project while meeting the intent of the OEB's Guidelines. To meet this objective the ER was prepared to:
   - Identify a PR that minimizes potential environmental impacts;
   - Complete a detailed review of environmental features along the PR and assess the potential environmental impacts of the Project on these features;
   - Establish mitigation and protective measures that may be used to minimize or eliminate potential environmental impacts of the Project;
   - Develop a consultation program to receive input from interested and potentially affected parties; and
   - Identify any necessary supplemental studies, monitoring, and contingency plans.

5. To inform and solicit input from landowners, tenants, and the general public with respect to the Project, virtual open house information sessions were held as follows:
   - May 3, 2021 through May 17, 2021; and
   - July 19, 2021 through Aug 2, 2021.

   The purpose of the information sessions was to provide the general public an opportunity to: (i) view specifics of the Project; and (ii) ask questions and comment on the Project, the ER and the overall planning process. Notification of the information sessions was completed through newspapers, letters, e-mails, and social media postings.

[1] https://www.enbridgegas.com/about-enbridge-gas/projects/dawn-corunna-project

6. The ER was forwarded to the Ontario Pipeline Coordination Committee ("OPCC") on September 21, 2021 for review. Copies of the ER were also sent to all affected municipalities, conservation authorities, Kettle and Stony Point First Nation, Aamjiwnaang First Nation, Walpole Island First Nation, Chippewas of the Thames, and the Oneida Nation of the Thames.

7. A summary of the comments from agencies, indigenous communities, and other interested parties together with the Enbridge Gas responses can be found at Attachment 2 of this Exhibit. Enbridge Gas is also in receipt of various comments regarding the ER from Aamjiwnaang First Nation and Walpole Island First Nation. A summary of the comments together with Enbridge Gas's and Stantec's responses is set out at Attachments 3 and 4 of this Exhibit, respectively.

8. Enbridge Gas will comply with all mitigation measures recommended in the ER, including the development of an Environmental Protection Plan ("EPP") prior to construction start that incorporates recommended mitigation measures contained within the ER and those recommended by permitting agencies. Mitigation measures will be communicated to the construction contractor prior to the commencement of construction of the Project and a qualified Environmental Inspector or suitable representative will be available to assist the Project Manager in seeing that mitigation measures identified in the EPP as well as any additional permitting requirements and/or conditions of approval are adhered to and that commitments made to the public, landowners and agencies are honoured. The Environmental Inspector and Project Manager will also mitigate any unforeseen environmental circumstances that arise before, during, and after construction.

9. Enbridge Gas believes that, by following its standard construction practices and adhering to the recommendations and mitigation measures identified in the ER and

subsequent EPP, the construction and operation of the Project will have negligible impacts on the environment. The cumulative effects assessment completed as part of the ER indicates that no significant cumulative effects are anticipated from the development of the Project.

10. Some of the more pertinent aspects of the ER are explained in further detail below. Generally, Enbridge Gas supports Stantec's findings.

B. Species at Risk

11. A number of species at risk potentially inhabit lands in the vicinity of the Project. Enbridge Gas has and will continue to assess the pipeline route for species at risk and will work closely with the Ministry of Environment, Conservation and Parks ("MECP") and the Department of Fisheries and Oceans Canada ("DFO") to develop appropriate mitigation measures to protect species at risk and obtain all required permits and approvals.

C. Archaeology

12. Archaeological assessments ("AA") are being completed by Stantec along the PR. 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. The Stage 1 AA is included at Appendix D of the ER. A Stage 2 AA is required based on the findings of the Stage 1 AA.

13. Enbridge Gas proposes to complete the majority of the AA's during the 2021/2022 field seasons. Indigenous communities are invited to participate in the AAs. Upon completion, the AAs will be submitted to the MHSTCI for review and entered onto the Ontario Public Register.

D. Built Heritage Resources and Cultural Heritage Landscapes

14. The MHSTCI *Criteria for Evaluating Potential for Built Heritage Resources and Cultural Heritage Landscapes* for the Project has been completed and submitted to the MHSTCI. Per direction from MHSTCI, a Cultural Heritage Assessment Report will be completed and submitted to the MHSTCI for review and comment prior to commencement of construction.

E. Wetlands

15. The Project route does not cross any provincially evaluated wetlands. Should any local or unevaluated wetlands be identified, the ER provides a number of measures designed to reduce the impact of constructing the proposed pipeline through such areas. The ability to overlap the construction work area with existing pipeline easements through wetland areas will reduce the impacts to the same. Enbridge Gas will continue to assess the Project for potential environmentally sensitive areas, including wetlands, and will develop mitigation measures in consultation with the Ministry of Norther Development, Mining, Natural Resources and Forestry ("MNDMNRF"), the St. Clair Region Conservation Authority ("SCRCA") and MECP as required.

F. Watercourses

16. The Project crosses a number of watercourses and drains. These crossings will be completed primarily using 'Dam and Pump' dry crossing methods, with one crossing location (Bear Creek) proposed to be completed using horizontal directional drill. Crossing methods will be reviewed and finalized as additional field surveys are completed and site-specific data become available. All permits required to complete the crossings will be obtained from the DFO, MECP and SCRCA prior to construction.

G. Tree Removal

17. For trees removed within the proposed easement and temporary working space, Enbridge Gas has a tree replacement program that consists of replanting at least twice the woodlot area cleared for construction. Coniferous and deciduous seedlings native to Ontario are planted within the region of the Project and maintained up to a period of five years or until the trees reach a free-to-grow status defined by a height of one metre and are free of adjacent brush competition. Replanting must be done in accordance with Enbridge Gas policies regarding tree planting so that the easement is left open for access to the pipeline and aerial patrol. Landowners are given first right of refusal for tree planting.

H. Socio-Economic Features

18. The Project is located in land almost exclusively designated as Agricultural Area, crosses one Hydro One transmission power line, one active natural gas storage pool and three county roads. Enbridge Gas has developed and will continue to develop appropriate mitigation measures to reduce potential negative impacts to these social-economic features.

ENVIRONMENTAL REPORT

Due to the size of the ER, a copy has been provided under separate cover. The ER can be found electronically by accessing the following link, then navigating to the "Regulatory Information" tab.

https://www.enbridgegas.com/about-enbridge-gas/projects/dawn-corunna-project

Comment Record	Stakeholder Group	Stakeholder Representative Name	Method of Communication	Date of Communication	Summary of Comment	Date of Response	Summary of Response
See Appendix B1 and B3 of the Environmental Report	All Ontario Pipeline Coordinating Committee (OPCC) Members		Letter via Email	September 21st, 2021	Letter provided via email noting the draft Environmental Report (ER) is ready for OPCC member review. A Temporary File Transfer (FTP) link provided that directed members to the ER and Appendices. Request for all comments and questions to be submitted to Zora Crnojacki by November 8th, 2021, for consolidation.	N/A	N/A
1	All OPCC Members		Email	November 2nd, 2021	Stantec sent an email reminder of the ER comment deadline (November 8th, 2021).	N/A	N/A
2	Technical Standards & Safety Authority (TSSA)	Kourosh Manouchehri Engineer, Fuels	Email	November 2nd, 2021	TSSA responded to the November 2nd, 2021, email reminder of the comment deadline stating they have not yet received an application to review the project. TSSA provided a link to the Application for Review of Pipeline Project submission form.	November 4th, 2021	Stantec responded noting that Enbridge had submitted the application at the end of August 2021 and attached the email correspondence from TSSA as a reference to this submission.
3	Ministry of Heritage, Sport, Tourism and Culture Industries (MHSTCI)	Joseph Harvey Heritage Planner	Letter via Email	November 4th, 2021	MHSTCI provided a letter summarizing the ministries comments on the Project: • Request to revise the title of section 4.5.9 of the ER from “Cultural Heritage Resources” to “Built Heritage Resources and Cultural Heritage Landscapes”. • MHSTCI recommends that a Stage 2 (and further stages of archaeological assessment, if recommended) be undertaken as early as possible during detailed design and prior to ground disturbance. • Request to undertake and submit a Cultural Heritage Report: Existing Conditions and Preliminary Impact Assessment to MHSTCI prior to project completion (before OEB approval).	November 12th, 2021	Thanked MHSTCI for their comments on the Project.
4	Ministry of Transportation (MTO)	Amanda Rodek Program Analyst	Email	November 5th, 2021	Noted that the Project and Study Area are outside of the MTO’s permit control area and therefore the MTO have no comments.	November 12th, 2021	Thanked MTO for their comments on the Project.

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1. Draft ER Section 2.5.1 (alternative route evaluation methodology	In describing the comparative evaluation of Alternative Route, section 2.5.1 of the draft ER lists categories of features that were assessed as part of the evaluation, AFN notes that while the potential for archaeological resources was included as a category of assessed features, Enbridge did not otherwise consider potential adverse impacts on Aboriginal and Treaty rights as a feature to assess.	Enbridge should revise its alternative route evaluation to include potential adverse impacts on Aboriginal and Treaty rights as a feature to address or revise the description of the route evaluation process in this section of the ER to describe how an understanding of potential adverse impacts on Aboriginal and Treaty rights informed the comparative evaluation.	The alternatives evaluation was completed in accordance with the OEB Environmental Guidelines using publicly available information. The preferred and alternative routes were all located in the Sombra Township Purchase (Treaty 7) and the Huron Tract Purchase (Treaty 29) and therefore the potential impacts to Aboriginal and Treaty rights were not anticipated to be different for the different route options. Though the engagement with Indigenous groups on the Project, Enbridge requested information on the Aboriginal and Treaty rights that might be affected by pipeline construction. No information was provided to Enbridge and therefore, there was no way to consider this into the route selections
2. Section 3.0	The Executive Summary and Introduction of the Draft ER indicate that it is meant to fulfill the intent and requirements of the OEB Environmental Guidelines. AFN notes that the OEB Environmental Guidelines Characterize Indigenous Consultation to include "discussing options to accommodate	The following amendments should be made to the section 3.3 of the ER: -A separate definition for consultation with Indigenous communities should be provided that is distinct from consultation with "affected parties" in general and reflects the procedural aspects of	We will use the language of 'rights holders' going forward.

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	communities in respect of adverse effects on Aboriginal and Treaty rights" (section 3.3). However, in the description of the objectives of consultation is described as "the process of identifying interested and potentially affected parties, and informing them about the Project, soliciting information about their values and local environmental and socio-economic circumstances, and receiving input into key Project decisions before those decisions are finalized." Further, in this section of the Draft ER, Indigenous communities are described as a stakeholders and rights holders represents an inherent lack of understanding of the distinct requirements of consultation and accommodation specific to Indigenous communities. The current definition of consultation describes an information sharing exercise which does not align with the requirements of the Duty to Consult and Accommodate.	the Crown's Duty to Consult and Accommodate that have been delegated to Enbridge; -The list of Objectives for the Consultation Program should be amended to include: (1) the assessment of the potential adverse effects of the Project on Aboriginal and Treaty rights, (2) Identifying options to avoid or mitigate potential adverse effects of the Project on Aboriginal and Treaty rights, (3) identify mutually agreed upon accommodation measures with Indigenous communities in respect of adverse effects on Aboriginal and treaty rights that cannot otherwise be avoided or mitigated; and -Indigenous communities should be described and listed distinctly as "rights holders" rather than stakeholders.	
3. Draft ER, Section 3.6 (Refinements Based on Input, p. 3.6	In the Procedural Consultation Appendix of the February 19, 2021 Letter of Delegation from Ministry of Energy provided as Appendix b-2 of the Draft ER, the Ministry of Energy requires that Enbridge describes	Section 3.6 of the ER should provide an itemized description of specific changes to the Project that have resulted from consultation with Indigenous communities. If insufficient information is available	Enbridge Gas met with AFN on three different occasions regarding the Project, as well as two Virtual Open Houses. During these meetings, AFN did not request that Enbridge Gas make any changes to

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	how comments or concerns raised by Indigenous communities during consultation were considered or addressed, and any changes to the Project as a result of consultation, including: • Changing the Project scope or design; • Changing the timing of proposed activities; • Minimizing or altering the site footprint or location of the proposed activity; and • Avoiding impacts to the Aboriginal interest. Section 3.6 of the Draft ER is intended to describe such refinements to the environmental study process as a result of the consultation program. However, currently the Draft ER only cites Enbridge's general commitment to ongoing consultation and a general statement that "input was reviewed and considered during the identification of potential impacts and determination of mitigation and protective measures" without providing any sufficient evidence that consultation has actually impacted the environmental study process in any specific or substantial way to date.	to provide such an itemized description, that is an indication to AFN that insufficient meaningful consultation has taken place to date and the ER should not be finalized until further consultation occurs.	the Project. If AFN has any Project specific information or concerns, Enbridge Gas will consider it to ensure any impacts can be avoided or mitigated, as appropriate. During Enbridge Gas' engagement with AFN, questions were asked about how the route was chosen, water crossings, vegetation replacement and if they would have the opportunity to review the environmental report. No Project specific concerns were raised.

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4. Draft ER, Section 4.0 (Impact Identification, Assessment and Mitigation, p. 4.1)	Section 4.2 of the Draft ER describes data sources that were used in identifying environmental and socio-economic features relevant to the assessment of the Project's impacts. AFN notes that a critical source of data not included in this description or considered in the assessment of impacts is Indigenous Traditional Knowledge about the natural environment, information provided by Indigenous communities about socio-economic conditions, or information provided by Indigenous communities about historical or contemporary land use and occupancy in the Study Area.	Consistent with the requirements of the Letter of Delegation from Ministry of Energy provided as Appendix B-2 of the ER, Enbridge is required to "gather information about how the Project may adversely affect Aboriginal or Treaty rights" and "bear the reasonable costs associated with the procedural aspects of consultation." AFN requires Enbridge provides capacity finding to support the completion of an Indigenous Knowledge. Land Use, Occupancy and Socio-Economic Study that will address these gaps in data utilized in the ER's description of environmental and socio-economic features and subsequent assessment of impacts.	Enbridge Gas offers capacity funding to all Indigenous communities to engage in meaningful consultation on projects. On April 13, 2021, Enbridge Gas notified AFN of the Project and offered capacity funding. In the presentation provided to AFN on May 18, 2021, Enbridge Gas once again offered capacity funding. On October 5, 2021, Enbridge Gas was asked by AFN to provide capacity funding for a third-party review of the Environmental Report and Enbridge Gas agreed to the quote provided. Enbridge Gas would be happy to discuss the completion of an Indigenous Knowledge, Land Use study with AFN.
5. Draft ER, Section 6.0 (Cumulative Effects Assessment, p. 6.1)	Section 4.3.14 of the OEB Environmental Guidelines sets out the approach to Cumulative Effects Assessment. The first step it identifies is to define appropriate Study Area boundaries, in which "it is critical to not restrict the study area to a proposed pipeline easement and temporary work areas."	A much larger spatial boundary should be utilized for the assessment of cumulative effects to capture the interactions of the Project with other existing and future projects in the region. Consistent with the requirements of the Letter of Delegation from Ministry of Energy provided as Appendix B-2 of the ER, Enbridge is required to "gather information	Enbridge Gas offers capacity funding to all Indigenous communities to engage in meaningful consultation on projects. On April 13, 2021, Enbridge Gas notified AFN of the Project and offered capacity funding. In the presentation provided to AFN on May 18, 2021, Enbridge Gas once again offered capacity funding. On October 5, 2021, Enbridge Gas was asked by AFN to provide capacity

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	Section 6.2 of the Draft ER indicates that an approximate 100 m spatial boundary around the proposed pipeline route was used as for the cumulative effects assessment. AFN notes that, aside from a general reference to "previous experience with pipeline construction" no further rationale is provided for the spatial boundary, nor is there any description of how consultation with Indigenous communities informed the spatial boundary used for cumulative effects assessment.	about how the Project may adversely affect Aboriginal or Treaty rights" and "bear the reasonable costs associated with the procedural aspects of consultation." AFN requires that Enbridge provides capacity funding to support the completion of an Indigenous Knowledge, Land Use, Occupancy and Socio-Economic Study that will inform more appropriate spatial boundaries for the assessment of cumulative effects.	funding for a third-party review of the Environmental Report and Enbridge Gas agreed to the quote provided. Enbridge Gas would be happy to discuss the completion of an Indigenous Knowledge, Land Use study with AFN.
6. Draft ER, Section 6.0 (Cumulative Effects Assessment, p. 6.1)	Section 4.3.14 of the OEB Environmental Guidelines describe the Cumulative Effects Assessment as the interaction of the impacts of the Project with the impacts of other *existing and future* projects. AFN notes that in the Project Inclusion List in Section 6.3 of the Draft ER, only future projects and construction activities are considered, and the impacts of existing projects and construction activities are considered, and the impacts of existing projects and activities are not considered. The context for the Project must be more fulsomely considered to include the previous impacts of all	The project inclusion list and analysis of cumulative effects should be revised to include consideration of a much more comprehensive list of existing projects and activities that the impacts of the Project will interact with, including but not limited to: • Agricultural land use and other land use changes that have resulted in the clearing and conversion of forests/woodlands, wetlands, tallgrass prairies, and other naturally vegetated areas; • Commercial, residential, and industrial development and	Enbridge Gas offers capacity funding to all Indigenous groups to engage in meaningful consultation on projects. On April 13, 2021, Enbridge Gas notified AFN of the Project and offered capacity funding. In the presentation provided to AFN on May 18, 2021, Enbridge Gas once again offered capacity funding. On October 5, 2021, Enbridge Gas was asked by AFN to provide capacity funding for a third-party review of the Environmental Review and Enbridge Gas agreed to the quote provided.

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	types of existing projects and activities.	municipal infrastructure (e.g., buildings, roads, transmission lines, etc.); • Projects contributing water quality impacts in the Study Area; and • Natural gas infrastructure Further, consistent with the requirements of the Letter of Delegation from Ministry of Energy provided as Appendix B-2 of the Draft ER, Enbridge is required to "gather information about how the Project may adversely affect Aboriginal or Treaty rights" and "bear the reasonable costs associated with the procedural aspects of consultation." AFN requires that Enbridge provides capacity funding to support the completion of an Indigenous Knowledge, Land Use, Occupancy and Socio-Economic Study that will further inform the identification of existing projects that should be considered in the cumulative effects assessment.	Enbridge Gas would be happy to discuss the completion of an Indigenous Knowledge, Land Use study with AFN. The cumulative effects assessment was completed in accordance with the OEB Environmental Guidelines. Enbridge Gas reviewed publicly available information on current and planned projects in the area, then considered the effects that are additive or interact with the effects that have already been identified as resulting from the pipeline construction. The cumulative effects assessment identified potential additive effects on soil, vegetation, wildlife and wildlife habitat, air quality and the acoustic environment. Enbridge Gas determined that, provided the mitigation and protective measures outlined in the ER are implemented and that concurrent projects implement similar mitigation and protective measures, potential cumulative effects are not anticipated to occur, or if they do occur they are not anticipated to be significant.
7. Draft ER, Section 1.2 (Environmental Study, p. 1.1)	Section 1.2.4 and 1.2.5 of the Draft ER describe the OEB Regulatory	In order to ensure that (1) mutually agreed upon terms for Enbridge to	Enbridge Gas would be happy to discuss the development of a

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	Processes and additional regulatory processes the Project will be subject to, noting that "this ER will serve to support these permit and approval applications and notifications."	fulfill the procedural aspects of the Duty to Consult and Accommodate have been delegated, are established, and are followed during the OEB Regulatory Process and additional regulatory processes described, and (2) this ER is appropriately applied during the OEB Regulatory Process and additional regulatory process described, AFN requests the development of a Consultation Agreement with Enbridge that will set out: • Regulatory processes and timelines; • Communication protocols; • Commitments to capacity funding to support AFN participation, • Avenues for the assessment of the potential adverse effects of the Project on Aboriginal and Treaty rights; • And a commitment to identifying meaningful terms of accommodation, including financial compensations, opportunities for training and education, employment, procurement, business development and community development	Consultation Protocol with AFN that sets out the process of consultation with the community.

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		(consistent with Enbridge's Indigenous Peoples Policy) prior to the commencement of construction activity.	
8. Draft ER, Section 4.1 (Study Area, p. 4.1)	The size and shape of the Study Area is not based on watershed or subwatershed divides, which influence the vulnerability of surface water, groundwater, aquatic life, and aquatic habitats to Project impacts. The Study Area intersects the St. Clair River Tributaries, Lower Bear Creek, Black Creek, and Lower North Sydenham subwatersheds. Impacts to surface water and groundwater cannot be properly assessed without considering the natural flow directions and divides of these resources. The true geographic extent and magnitude of Project impacts may extend and magnitude of Project impacts may extend beyond the Study Area, and these Project impacts can be better understood by considering watershed characteristics. In particular, monitoring, mitigation and contingency plans my need to be adjusted to adequately protect vulnerable water bodies,	8a. The ER should include outlining the subwatersheds that are intersected by the Study Area. 8b. Enbridge should update the ER to include information on all highly vulnerable aquifers (HVA), significant groundwater recharge areas, and watercourses that support fish and aquatic SAR within the subwatersheds that the Project intersects, including the St. Clair River Tributaries, Lower Bear Creek, Black Creek, and Lower North Sydenham subwatersheds. The Project should be reassessed for potential impacts to the environment based on these datasets, and the ER should be updated to reflect this new information. 8c. Enbridge should adjust monitoring, mitigation, and contingency plans to consider the impacts the Project may have on downstream catchments, SAR, and	Impacts are not anticipated beyond the Project footprint that would impact features at a watershed or subwatershed scale based on the mitigation measures recommended and the experience of Enbridge Gas and Stantec with pipeline construction. Therefore, watersheds or subwatersheds were not considered in the ER when determining the extent of the Study Area. Potential impacts on aquatics resources will be addressed through the permitting process.

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	groundwater zones, and Species at Risk (SAR) that are located in the subwatersheds downstream or downgradient of the proposed Project Study Area and are therefore not currently considered in the Draft ER.	downgradient aquifers (see Comment 15)	
9. Draft ER, Section 4.1 (Study Area, p. 4.1)	The Draft ER lacks surface water and groundwater baseline data. Baseline concentrations of contaminants that could potentially be released to the environment throughout Project activities are needed to adequately assess changes in water quality. Baseline water quantity data in watercourses and in sensitive aquifer areas are also important to understand how flows may be impacted by the Project. Understanding changes in surface and groundwater quality and quantity related to Project activities is extremely important to ensure that Aboriginal and Treaty Rights of AFN are protected.	9a. Enbridge should provide baseline surface water quality data, including dissolved oxygen, temperature, turbidity, suspended solids, pH, conductivity, hydrocarbons, and other contaminants related to potential spills and Project impacts, at all water crossings and at key locations within the Study Area (e.g., watercourses near trench dewatering and hydrostatic testing activities). Enbridge should also provide baseline hydrometric data for key watercourses that may be impacted by the Project. AFN should be engaged to determine the locations of key sampling points within the Study Area. The Proponent should provide baseline surface water quality and quantity data for a range of seasons. 9b. Enbridge should provide baseline groundwater quantity and quality data, including dissolved	Enbridge Gas is confident that further baseline data would not alter the recommendations of the Environmental Report.

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		oxygen, temperature, turbidity, suspended solids, pH, conductivity, hydrocarbons, and other contaminants related to potential spills and Project impacts. Baseline groundwater quantity and quality data should be reported for areas when Project activities may impact highly vulnerable aquifers (HVA), significant groundwater recharges areas, and where trench dewatering and hydrostatic testing activities will occur.	
10. Draft ER, Section 5.2 (Summary Table, p. 5.4-5.5)	The Draft ER reports the erosion control measures should include the installation of both temporary and permanent erosion and sediment control (ESC) structures and that these structures should be monitored throughout the construction and post-construction rehabilitation phases. However, no monitoring frequency or timing is provided, and the Draft ER does not specify when a permanent structure will be chosen over a temporary one. Given the likelihood that temporary ESC measures may fail during predictable periods of high precipitation (e.g., spring freshet), it will be important for the Proponent to commit to installing permanent erosion control structures prior to	10a. AFN prefers that the Proponent install permanent ESC structures whenever possible. The Proponent should update the Draft ER to indicate that at a minimum, permanent ESC structures will be installed at all locations where erosion and slumping has the potential to impact watercourses that contain aquatic SAR, highly vulnerable aquifers, or significant groundwater recharge areas. 10b. The Proponent should amend the ER to include ESC structure monitoring frequency and timing. ESC structures should be monitored at least three times annually (spring, summer, and fall) and as soon as possible after major	Permanent ESC measures are not required for the Project. Temporary ESC measures will be in place until vegetation can be reestablished and slopes are stabilized. Post construction monitoring of all watercourse crossings will occur the year following construction to confirm the restoration and stabilization were successful, any deficiencies identified will be addressed. Following the post construction monitoring the pipeline inspection occur as part of the Enbridge Gas operation and maintenance program summarized in Section 5.1.2 of the ER. In Enbridge Gas's view, this program in addition to any monitoring

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	the commencement of work in key locations, including near vulnerable water sources and SAR habitats. AFN requires that ESC structure monitoring is frequent enough and appropriately timed to prevent the detrimental effects of erosion and sedimentation to surface water, groundwater and SAR habitats in our Treaty Territory.	precipitation events, including the spring freshet and other major storms throughout the three monitoring seasons.	requirements included through the various permits and approvals, will be sufficient. Should AFN be interested Enbridge Gas will provide AFN with copies of any postconstruction monitoring reports generated as conditions of the environmental permits and approvals. Enbridge Gas would be happy to offer a tour of the post construction watercourse crossings to AFN.
11. Draft ER, Section 5.2 (Summary Table, p. 5.5)	Groundwater withdrawals for hydrostatic testing will not trigger a Permit To Take Water (PTTW) if the taking is less than 400,000 L/day. However, AFN is concerned that groundwater takings less than 400,00 L/day may still negatively impact groundwater supplies in our Treaty Territory. In particular, AFN is concerned that takings may impact the groundwater quantity available to contribute important baseflow to the rivers and tributaries in our Treaty Territory.	11a. AFN requests that the Proponent notify our Nation about water withdrawal details, regardless of the need to obtain permits and approvals, including the location, volume, flow rate, duration and timing of the withdrawal on the water resource. AFN request that the Proponent provide funding for AFN to conduct a review of the water withdrawal information associated with the Enbridge Dawn-Corunna Project's hydrostatic testing regardless of the need of permitting and approvals. 11b. The Proponent should update the Draft ER to indicate that groundwater withdrawal rates will	11a – If it is determined that a PTTW is required, Enbridge Gas will consult with AFN as required by the PTTW process. 11b and c – The potential impacts from dewatering and surface water takings will be evaluated once detailed design is complete.

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		not cause drawdown effects that will impact nearby gaining river and stream reaches. The Proponent should: • Indicate the distance from the groundwater withdrawal to the nearby watercourse(s); • Provide baseline hydrometric data for nearby watercourse(s); • Monitor surface water levels and discharge during groundwater withdrawals to ensure water takings do not negatively impact baseflow; and • Reduce or stop groundwater withdrawals if hydrometric monitoring data indicate that nearby watercourse(s) are being impacted by the taking (I.e., if instantaneous flow is reduced by more than 10%). 11c. The ER should also indicate that surface water takings will not exceed 10% of instantaneous flow, and that withdrawals will not be made from watercourses that provide important SAR habitats. If PTTW is triggered, AFN looks	

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		forward to reviewing the Proponent's PTTW application.	
12. Draft ER, Section 5.2 (Summary Table, p. 5.5-5.5)	The Draft ER states that energy dissipation techniques should be used to reduce erosion and scouring when water from hydrostatic testing and from trench dewatering is released to the environment. The Draft ER suggests that discharge should be monitored for erosion and flooding but does not specify monitoring frequency.	The Proponent should update the ER to include discharge monitoring frequency for erosion and flooding.	A full-time environmental inspector will be on-site during construction to monitor construction activities, which includes water pumping, and checking that the mitigation and protective measures are appropriate based on on-site conditions.
13. Draft ER, Section 5.2 (Summary Table, p. 5.5)	The Draft ER indicates that discharge water from hydrostatic testing or trench dewatering has the potential to release foreign aquatic organisms to drainage basins but does not indicate what measures will be put in place to prevent this from occurring. Additionally, the Draft ER mentions the potential use of additives in test water for hydrostatic testing but does not provide any details about what additives will be used at the site.	13a. The Proponent should update the ER to include preventive protection measurers that will be used to prevent the introduction of foreign aquatic species to the drainage basin receiving discharge from hydrostatic testing or trench dewatering. 13b. The ER should be updated to include more information about the use of additives for hydrostatic testing at the site.	Details of hydrostatic water taking, including water source will be established during detailed design and will include the consideration of these potential impacts. Should the water be municipally sourced a de-chlorination agent would be used to neutralize residual chlorine, no additional additives are planned at this time. Enbridge Gas collects water samples of hydrostatic test water and submits it for laboratory analysis throughout the hydrostatic testing process. Specifically, Enbridge Gas analyses the quality of the source water and the quality of the water after the hydrostatic test has been performed, but prior

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			to discharge. The discharge method is then determined based on the analytical results and with the oversight of a Qualified Person.
14. Draft ER, Section 5.2 (Summary Table, p. 5.13)	Flood events occurring during construction can increase the likelihood and impact of contaminant spills and other detrimental impacts to the environment and to sensitive SAR habitats. The Draft ER indicates that "the likelihood of a flooding event interfering with Project construction is reduced by construction occurring outside of the spring freshet." However, avoiding construction during the spring freshet is not explicitly recommended as a mitigation and protection measure. The Draft ER instead suggests that if flooding results in a need to change the construction schedule, affected landowners and regulatory agencies should be notified and construction should still continue in unaffected areas. This is a reactionary approach that could lead to unnecessary detrimental impacts to the environment and to AFN's Aboriginal and Treaty rights.	The ER should be updated to clearly state that construction will not take place during the spring freshet and that all erosion prevention measures associated with previously constructed Project components will be in place prior to the commencement of the freshet.	Construction scheduling is based on a variety of factors, however, Enbridge Gas does not anticipate construction in-water or near water during the spring freshet. However, should in-water or near water works be proposed appropriate sediment and erosion control measures will be in place.

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15. Draft ER, Section 5.2 (Summary Table, p 5.6); Draft ER, Section 7.0 (Monitoring and Contingency Plans, p. 7.1-7.4)	The Draft ER does not include plans for water quality or quantity monitoring. Instead, the Draft ER states that: • Water quality testing for hydrostatic and trench dewatering discharge being released directly to the environment should be "considered"; • Enbridge's onsite inspection team should "oversee all watercourse crossings" and confirm that work is conducted according to relevant permits and the mitigation strategies included in Table 5.1; and • Construction monitoring "may need to be undertaken" if SAR are identified during field investigations, and that the nature of this monitoring will be determined in consultation with the Ministry of the Environment, and Conservation and Parks (MECP) and Fisheries and Oceans Canada (DFO) Project activities have the potential to impact water quality and quantity, fish, and aquatic habitat in AFN's	15a. Enbridge should update the ER to include a comprehensive Monitoring and Contingency Plan for the Project. This plan should include: • Baseline water quality and quantity data for key groundwater locations and for all watercourses being crossed or otherwise impacted by the Project (see Comment 9); • Water quality monitoring for all discharge to be released directly to the environment (e.g., discharge from hydrostatic testing, trench dewatering, etc.); • Treatment options for discharge from hydrostatic testing and trench dewatering in the event that monitoring results indicate these waters do not comply with water quality objectives; • Water quality and quantity monitoring in all watercourses being crossed or otherwise impacted by the Project during construction and remediation activities;	15a – The need for water quality/quantity monitoring will be determined once the detailed design is complete. General pipeline construction practices involve shallow and narrow open trench excavations. Based on surficial geology mapping, fine-grained sediments consisting of silt and clay glaciolacustrine sediments or clay to silt-textured till are expected to be encountered. These types of sediments have low hydraulic conductivity and therefore the amount of groundwater to be dewatered from excavations, and the associated drawdown, are expected to be minimal. In addition, Enbridge Gas will obtain a permit from the MECP for the water taking (EASR or PTTW) and complete detailed modelling and mitigation plans in support of that permit and in accordance with MECP requirements when construction details become available. For these reasons, the proposed pipeline construction at the Dawn-

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	Treaty Territory. Project activities therefore have the potential to have adverse impacts on the Aboriginal and Treaty rights of AFN. Proposed activities that could impact surface water and groundwater quality or quantity include but are not limited to: • Clearing, grading, soil handling, and excavating and backfilling trenches; • The construction of watercourse crossings; • The extraction and release of large volumes of water during hydrostatic testing and trench de watering; and • Spills during construction, remediation, operation, and maintenance activities. These Project activities could: • Impact groundwater quality via spills of diesel fuel, gasoline, hydraulic fluids, antifreeze, lubricating fluids, hydrostatic testing additives, and other substances; • Impact surface water quality via spills, the release of hydrostatic testing water containing additives, soil erosion, sedimentation,	• Groundwater quality and quantity monitoring during construction and remediation activities if groundwater is to be used as a source of hydrostatic test water or if large volumes of water from hydrostatic testing or trench dewatering are to be released in the vicinity of the HVAs or important groundwater recharge zones; and • Contingency measures that will mitigate impacts to surface water, groundwater, fish and aquatic habitat in the event that monitoring results do not meet water quality and quantity objectives for the site. 15b. The ER should be updated to state that AFN, not just MECP and DFO, will be consulted on the details of the Monitoring and Contingency Plan for the Project, including monitoring frequency and timing, parameters to be monitored, water quality objectives for discharge and surface waters,	Corunna Site is considered to have a low potential for impacts to hydrogeological features. 15b - AFN will be consulted as part of relevant DFO and MECP applications should they be required e.g. SARA, ESA or PTTW.

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	downstream flooding, the flow of contaminated groundwater into rivers and streams, and other issues; • Impact surface water quantity by extracting water for hydrostatic testing from watercourses or from groundwater sources that replenish baseflow in rivers and streams; and • Impact groundwater quantity by extracting groundwater for hydrostatic testing, diverting natural surface runoff pathways away from recharge areas or causing sedimentation in recharge areas. Recharge areas are important zones where surface water seeps into the ground to replenish the groundwater supply below The lack of water quality monitoring recommended in the Draft ER needs to be addressed to ensure Project activities are protective of AFN's rights and interests. AFN requires that: • All waters being discharged directly to the environment be monitored to ensure	water withdrawal rates, treatment options, and contingency measures.	

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	contaminants and hazardous materials are not released to sensitive waterbodies and SAR habitats; • Water quality and quantity is monitored in watercourses that are crossed or otherwise impacted by the Project during construction and remediation activities; • Contingency measures and discharge treatment options are planned for in advance to ensure that water quality and quantity monitoring results trigger timely responses and impacts to water quality and quantity, fish and aquatic habitat are avoided or minimized; and • AFN be consulted on monitoring and contingency plans, not just MECP and DFO		
16. Draft ER, Section 4.4.1.1 (Watercourses, p. 4.5-4.6): Table 4.1: Watercourse Crossing on the Preferred Route	AFN notes that of the 19 watercourse crossings identified along the preferred route, seven are not classified under the DFO drain classification system. Classification data provides high-level information on the sensitivity of species present	In the absence of classification date, AFN requests that the proponent uses a precautionary approach to infer the sensitivity and characteristics of the unrated channels based on known downstream conditions. Avoidance	Field surveys to be undertaken in 2022 will be used to enhance the understanding of the watercourse crossing locations and mitigation measures will be refined based on the information that is collected.

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	as well as the scope of works permitted in the channel to accommodate the habitat needs of species present.	and mitigation measures should be appropriately scoped and implemented based on the inferred classification of unrated drains. Specifically. • WC-50, WC-60, AND WC-110 should be considered Class E channels with sensitive species present, consistent with the classification of nearby drains • WC-70 should be considered as a Class E channel due the presence of sensitive species within its 1 km impact zone downstream • WC-140 and WC-160 should be considered Class E channels with sensitive species present, consistent with the classifications of the downstream Grey Drain. • WC-180 should be considered a Class F drain, consistent with the nearby McDonald Drain • WC-190 should be considered a Class C drain, with warm-water non-sensitive species present, consistent with the other	

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		nearby reaches of the Jarvis drain.	
17. Draft ER, Section 4.4.1.2 (Fish and Fish Habitat, p. 4.6-4.7): Table 4.2: Fish Community	The presence of Lilliput and Mapleleaf Mussel at WC-50 necessitates that a Species at Risk Act (SARA) permit is issued by DFO for works in and around water	AFN requests that in-water works are avoided at this crossing using HD under the watercourse. If HDD is not feasible, as part of the Species at Risk permit application, avoidance and mitigation measures specify that a qualified biologist is retained to conduct a mussel relocation immediately prior to in-water works. Furthermore, construction of the watercourse crossing should ensure that habitat features in the channel are protected or are fully reinstated following the works, with no tangible destruction or harmful alteration of fish habitat.	While both Lilliput and Mapleleaf are likely residents of this reach of Black Creek, only Lilliput is protected under SARA as a Schedule 1 Endangered Species, with Mapleleaf designated as Special Concern. A SARA permit application for Lilliput will be submitted to DFO and a mussel rescue and relocation will be conducted by a qualified mussel biologist prior to in-water works, following federal protocols (Mackie et al. 2008)[1]. The crossing has been assessed and dam and pump crossing has been identified as the preferred crossing method at this location, the crossing method will continue to be reviewed during detailed design and permitting. Fish and mussel habitat assessments of the crossing site have been completed and the creek habitat will be reinstated following the works.

[1] Mackie, G., Morris, T.J., and Ming, D. 2008. Protocol for the detection and relocation of freshwater mussel species at risk in Ontario-Great Lakes Area (OGLA). Can. Manuscr. Rep. Fish. Aquat. Sci. 2790: vi +50 p.

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18. Draft ER, Section 4.4.1.2 (Fish and Fish Habitat, p.4.6-4.7): Table 4.2: Fish Community and Aquatic SAR Documented in Watercourses from the Study Area, and Appendix C, Figure 11: Potential Watercourse Crossings	In Appendix C, Figure 11: Potential Watercourse Crossings, a reach of Plum Creek immediately downstream of WC-60 and WC-70 is mapped as a tiled drain, which implies that fish passage is not possible from the main stem of Black Creek downstream. However, based on aerial imagery from the provincial OMAFRA "AgMaps" application, it is apparent that the reach of Plum Creek connecting WC-60 and WC-70 to Black Creek is an open channel with natural channel morphology and vegetated riparian buffers. Based on this, connectivity between these two reaches is expected and considered likely.	AFN recommends that as a result of the apparent connectivity between Black Creek and WC-60 and WC-70 through Plum Creek, the proponent should assume that SARA listed Lilliput and Mapleleaf Mussel are present at WC-60 and potentially WC-70, and that works at these two crossings should also fall under the scope of a SARA permit application. The previous recommendation for WC-50 therefore applies to these two sites as well.	Connectivity between Plum Creek and Black Creek is assumed and probable but does not support an assumption that mussel SAR are present. Plum Creek has been assessed for the potential presence of aquatic SAR using updated DFO mapping (DFO 2019). No mussel SAR or their habitat is present within the Plum Creek watershed according to DFO mapping and this section of Plum Creek does not contain preferred habitat of Lilliput (I.e., lower reaches of large rivers with little current, soft substrates and sand). No SARA permit applications are planned for aquatic species at Plum Creek crossings. Field surveys to be undertaken in 2022 will be used to enhance the understanding of these watercourse crossings and their potential for mussel SAR habitat. The crossing habitat will be reinstated following the works.
19. Draft ER, Section 4.4.1.2 (Fish and Fish Habitat, p.4.6-4.7): Table 4.2: Fish Community and Aquatic SAR Documented in Watercourses from the Study Area, and Appendix C Figure 11: Potential Watercourse Crossings	WC-90, WC-100 and WC-110 are all within or in very close proximity to the Critical Habitat distribution of Threehorn Wartyback and Fawnsfoot, listed as Threatened an Endangered, respectively, under the Species at Risk Act. In addition to the overlap with these two	Consistent with the previous comments, AFN recommends that in-water works are avoided at these sections by installing the crossing using HDD techniques. If HDD techniques are not feasible, AFN recommends that as part of the SARA permit requirements, a	The preferred crossing method for WC-110 on Bear Creek is currently HDD. The crossing method will continue to be reviewed during detailed design and permitting. Connectivity or proximity to Bear Creek does not support an

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	species and their Critical Habitat, these sites also overlap with the distribution of Mapleleaf (provincially Threatened), Pugnose Minnow (federally Threatened), Kidneyshell (federally Endangered), Round Pigtoe (federally Endangered), as well as three Special Concern species under the Species at Risk Act, including Blackstripe Topminnow, Northern Sunfish, and Spotted Sucker. This aspect of the proposed Project is concerning to AFN as potential adverse impacts to fish and fish habitat within our Treaty Territory could adversely impact the Aboriginal rights and interests of our community members.	qualified biologist is retained to conduct a fish salvage and mussel relocation immediately prior to in-water isolation and dewatering. All habitat features should be restored immediately following the works, with no tangible harmful alteration or destruction of fish habitat.	assumption that mussel SAR are present. Fulcher Drain (WC-100) and Parr McGill Drain (WC-090) have been assessed for the potential presence of aquatic SAR using updated DFO mapping (DFO 2019). No mussel SAR or their habitat is present within these drains according to DFO mapping and these drains do not provide preferred habitat of Fawnsfoot or Threehorn Wartyback (i.e., large and medium-sized rivers in gravel, sand or mud). No SARA permit applications are planned for aquatic species at WC-090 and WC-100 crossings. Field surveys to be undertaken in 2022 will be used to enhance the understanding of these watercourse crossings and their potential for mussel SAR habitat. The crossing habitat will be reinstated following the works.
20. Draft ER, Section 4.4.1.2 (Fish and Fish Habitat, p. 4.6-4.7): Table 4.2: Fish Community	Table 4.2 indicates that Northern Sunfish, listed as Special Concern under the Species at Risk Act, is present at WC-50. Based on the previous two comments, it is expected that Northern Sunfish is also likely present at WC-60, WC-70, WC-90, WC-100, and WC-110. Northern Sunfish are intolerant of	Particular care must be taken to prevent sedimentation of the watercourse at WC-50, WC-60, WC-70, WC-90, WC-100, and WC-110. Ideally, HDD is preferred as to avoid disturbing the watercourse at these crossings.	The preferred crossing method for WC-110 on Bear Creek is currently HDD. The crossing method will continue to be reviewed during detailed design and permitting. . Field surveys to be undertaken in 2022 will be used to enhance the

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	siltation in the watercourse and prefer uninterrupted vegetation cover. The removal of vegetation along a 23-metre reach in the channel for trenching and backfilling at the pipeline crossing could create a barrier to Northern Sunfish passage.	If site conditions require trenching and backfilling that work should be done in total isolation of open water. Temporary coffer dams and pumps should be used in place to prevent sediment mobilization in the watercourse. Furthermore, offsetting may be necessary to compensate for the Disruption or Harmful Alteration of Northern Sunfish habitat. Offsetting should aim to restore the habitat needed by Northern Sunfish through total re-establishment of vegetation coverage consistent with pre-disturbance conditions. This would ensure there are no barriers to Northern Sunfish movement. This restoration should include restoring native riparian vegetation on both banks.	understanding of these watercourse crossings and their potential for fish and mussel SAR habitat, including an assessment of baseline aquatic vegetation cover. The crossings listed have been assessed for the potential presence of aquatic SAR using updated DFO mapping (DFO 2019). Of these, only WC-50 and WC-110 provide habitat for Northern Sunfish. The crossing habitat will be reinstated following the pipeline installation. Permitting requirements, including potential offsetting, will be determined during the permitting process through the reviews by DFO, MECP and SCRCA.
21. Draft ER, Section 4.4.1.2 (Fish and Fish Habitat, p.4.6-4.7): Table 4.2: Fish Community	Blackstripe Topminnow are expected to occur at WC-30, WC-50, WC-60, WC-70, WC-90, WC-100, and WC-110. Blackstripe Topminnow have a limited range and specific habitat requirements that make them particularly sensitive to habitat disturbance. Blackstripe Topminnows require dense vegetation for spawning and cover. Blackstripe Topminnows also depend on terrestrial insects as a	For crossings at WC-30, WC-50, WC-60, WC-70, WC-90, WC-100 AND WC-110. Horizontal Directional Drilling (HDD) is the preferred method to avoid disturbing the watercourse. If HDD techniques are not feasible, trenching and backfilling should be done in total isolation of open water. Temporary coffer dams and pumps should be used to bypass the sites,	The preferred crossing method for WC-110 on Bear Creek is currently HDD. The crossing method will continue to be reviewed during detailed design and permitting. Field surveys to be undertaken in 2022 will be used to enhance the understanding of these watercourse crossings and their potential for fish and mussel SAR habitat, including

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	primary food source, which requires abundant riparian vegetation adjacent to overhanging the watercourse.	and suitable ESC measures should be in place to *prevent* sediment mobilization in the watercourse. Furthermore, offsetting may be necessary to compensate for the Disruption or Harmful Alteration of Blackstripe Topminnow habitat. Offsetting should aim to restore dense, native aquatic and riparian vegetation needed by Blackstripe Topminnow. Riparian buffers should extend at least 30 metres from the top of the bank slope.	an assessment of baseline aquatic vegetation cover. The crossings listed have been assessed for the potential presence of aquatic SAR using updated DFO mapping (DFO 2019). The crossing habitat will be reinstated following the works. Crossing methods, procedures and restoration details will reviewed by DFO, MECP and SCRCA. Riparian buffers will be reinstated beyond the top of slope to match existing conditions. At many locations existing agricultural operations extend to the top of slope precluding a 30m riparian buffer without extending into active agricultural lands.
22. Draft ER, Section 4.4.1.2 (Fish and Fish Habitat, p. 4.6-4.7): Table 4.2: Fish Community	The diverse fish species listed in Table 4.2 represent a sensitive, warm- water aquatic community. Many of these species depend on aquatic and riparian vegetation for one or more life processes, including spawning, rearing, feeding, and cover. For example, Northern Pike spawn in the spring on flooded riparian vegetation, while Blackstripe Topminnow require dense aquatic vegetation for spawning, and abundant riparian	AFN recommends that all mature vegetation and trees are maintained on both banks at all crossings, particularly for Class E drains or watercourse crossings at channels inferred to be Class E drains based on the comment above. Where disturbance of the riparian zone is necessary for pipeline installation, AFN insists that all disturbed areas are reseeded with native species, not just a standard	The maintenance of all mature vegetation and trees at watercourse crossing is not feasible. The width of the disturbed construction footprint is reduced, relative to the standard width, to reduce impacts to bank and riparian vegetation. Vegetation and tree clearing at these locations is reduced and delayed to the extent feasible. The Environmental Report recommends that grubbing be delayed until immediately prior to grading (p.

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	vegetation for feeding. Undisturbed and abundant riparian buffers are essential to support a healthy warm-water fish community. This aspect of the proposed Project is concerning to AFN as potential adverse impacts to fish and fish habitat within our Treaty Territory could adversely impact the Aboriginal rights and interests of our community members.	Ministry of Transportation seed mix of agronomic herbaceous species. Vegetation surveys should be conducted at each watercourse crossing prior to disturbance, and revegetation should aim to restore and improve pre-disturbance biodiversity of native species. The width of riparian buffers vegetated with native species should extend at least 30 metres from the top of the bank slope at all watercourse crossings.	5.14), and that reseeding occur with native species (p. 5.19). The width of riparian buffer revegetation will match pre-construction conditions. Further details on the revegetation program will be known following the completion of detailed design, including locations of temporary land use.
23. Draft ER, Table 5.1 (Potential Impacts and Recommended Mitigation and Protection Measurers, Aquatic Features, p. 5.13-5.17)	*Phragmites* is an invasive species that is abundant in S Ontario, often spread by contaminated construction equipment. *Phragmites* poses a risk to fish and fish habitat by outcompeting native aquatic and riparian vegetation, forming dense stands that can become impassable by fish.	To avoid the introduction and spread of *Phragmites,* AFN recommends that all equipment is cleaned and sterilized before use on site.	Details on requirements for invasive species management will be determined following the 2022 field surveys. At a minimum, all equipment used for the Project is required to be clean and free of potential invasive species before arriving on site.
24. Draft ER, Section 4.4.1.1 (Watercourses, p. 4.5-4.6): Table 4.1: Watercourse Crossings on the Preferred Route	Of the 19 crossings in the Project area, six are Class F drains and at least one additional crossing is expected to have similar characteristics based on nearby drain classifications. Class F drains may experience seasonally dry conditions where the total aquatic habitat area in the channel is reduced or eliminated in the summer and early fall. When	Wherever possible, watercourse crossings should be constructed during dry conditions when risk to downstream aquatic habitat is minimized. To avoid stranding fish, any riprap or other hard armouring installed on the channel bed to protect the pipeline crossing should be installed at a gradient that is consistent with	Efforts will be undertaken to cross watercourses in dry conditions. No hard armoring or change in gradient of the channel bed is expected to be required. Following pipeline installation native substrate will be returned. Additional restoration details and/or conditions may be required as part of relevant

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	seasonal drying occurs, it's possible that fish can get stranded in pools or behind artificial barriers in the channel (such as perched culverts)	the rest of the channel. Furthermore, variable sized stone should be used to ensure that there are no interstitial spaces within the armouring, to prevent interstitial flow through the rocky structure which could strand fish on the upstream side.	DFO, MECP and SCRCA permitting and approvals.
25. Draft ER, Section 5.1.1 (Potential Impacts, Mitigation and Protection Measurers and Net Impacts: Construction, p. 5.2-5.3)	Trenching and backfilling in aquatic environments results in a high footprint of disturbance in the aquatic environment. In addition to the physical impact on aquatic and terrestrial vegetation, risk of sedimentation is increased, risk of invasive species introduction is increased, and fish connectivity is interrupted. Even with all appropriate avoidance and mitigation measures, fish habitat is disrupted for at least the time required for vegetation to regrow, and mature vegetation could take many years to fully recover. This aspects of the proposed Project is concerning to AFN as potential adverse impacts to fish and fish habitat within our Treaty Territory could adversely impact the Aboriginal rights and interests of our community members.	AFN recommends that HDD is used instead of instream isolation, trenching, and backfilling at stream crossings to avoid impacts to fish and fish habitat. The use of HDD techniques is especially important for crossings at WC-30, WC-50, WC-60, WC-70,WC-90,WC-100, and WC-110. Where sensitive and SARA-listed species are present.	The preferred crossing method for WC-110 on Bear Creek is currently HDD. The crossing method will continue to be reviewed during detailed design and permitting. Isolated open-cut (i.e. dam and pump) is an established crossing technique that can be used where SAR are present with appropriate mitigation measures in place and in accordance with permit requirements from the DFO and MECP, if applicable.
26. Draft ER, Section 7.2.2 (Accidental Spills, p. 7.3)	AFN appreciates the development and implementation of a spill	AFN requests that the proponent notifies the community within 24	Enbridge Gas commits to notifying the community if a reportable spill is

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	response plan to avoid and mitigate spills in the aquatic environment.	hours if a spill is detected during construction or operation of the Project.	detected during construction of the Project.
27. Draft ER, Table 5.1 (Potential Impacts and Recommended Mitigation and Protection Measurers, Aquatic Features, p.5.13-5.17)	AFN appreciates the general avoidance and mitigation measures outlined in table 5.1 and encourages the Proponent to use any and all methods availed to protect fish and fish habitat. Specifically, we note that the Proponent has committed to having additional supplies on site to respond to changing and unforeseen erosion and sediment control challenges on site.	AFN note that among the additional supplies listed in table 5.1 to respond to erosion and sediment control challenges, straw bales and "filter cloth" are listed. We stress that attempting to "filter" water using straw bales or "filter cloth" is not adequate or appropriate for erosion and sediment control unless the straw bales properly lined with geotextile to create a temporary coffer damn and settling basin where fine sediment can settle in the area of low water velocity.	All erosion and sediment control measures will be implemented under direction of an experienced Environmental Inspector who will select appropriate ESC measures based on the site conditions.
28. Draft ER, Table 5.1 (Potential Impacts and Recommended Mitigation and Protection	AFN supports the Proponent's commitment to store excess material at least 15 metres from top of bank slopes of watercourses	In addition to maintaining a safe 15-metre distance from material stockpile and open water, AFN recommends that stockpiled soil and other excavated material should be covered with geotextile (short term) or seeded (long term) to avoid sediment transport in the event of rain.	Stockpiles at watercourse crossings will not be in place long term. Short-term stockpiles at watercourse crossings will be monitored by a full time environmental inspector and will be stabilized in such a manner to prevent erosion and sediment transportation.
29. Draft ER, Table 5.1 (Potential Impacts and Recommended Mitigation and Protection Measurers, Aquatic Features, p. 5.13-5.17)	AFN notes that the proponent has indicated that criteria listed in DFO's Code of Practice for End-of-Pipe Fish Screens will be met for all pumping activities needed for site isolation and dewatering. In addition to dewatering, the proponent plans	AFN recommends that all criteria listed in DFO's Code of Practice for Temp. Stream Crossings, and Code of Practice for Temporary Cofferdams are implemented wherever relevant in the Project.	As noted in Table 5.1 of the Environmental Report, all aquatic protection measures will be consistent with DFO guidance (p. 5.13-5.14).

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	to install temporary coffer dams and stream crossings.		
30. Draft ER, Section 6.4 (Analysis of Cumulative Effects, p. 6.3)	AFN notes that in the Analysis of Cumulative Effects, fish and fish habitat are not included despite widespread impacts to stream habitats in the region. This aspect of the proposed Project is concerning to AFN as potential adverse impacts to fish and fish habitat within our Treaty Territory could adversely impact the Aboriginal rights and interests of our community members	AFN recommends that scope of cumulative effects is expanded to consider impacts to the aquatic environment in the context of existing regional impacts such as channel enclosures, destruction of riparian habitat, sedimentation and nutrient loading associated with agriculture, and barriers to fish passage.	The cumulative effects assessment in the Environmental Report considers the environmental elements where residual project effects are anticipated, as outlined in the methodology section. No residual effects on the aquatic environment are anticipated, therefore a cumulative effects assessment was not undertaken.
31. Draft ER, Section 7.1.3 (Monitoring Watercourse Crossings, p. 7.2)	AFN highlights that many of the watercourse crossings in the Project scope overlap with habitat that is critical to the survival and recovery of Endangered and Threatened species. For this reason it is important that the Proponent commits to monitoring changes to aquatic ecosystem and demonstrates that the aquatic environment is protected during construction or restored after.	AFN requests that the Proponent provides our community with a photo-log of all watercourse crossings that includes photos taken from a standard viewpoint at each crossing immediately before, during, and after construction, as well as after five years post-construction.	Post construction monitoring of all watercourse crossings will occur the year following construction to confirm the restoration and stabilization were successful, any deficiencies identified will be addressed. Following the post construction monitoring the pipeline inspection occur as part of the Enbridge operation and maintenance program summarized in Section 5.1.2 of the ER. In Enbridge Gas's view, this program in addition to any monitoring requirements included through the various permits and approvals will be sufficient. Should AFN be interested Enbridge will provide AFN with copies of any

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			postconstruction monitoring reports generated as conditions of the environmental permits and approvals. Enbridge Gas would be happy to offer a tour of the post construction watercourse crossings to AFN.
32. Draft ER, Section 1.2.5 (Additional Regulatory Processes, p. 1.5)	Table 1.1 indicates that nest sweeps will be required at a maximum of 7 days prior to vegetation removal during the *Migratory Bird Convention Act* (MBCA) bird nesting season (April 1 to August 31). AFN does not consider this measure to be sufficient to protect breeding birds and their nests. These aspects of the proposed Project are concerning to AFN as potential adverse impacts to migratory birds within our Treaty Territory could adversely impact the Aboriginal rights and interests of our community members.	Environment and Climate Change Canada guidelines (2019) state that nest sweeps should only be completed in simple habitats such as agricultural fields or hedgerows. Nest sweeps should be completed by a qualified biologist and as close as possible to vegetation removal, preferably within 24 hours. In large or complex habitats with many potential nesting areas (e.g., forests, woodlots, scrubland), nest sweeps are not an appropriate mitigation measure and vegetation removal should instead take place outside the bird nesting season (April 1 to August 31). If a nest is found, Enbridge should follow Environment and Climate Change Canada guidelines (2019), including stopping work in the area and protecting the nest until the young have naturally left the area.	Enbridge Gas plans to complete clearing in the winter, prior to the construction season and outside of the bird nesting season. If clearing is required during the bird nesting season, Enbridge Gas's environmental personnel will provide direction on appropriate protection measures in accordance with ECCC (2019) guidance.

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33. Draft Er, Section 2.5.1 (Alternative Route Evaluation Methodology, p. 2.4)	Section 2.5.1 of the Draft ER lists the terrestrial features to determine what route was preferred. The Draft ER states that an evaluation corridor of 50m on either side of the pipeline was applied to each alternative route. For the terrestrial environment, these included "Areas of Natural Scientific Interest (ANSI) and wooded area (hectares within 30m)." Table 2.1 of the Draft ER provides the hectares of wooded areas "within the corridor" for each route alternative. It is not clear whether the evaluation of alternative routes considered wooded areas within 50m of the pipeline or within a 30m corridor, nor is it clear how these distances compare to the 28m right-of-way that will be disturbed for construction of the pipeline. The Draft ER states that the preferred route (Alternative Route 1) parallels existing natural gas pipelines that extend from the Dawn Compressor Station and travel northwest to Corunna Compressor Station (Section 2.4, p. 2.3). Previously disturbed areas in woodlands along the existing pipelines are visible based on	33a. Enbridge should revise the ER to clarify the corridor width used and whether a buffer area was applied to the 28m construction disturbance footprint within wooded areas during the evaluation of alternative routes, including: • Terrestrial species at risk (SAR) habitat (confirmed and potential); • Significant wildlife habitats, including animal movement corridors and deer wintering areas; and • Woodlands, wetlands and other natural areas such as animal movement corridors defined as Significant in the Lambton County Official Plan (2020), which are known to occur in the Study Area as stated in Section 4.4.2 of the Draft ER. Where these features occur along the preferred route, Enbridge should evaluate potential micro-routes that would avoid directly impacting these features.	Section 2.5.1 of the ER notes that wooded areas were assessed within 30m of the pipeline, as the detailed design of the pipeline (including temporary land use) is not known at the time of assessment. Preference is given to overlapping adjacent pipeline easements to the greatest extent possible, to avoid impacts on previously undisturbed lands.

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	AFN's review of Google Earth imagery. However, its not clear from the Draft ER whether the new pipeline will be sited within the previously disturbed area or to what extent intact forested areas would need to be removed. Enbridge does not provide any details of the value of the forests/woodlands, wetlands or wildlife habitats to AFN's Aboriginal and Treaty rights. AFN is concerned about the potential impact of the pipeline on forests/woodlands, wetlands and wildlife habitats, which may be underestimated or were not assessed.		
34. Draft ER, Section 4.4.2 (Designated Natural Areas and Vegetation, p. 4.9)	Section 4.4.2 of the Draft ER states that the preferred route crosses 10 wooded areas identified through a desktop review of Land Information Ontario (LIO) mapping, seven of which are anticipated to meet the criteria for Significant Woodlands. It is not clear from the Draft ER how these numbers compare for the other alternative routes.	34a. Enbridge should re-evaluate the alternative routes, taking into consideration significant woodlands. 34b. Enbridge should fully assess each potentially impacted woodland for significance including through field investigations. This is necessary to ensure that impacts to significant woodlands are avoided to the extent possible, and that mitigation measures and/or compensation measures are	The ER assessed the impacts of alternative routes on woodlots, regardless of their significance. Field surveys to be undertaken in 2022 will be used to enhance the understanding of Project impacts on wooded areas. AFN has been offered the opportunity to participate in the 2022 field program,and has indicated their willingness to participate. Enbridge Gas will

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	Many of the characteristics of significant woodlands defined in the Lambton County Official Plan do not appear to have been assessed by Enbridge. For example, whether a woodland provides a linkages between two other significant woodlands could have been assessed through the desktop methods used by Enbridge but it is not clear if that was done. Other criteria like uncommon characteristics would require field investigations, which do not appear to have been completed by Enbridge for all 10 woodlands. As a result, the number of significant woodlands that will be impacted by the Project may be more than seven. AFN is very concerned about the potential effects of the Project on forest habitat fragmentation and habitat loss. Cumulative impacts of infrastructure development and other activities have contributed to the loss and fragmentation of forest ecosystems within our Treaty Territory and adversely impacted the wildlife species that depend on them. This means that future impacts on these already strained	appropriate to address the impacts of the Project. AFN should also have the opportunity, with reasonable capacity funding, to participate in these assessments.	provide reasonable capacity funding for an AFN monitor.

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	and important ecosystems hold greater significance as they could adversely impact our rights and interests.		
35. Draft ER, Section 4.4.2 (Designated Natural Areas and Vegetation, p. 4.9)	The Draft ER states that the primary route does not cross any Provincially Significant Wetlands (PSW) in the Study Area but is located close to one PSW, the Plum Creek Woods. The Draft ER also states that there may be unevaluated wetlands in an area. It is concerning to AFN that wetlands were assessed only through a desktop exercise and not confirmed through field investigations. If indeed there are unclassified wetlands, complexing with PSWs is possible but may have been missed in the desktop assessment completed for the Draft ER. Across AFN's Treaty Territory, wetlands represent an endangered ecosystem. Further evaluation and protection are required in order to avoid impacts to AFN Aboriginal and Treaty rights and to avoid worsening cumulative impacts that already exist within our Treaty Territory.	35a. Enbridge should undertake field investigations to confirm the presence of unevaluated wetlands along the preferred route. If present, Enbridge must hire an environmental professional that is certified as a wetland evaluator to evaluate the wetlands in collaboration with AFN. AFN expects to be able to participate in these assessments, with reasonable capacity funding provided by Enbridge. 35b. If impacts to wetlands cannot be avoided, Enbridge should consult with AFN on their initial proposed measures to offset forest/woodland habitat loss and forest/woodland fragmentation associated with the Project.	Field surveys to be undertaken in 2022 will be used to enhance the understanding of Project impacts on wetlands. AFN has been offered the opportunity to participate in the 2022 field program, and has indicated their willingness to participate. 35b) Where feasible, in consultation with directly impacted landowners Enbridge Gas will restore the lands to pre-existing conditions with the exception of woodlands and trees within the permanent easement. Enbridge Gas will implement a tree replacement program that replants twice the area of woodland removed with seedlings of native species that are guaranteed until they reach free to grow status. This program will be increased to a ratio of 3:1 for area as requested by AFN in comment 43b). Enbridge Gas will work in partnership with SCRCA to complete the program. Directly impacted landowners are given first right of refusal for the tree planting under this program. Enbridge Gas

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			will consult with AFN for potential locations for replanting of remaining trees under this commitment.
36. Draft ER, Section 4.4.3.1 (Wildlife Habitat and Wildlife, p. 4.10)	Section 4.4.3.1 of the Draft ER states that the preferred route traverses through a deer wintering area and two animal movement corridors designated in the Lambton County Official Plan. It is not clear from the Draft ER how these numbers compare to the other alternative routes. As well, a provincially rare plant community was identified during the field investigations completed by Enbridge, which were limited to the area of Stanley Line. The primary route was micro-routed to avoid that rare plant community. However, field studies were limited and therefore other rare plant communities or other types of significant wildlife habitat maybe be present along the preferred route but not account for in the Draft ER. The limited scope of the field surveys is also concerning to AFN because pockets of invasive species or plant species of importance to AFN may also be unaccounted for in the Draft ER.	36a. Enbridge should undertake additional field surveys to fully identify significant wildlife habitats along the preferred route. AFN should have the opportunity, with reasonable capacity funding, to participate in these assessments. 36b. If present, Enbridge should use a similar process as done in the Stanley Line area to assess potential micro-routes that would avoid sensitive habitats. Should avoidance not be possible, Enbridge should consult with AFN on their initial proposed offsetting measures.	Field surveys to be undertaken in 2022 will be used to enhance the understanding of Project impacts on significant wildlife habitat. AFN has been offered the opportunity to participate in the 2022 field program, and has indicated their willingness to participate. Enbridge Gas will provide reasonable capacity funding for an AFN monitor. Micro-sitting for the Stanley Line Project was based on watercourses with recorded SAR, woodlots, and variations in the topography.

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37. Draft Er, Section 4.4.3.1 (Wildlife Habitat and Wildlife, p. 4.12)	Section 4.4.3.1 of the Draft ER lists 18 species of conservation concern (SOCC) that are known to occur in the vicinity of the Study Area based on a desktop review. The Draft ER indicates that this list will be further refined upon field investigations and consultation with the Ministry of Natural Resources and Forestry (MNRF) and/or the St. Clair Region Conservation Authority (SCRCA). Additional details regarding the field studies are not provided. The desktop assessment undertaken as part of the Draft ER is insufficient. This is of serious concern to AFN as adverse impacts to wildlife of importance to our community and SOCC would in turn have adverse impacts on our Aboriginal and Treaty rights.	37a. Enbridge should complete field studies to confirm the presence of SOCC and their habitats using standard field protocols. These studies must be completed at the appropriate time of year. Based on the species listed in the Draft ER, these field studies should include breeding bird surveys in the spring emergence and/or turtle nesting season if potentially suitable turtle habitat is determined to be present based on field studies. 37b. AFN expects that Enbridge will provide opportunities for AFN community members to participate in these assessments, with reasonable capacity funding and any necessary industry standard training.	Field surveys to be undertaken in 2022 will be used to enhance the understanding of Project impacts on species of conservation concern. AFN has been offered the opportunity to participate in the 2022 field program, and has indicated their willingness to participate.

38. Draft ER, Section 4.4.3.2 (Species at Risk, p. 4.13-4.14)	Tables 4.4 and 4.5 of the Draft ER list a total of 23 Species at Risk (SAR) that are known to occur in the vicinity of the Study Area based on a desktop review and consultation with the Ministry of Environment, Conservation and Parks (MECP). The Draft ER indicates that this list will be further refined upon field investigations and consultation with the Ministry of Northern Development, Mines, and Natural Resources and Forestry (NDMNRF) and/or MECP. Additional details regarding the field studies are not provided. The desktop assessment undertaken as part of the Draft ER is insufficient. This is of serious concern to AFN because negative impacts to SAR and other wildlife of importance to our community would in turn have adverse impacts on our Aboriginal and Treaty rights.	38a. Enbridge should complete field studies to confirm the presence of SAR and their habitats using standard field protocols. These studies must be conducted at the appropriate time of year. Based on the species listed in the Draft ER, these field studies should include breeding bird surveys, bat surveys, a multi-season plant inventory, and targeted snake surveys (e.g., coverboard surveys) if potentially suitable snake SAR habitat is determined to be present based on field studies. 38b. If SAR are found to be present, Enbridge should provide a mitigation plan to AFN for review and comment. AFN expects that this mitigation plan will include total avoidance as the primary mitigation measure. 38c. Enbridge should commit to consulting with AFN on all permitting/authorizations under the ESA. AFN expects that this consultation would include review of draft permit/authorization applications, capacity funding, and sharing ongoing communications with MECP. 38d. AFN expects that Enbridge will provide opportunities for AFN	38a) - Field surveys to be undertaken in 2022 will be used to enhance the understanding of Project impacts on species at risk. 38B and C – Enbridge Gas will consult with AFN during the permitting and review process as required by the Species at Risk Act and Endangered Species Act should permits under these acts be required. 38d - AFN has been offered the opportunity to participate in the 2022 field program, and has indicated their willingness to participate. Enbridge Gas will provide reasonable capacity funding for an AFN monitor to participate. Enbridge Gas would be happy to discuss capacity funding for monitor training with AFN.

		community members to participate in these assessments, with reasonable capacity funding and any necessary industry standard training. `	

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39. Draft ER, Section 5.1 (Potential Impacts, Mitigation and Protective Measurers and Net Impacts – Methodology, p.5.1)	Section 5.1 of the Draft ER states that site specific field surveys will be completed prior to construction and that these supplemental studies are not expected to change the conclusions regarding potential adverse residual impacts.	AFN disagrees with this statement for the reasons outline elsewhere in this table. The results of field surveys should be used to inform the evaluation of alternative routes, and micro-routing exercises to avoid impacting sensitive features. If avoidance is not possible, the result of field studies should be used to inform the development of appropriate mitigation and offsetting measures to ensure there are no negative residual impacts, including cumulative impacts, on terrestrial ecosystems and species as a result of the Project.	Enbridge Gas agrees that the results of field surveys on the preferred route will be used to develop or refine mitigation and monitoring recommendations, which may include avoidance and/or offsetting, as required.
40. Draft ER, Table 5.1 (Potential Impacts and Recommended Mitigation and Protective Measurers- Designated Natural Areas and Vegetation, p. 5.18)	Table 5.1 of the Draft ER states that a field program will be developed and completed during the 2022 growing season to characterize vegetation and document designated natural areas, significant wildlife habitat and SAR habitat in the Study Area.	40a. Enbridge should consider the comments and recommendations made by AFN on the Draft ER during the design of the 2022 field program. 40b. AFN expects Enbridge will provide opportunities for AFN community members to participate in these assessments, with reasonable capacity funding and any necessary industry standard training.	All feedback on the Project will be used to inform the 2022 field program. AFN has been offered the opportunity to participate in the 2022 field program, and has indicated their willingness to participate. Enbridge Gas will provide reasonable capacity funding for the participation of an AFN monitor.
41. Draft ER, Table 5.1 (Potential Impacts and Recommended Mitigation and Protective Measurers	Table 5.1 of the Draft ER states that potential Project impacts include the introduction or spread of invasive	41a. Enbridge must commit to providing a Project-specific invasive species control plan. AFN expects	Field surveys to be undertaken in 2022 will be used to enhance the understanding of Project impacts on

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– Designated and Natural Areas and Vegetation, p. 5.18)	species where there is natural vegetation within or adjacent to the Project components. As well, the Draft ER outlines the following mitigation measures to reduce the spread of Invasive species: • A screening field program for wetlands and riparian areas should be undertaken prior to construction to determine where precautionary measures (e.g., equipment washing before site access) may be necessary to mitigate the spread of non-native species; and • Should significant Phragmites stands be identified during field investigations, a Phragmites management plan should be developed. These mitigation measures are extremely general and lack specific details that would allow AFN to verify whether they would be effective at limiting the spread of invasive species.	that this plan would include, at a minimum: • Using native plant species during site restoration; • Training materials and objectives for educating Project staff on the importance of preventing the spread of invasive species; • Abiding by Invasive Species Act regulations and following construction best practices (e.g., inspecting and cleaning equipment and vehicles); • Responsibilities of environmental monitors and details of regular monitoring (e.g., methods, frequency, location, scope, personnel, reporting); • Control methods for invasive species should they be present within the Project area (I.e., mechanical methods, herbicide); • Details of proper disposal of invasive plant material; • Communications pathways; and • Adaptive management actions and thresholds for	vegetation, including invasive species. AFN has been offered the opportunity to participate in the 2022 field program, and has indicated their willingness to participate. Details on requirements for invasive species management will be determined following the 2022 field surveys.

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	This is concerning to AFN as further spread of invasive species caused by the Project would adversely impact the natural environment that AFN community members rely upon to practice Aboriginal and Treaty Rights.	these adaptive management actions. 41b. Enbridge should commit to using the *Clean Equipment Protocol for Industry* (Halloran *et al.* 2013) to ensure that equipment used in this project does not become a vector for the spread of invasive species. 41c. AFN requests that requests that Enbridge commit to undertaking fulsome, multi-season studies to assess plant species present within the Project area. Enbridge should consult with AFN to identify potential valued ecosystem components (VECs) and to ensure locations of these VECs identified during surveys are adequately protected. 41d. AFN expects Enbridge to continue to provide opportunities for AFN community members to participate in this Project as Environmental Monitors. These Environmental Monitors should receive any necessary industry standard training. This will provide AFN with greater confidence that effective environmental mitigations	

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		are in place and VECs are protected.	
42. Draft ER, Table 5.1 (Potential Impacts and Recommended Mitigation and Protective Measurers – Designated and Natural Areas and Vegetation, p. 5.18)	Table 5.1 of the Draft ER states that clearing should be minimized to the extent possible in sensitive areas such as significant woodlands, deer wintering areas, unevaluated wetlands and along Bear Creek, and in areas of significant groundwater recharge.	If avoidance is not possible, Enbridge should commit to offsetting measurers to address impacts to sensitive areas including significant wildlife habitat. These measurers could include habitat creation or enhancements. Enbridge must consult with AFN on their proposed offsetting measures.	As recommended in the ER, Enbridge Gas will undertake a revegetation program for all vegetated temporary work areas. See response 35b) Enbridge Gas's commitment to the tree replacement program.
43. Draft ER, Table 5.1 (Potential Impacts and Recommended Mitigation and Protective Measurers – Designated and Natural Areas and Vegetation, p. 5.18-5.19)	Table 5.1 of the Draft ER states that a revegetation program should be developed and implemented for all vegetated temporary work areas, and that Enbridge should consult with landowners and SCRCA to confirm replanting plans. The Draft ER further states that seeding of the disturbed temporary work areas and the permanent easement should be done with native seed mix approved by SCRCA . Seeding with seed mix is not an appropriate offsetting measure for woodland/forest habitat loss and woodland/forest fragmentation. As stated above, AFN is very concerned about the potential effects of the Project on forest habitat fragmentation and habitat	43a. Enbridge must be providing specific details about what actions they plan to undertake to offset forest/woodland habitat loss and forest/woodland fragmentation associated with this project. 43b. Enbridge must commit to consulting with AFN on the offsetting measurers. AFN expects that these measurers will include: • Offsetting the fragmentation and loss of forests/woodlots by creating more forest habitat within the local landscape at a minimum of a 3:1 ratio; • Prioritizing forest habitat offsetting measurers to expand existing forests/woodlands and to	Further details on the revegetation program will be known following the completion of detailed design, including locations of temporary land use. Enbridge Gas will reduce the temporary land use footprint through wooded areas and/or make use of existing right-of-way allowances to reduce or avoid clearing, where feasible. See response 35b) for Enbridge Gas's commitment to the tree replacement program.

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	loss, including cumulative effects within our Treaty Territory, as further impacts on these already strained and important ecosystems could adversely impact our rights and interests.	maintain or build habitat connectivity within the local landscape; • Prioritize planting native plant species including Carolinian species and consulting with AFN to ensure that plant species of importance are included in the plantings; • Undertake follow-up monitoring for a minimum of 5 years and re-plant if necessary to ensure the survival of plantings and successful establishment of the compensation forest habitat; and • Provide opportunities for AFN community members to be involved in these activities	
44. Draft ER, Appendix D: Stage 1 Archaeological Assessment. (p. 293-395)	The report title does not include sufficient geographic location-specifically it does not identify the geographic townships names, concessions, or lots, either of the Study Area (25,400ha) or the pipeline corridor (200-600ha). Although it may seem tedious and unwarranted at first glance, the title should provide this information. The	Enbridge should revise the ER so that the report title lists all the lots, concessions and names of the geographic townships that are crossed by the pipeline corridor.	The Stage 1 archaeological assessment report was submitted to the MHSTCI on September 21, 2021. The MHSTCI completed a review of the report package submission and entered the report into the *Ontario Public Register of Archaeological Reports* on September 22, 2021. In Enbridge Gas's view, the title of the Stage 1

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	reason is the archaeological Standard and Guidelines (S&G) require an assessment to consider all previous work that may have taken place both in the current development zone, or within 50m of it. However, as the Stantec report acknowledges (p. 18 or 314/395), the *Ontario Archaeological Site Database* maintained by Heritage, Sport, Tourism and Culture Industries (HSTCI) is not searchable in that respect. As a result, in order to satisfy that standard, archaeological assessment report titles in the Public Register of Archaeological Reports (PRAR) to glean any past history research in the geographic townships where their proposed development is located. Although Stantec has not missed standard by omitting this information, it would facilitate future research by providing it. Future users of the PRAR will include Indigenous researchers and may include AFN.		archaeological assessment report is acceptable nomenclature for reports capturing large geographic areas. A listing of applicable lots, concessions and geographic townships associated with the Stage 1 study area is provided in Table 1 of the report.
45. Draft ER, Appendix D: Stage 1 Archaeological Assessment (1.1.1 Objectives, p. 297-395)	Since the "property inspection" did not comply with the S&G (see explanation below) the name of the alternative procedure should be changed.	In the bullet here, the procedure should be called "visual inspection," rather than "property inspection."	A property inspection is an optional component of a Stage 1 archaeological assessment. The property inspection for this Stage 1 assessment was completed in accordance with Section 1.2

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			Standard 1 which permits "random spot-checking" of the study area. The MHSTCI does not recognize a methodology called "visual inspection". The Stage 1 archaeological assessment report was submitted to the MHSTCI on September 21, 2021. The MHSTCI completed a review of the report package submission and entered the report into the *Ontario Public Register of Archaeological Reports* on September 22, 2021.
46. Draft ER, Appendix D: Stage 1 Archaeological Assessment (2.0 Field Methods, p. 319-395)	Because access to the pipeline corridor was not provided, it was impossible to carry out the main tenant of an official property inspection, namely: *the entire property and its periphery should be inspected* (1.2 Standard 1, first sentence), Because 1.2 standard 1 could not be satisfied, neither can the other five property inspection standards. Nevertheless, Stantec claims that a series of photographs taken from public access locations (pipeline-road intersections) constitutes "random spot-checking" and satisfies the standards of a "property inspection as laid out in S&G 1.2 Standard 1 and 7.7.2 Standard 1. S&G 7.7.2 Standard 1	The revised report should remove statements about satisfying "property inspection" standards and should instead state that since property inspection was not possible an alternative procedure of visual inspection and photography was carried out where public access could be attained.	See response to item 45, above.

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	simply states that the report must show how each of six property inspection standards were met. Since the property inspection is optional, and Stantec substituted with the best-possible alternative procedure, the report could simply state that a property inspection was not possible and an alternative procedure of "visual inspection" was completed.		
47. Draft ER, Appendix D: Stage 1 Archaeological Assessment. (4.0 Recommendations, p. 324-395)	The report correctly recommends that agricultural fields be plowed and weathered before pedestrian survey; but in areas of heavy clay soil, like that of the Study Area, the furrows should also be cultivated or disked (MHSTCI 2011 2.1.1 Standard 2).	The recommendations should be amended to specify that heavy clay soils should be plowed and *cultivated* to facilitate pedestrian survey.	The recommendations in the Stage 1 archaeological assessment report state that the Stage 2 archaeological assessment of agricultural fields will be completed in accordance with Section 2.1.1. Among other standards, Section 2.1.1 includes Standard 2 which requires furrows in heavy clay soils to be "disked after ploughing to break them up further." Stantec has provided Enbridge Gas with additional guidance pertaining to acceptable ploughing methodology and will continue to work with Enbridge Gas to only assess properties in accordance with acceptable MHSTCI standards.

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48. Draft ER, Appendix D: Stage 1 Archaeological Assessment. (4.0 Recommendations, p. 324-395)	In the case of Stage 1 Archaeological Assessments where there was no property inspection, the assessment cannot eliminate any areas from Stage 2 survey and must recommend Stage 2 of the entire development footprint, *preceded by a property inspection,* Stantec has properly recommended Stage 2 of the entire development.	The recommendations should also state that a Stage 2 assessment should be preceded by a property inspection, as per S&G Section 1.4.1, Standard 1.a.	The Stage 1 archaeological assessment adequately addresses the MHSTCI's requirements for Stage 1 assessment prior to Stage 2 survey. The recommendations in the Stage 1 archaeological assessment report state that "[I]f the archaeological field team determines lands to be low and wet, steeply sloped, or disturbed during the Stage 2 fieldwork [i.e., typical Stage 1 property inspection results], those areas will not require survey, but will be photographically documented...". In other words, additional photography will document additional conditions in the style of a Stage 1 property inspection and will be illustrated and documented in the Stage 2 archaeological assessment report.
49. Draft ER, Appendix D: Stage 1 Archaeological Assessment. (4.0 Recommendations, p. 325-395)	Current best practice suggests the FN communities, including AFN, should be given the opportunity to participate in the potential discovery of Indigenous artifacts and/or sites. Although the report recommends that FN be engaged in the Stage 2 assessment, it does not mention the provision of funds to enable it. Enbridge should provide adequate funding to support the participation of AFN.	AFN expects Enbridge to require their archaeological consultants to undertake community engagement on the Stage 1 and Stage 2 Archaeological Assessments and provide capacity funding for participation in archaeological assessments. Enbridge should amend the ER to specifically indicate that: • Enbridge will provide AFN with the opportunity,	AFN has been offered the opportunity to participate in the 2022 field program and has indicated their willingness to participate. Enbridge Gas provides capacity funding for participation in archaeological assessments as well as having monitors participate in the Stage 2 Archaeology Assessment work.

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		sufficient time and capacity funding to provide Traditional and Oral Histories of the area; • Enbridge will provide AFN with the opportunity and capacity funding to participate in: (1) the potential discovery of Indigenous artifacts and/or sites; (2) determining the cultural heritage values of Indigenous artifacts, features and sites; and (3) providing recommendations for further archaeological assessment; and • Enbridge will provide AFN with capacity funding to have community members participate as monitors during Stage 2 Archaeology Assessment work and will provide necessary industry standard training to these monitors.	Enbridge Gas will provide reasonable capacity funding for the participation of an AFN monitor.
50. Draft ER, Appendix D: Stage 1 Archaeological Assessment. (4.0 Recommendations, p. 325-395)	The report says previously tested areas need not be tested again, even though some of this early work may not satisfy current standards. For instance, some areas may have been tested at 10m intervals. In	The report should be revised to qualify the recommendation that previously assessed areas need not be tested again.	The Stage 1 archaeological assessment report only acknowledges recent archaeological assessments as not requiring re-survey. These recent assessments were completed in

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	such cases the areas should be re-tested at 5m intervals.		accordance with the MHSTCI's current Standards. Enbridge Gas is confident that the recent archaeological fieldwork referenced, from 2015 and 2017, was completed in accordance with MHSTCI guidelines.
51. Supplementary Report (SD)	The report provides maps showing the location of archaeological sites; however, no information other than Borden number is provided. For the convenience of archaeologists, Table 6, p. 18 (314/395) should also be presented in the Supplementary Documentation (SD) report.	Table 6, which provides the location of archaeological sites in the Study Area, should also be presented in the SD report.	The information presented in the Supplementary Documentation is confidential and is protected by the *Ontario Heritage Act*. It does not form part of the public record. The Stage 1 archaeological assessment report, including the Supplementary Documentation to the report, was submitted to the MHSTCI on September 21, 2021. The MHSTCI completed a review of the report package submission and entered the report into the *Ontario Public Register of Archaeological Reports* on September 22, 2021. The Supplementary Documentation Report is not provided publicly as a component of Environmental Reports.

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Item	Comment	Enbridge Gas Response
1.0 General Comments		
1.	There is currently no consideration for climate changes in terms of both adaptation and mitigation. Please include an assessment of greenhouse gas (GHG) emissions for the lifespan of the Project. Please also provide information on Enbridge's leak detection, repair and reporting protocol for related infrastructure, including accounting for fugitive emissions. This information will better inform WIFN of Enbridge's efforts to mitigate and reduce GHG emissions form its infrastructure.	Enbridge Gas completes an annual GHG inventory of emissions from its natural gas distribution, storage and transmission systems. This includes venting, fugitive, flaring and combustion emissions from the installation, operation and maintenance of its assets. The inventory includes emissions from purging natural gas pipelines during installation, however, it does not include the emissions from manufacturing or construction of pipelines. Enbridge Gas does not have information on the GHG emissions from manufacturing and construction of the pipelines for this Project. The Environmental Report was developed to meet the intent of the Ontario Energy Board's Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Pipelines and facilities in Ontario, 7th Edition (2016), which does not require a project-specific assessment of GHG emissions. Enbridge Gas is uniquely positioned to support Ontario's clean energy transition, with immediate, cost-effective solutions that leverage existing infrastructure and innovative technologies. Through collaboration with governments and partners, we're advancing innovative energy solutions to keep energy reliable, affordable and reduce environmental impact. Leveraging our pipeline infrastructure is a responsible and cost-effective way to supply cleaner fuels and reduce emissions in a significant way. On November 6, 2020, Enbridge Inc. announced our environmental, social and governance (ESG) goals which represent the next stage of our evolution as an ESG leader and help ensure we're positioned to grow sustainably for decades to come. Recognizing that climate change requires serious solutions, one of the goals Enbridge Inc. has set is to reach net zero GHG emissions by 2050; with an interim target to reduce GHG emissions intensity 35 percent by 2030. To meet Enbridge Inc.'s 2030 emission targets and our 2050 net-zero ambition, Enbridge Inc. will be pursuing multiple avenues that are strongly aligned and embedded in its strategy and business plans. These include: • Modernization, technology and innovation improvements applied to existing infrastructure to reduce emissions intensity • Building and operating renewable "self power" generation facilities to reduce emissions related to the energy consumed by operations

		• Gradual investment in low carbon projects and businesses • Purchasing and retaining renewable energy credits and selective investment in nature-based solutions and offsets We can provide you with more information on this as we move forward as a company to reach these goals. Enbridge Gas's leak survey frequencies and leak classification and repair response criteria are based on a number of factors. The factors that drive the frequency at which different assets are surveyed are primarily based on asset criticality and associated risk of leakage due to asset age and condition in conjunction with proximity to the public. Leak classifications, which ultimately drive the response time from a repair perspective as well as leak monitoring protocols, are based on criticality and operating risks of assets as well as the leak intensity and the risk associated with proximity to the public – EGI's leak management program meets or exceeds the codes and standards set by our regulators. EGI also continues to refine the leak management program to include additional considerations for fugitive emissions, particularly in Storage and Transmission assets where new gas detection equipment is available to identify and mitigate leakage even more quickly. These new industry practices are also being evaluated for applicability to distribution assets.
1.1 Physical Features		
1.1.1 Hydrogeology	No significant hydrogeology related concerns were identified based on a review of the Report. Water supply wells along the preferred alignment (Route Option 1, combined with microroute Option 1) are typically installed in the bedrock and range from approximately 40m deep near the Corunna Compressor Station, to 20 m near the Dawn Compressor Station. It is unlikely that private water supply wells would be affected by the installation of a natural gas pipeline in the shallow overburden soils.	Thank you for your comment.
	Fine grained soils dominate the study area; therefore, it is unlikely that significant groundwater dewatering will be	Thank you for your comment.

	required over most of the route. It should be noted, however, that site specific soil and groundwater conditions could reveal the need for localized construction dewatering, requiring MECP approval and permits.	
	We concur that a private water supply monitoring program be established for wells situated within 30 m of the proposed works.	Thank you for your comment.
	We look forward to reviewing site -specific information once it become available.	Noted - Thank you we will provide you with site-specific information once it becomes available.
1.2 Biophysical Features		
1.2.1 Aquatic Features Overall, potential impacts to fish habitat and a species at risk and their habitat cannot be accurately assessed at this time without field studies to confirm that fish habitat conditions, features or Fisheries Act and species - specific SARA mitigation plans.	The methodology for the aquatic habitat and fisheries community sampling are not provide. Please note, it is expected that targeted surveys for SAR fish and mussels should be conducted within the study area.	Field surveys will be undertaken in 2022 to enhance the understanding of terrestrial and aquatic habitat, and their potential for supporting fish and mussel SAR.
	Please provide the results of the fish community sampling and fish/mussel habitat assessments, when available. It is stated these field exercise will be completed in 2022.	A Natural Heritage Report will be completed to summarize the results of the field exercise and will be shared with WIFN once it has been completed.
	Please provide WIFN the opportunity to assign field technicians to participate in the 2022 fish community sampling and fish/mussel habitat assessments.	WIFN has been offered the opportunity to participate in the 2022 field program, and has indicated their willingness to participate.
	Previous and future correspondence with the MCEP, DFO, NDMNRF , and SCRCA should be provided when available.	WIFN will be consulted when required by specific permitting processes with MECP, DFO, NDMNRF and SCRCA (e.g. SARA, ESA or PTTW).

Permitting	It is mentioned that DFO will review the project for Fisheries Act approval, if required base on the construction methodology, as well as for approval under SARA. Please note, it may be required to either register the project with MECP or obtain an overall benefit permit from MECP for aquatic SAR, depending on the footprint of the works in SAR habitat.	Noted - Thank you for your comment.
Impacts	We concur that if the mitigation and permitting measures are implemented as described in the Report, net impacts would not be anticipated.	Thank you for your comment.
Aquatic Mitigation Measures	The mitigation measures described in the document are suitable for the project.	Thank you for your comment.
	Please provide the monitoring methodologies that will be followed if the DFO and/or MECP determine that monitoring programs are required for aquatic SAR.	WIFN will be consulted when required by specific permitting processes with MECP, DFO, NDMNRF and SCRCA (e.g. SARA, ESA or PTTW). These consultations would include providing WIFN with details on potential monitoring programs associated with SAR.
1.2.2 Terrestrial Features Overall, potential impacts to significant wildlife habitat and species at risk and their habitat cannot be accurately assessed at this time without field studies to confirm the presence or absence of these features or species-specific mitigation plans.	Reports outlining the findings of field studies and mitigation plans should be provided when available for further comment.	A Natural Heritage Report will be completed to summarize the results of the field exercise and will be shared with WIFN once it has been completed.
General Comments	Insufficient details have been provided regarding proposed terrestrial field programs. An overview of the proposed surveys should be provided, including survey	Field surveys will be undertaken in 2022 to enhance the understanding of terrestrial and aquatic habitat. These studies will include targeted surveys for SAR, including plant SAR.

	protocols and timing of field investigations. Note that it is expected that targeted surveys for SAR plants should be also conducted with the study area.	These surveys will be conducted by qualified professionals following accepted protocols and best practices. WIFN has been offered the opportunity to participate in the 2022 field program, and has indicated their willingness to participate.
	Previous and future correspondence with the MCEP, DFO, NDMNRF , and SCRCA should be provided when available.	WIFN will be consulted when required by specific permitting processes with MECP, DFO, NDMNRF and SCRCA e.g. SARA, ESA or PTTW or based on WIFN's interest.
	The NDMNRF should be consulted to determine if additional rare or provincially tracked species may occur within the study limits.	Enbridge Gas has consulted with the NDMNRF. Enbridge Gas met with the NDMNRF in September 2021 and they provided Enbridge Gas with their records via email.
Permitting	Table 1.1 of the Report states that "*Nest sweeps will be required at a maximum of 7 days prior to vegetation removal during the MBCA bird nesting season (April 1 to August 31, 2021)".* The current industry standard states that clearing should be completed within a 48 to 72 hours window following nesting surveys. Given the preliminary preferred route crosses numerous significant woodlands, several of which are associated with watercourses, and the general lack of treed covered within Lambton County, it is highly likely that these areas will be able to support nesting birds. As such, the maximum period of 7 days is too long of a period to wait between nesting sweeps and vegetation clearing.	Enbridge Gsa plans to complete clearing in the winter, prior to the construction season and outside of the bird nesting season. If clearing is required during the bird nesting season, Enbridge Gas's environmental personnel will provide direction on appropriate protection measures in accordance with ECCC (2019) guidance.
Impacts	Please include a discussion or consideration of the impacts to habitat connectivity during construction.	Measures were included in the wildlife habitat section of the ER to mitigate potential impacts to habitat connectivity during construction. In addition, Environmental Inspectors will be on-site to monitor potential impacts of construction on wildlife.
Terrestrial Mitigation Measures	Restoration planting plan should consider added value to wildlife habitat, where practical.	Noted - Thank you.
	Please incorporate an invasive species management plan into the final restoration plan, where practical.	Details on requirements for invasive species management will be determined following the 2022 field surveys. At a minimum, all equipment used for the Project is required to be clean and free of potential invasive species before arriving on site.

	On-site environmental monitoring personnel should also be trained in the identification of species at risk. On-site staff should also be made aware of measures to avoid or minimize impacts to species during work.	A full-time environmental inspector will be on-site during construction to monitor construction activities and will check that the mitigation and protective measures are being implemented. All on-site staff will receive environmental training.
	Please also consider the use of wildlife exclusion fencing around stockpiles for the prevention of turtle nesting.	Field surveys will be undertaken in 2022 will be undertaken to enhance the understanding of terrestrial and aquatic habitat. Mitigation measures will be refined based on the results of the field surveys and associated permitting requirements.
	Please ensure Project lighting is directed away from natural areas to prevent disruptions to wildlife.	Large scale use of Project Lighting is not anticipated. Lighting would be used where construction staff are required during evening hours (e.g. watercourse crossings). Lighting will be directed towards the work areas to the extent practicable.
	Please consider or describe mitigation measures to limit the impacts of noise from construction on wildlife.	Noise mitigation measures are presented in Table 5.1 (*Potential Impacts and Recommended Mitigation and Protective Measures*) of the ER under Air and Noise. "*During construction, motorized construction equipment should be equipped with appropriate mufflers and silencers as available. Company and construction personnel should avoid excessive idling of vehicles; vehicles and equipment should be turned off when not in use unless required for operation. To the greatest extent practical, activities that could create noise should be restricted to daylight hours and adhere to local noise by-laws. Sources of continuous noise, such as portable generators, should be shielded or located so as to reduce disturbance to residents and businesses*."
	Where impacts to significant wildlife habitat are anticipated, mitigation measures should also be implemented.	Field surveys will be undertaken in 2022 to enhance the understanding of terrestrial and aquatic habitat. Mitigation measures will be refined based on the results of the field surveys and associated permitting requirements.
1.3 Socio-economic Features	Details pertaining to First Nation communities, employment and businesses are currently lacking in the description of socio-economic current conditions and potential impacts. As you are aware, WIFN's interests extend well beyond environmental, archaeological, and cultural heritage resources; employment, socio-economic conditions, housing, economic well-being, and community health are also priorities for WIFN. Please include details specific to local Indigenous communities, including WIFN, where available.	Enbridge Gas recognizes WIFN's interests extend beyond environmental, archaeological and cultural heritage resources; however, Enbridge Gas does not have the additional information requested available at this time. Enbridge Gas would like to work with WIFN to learn more on how we can gather this information (if publicly available) and include details specific to the local Indigenous communities in this section.

	The description of Culture, Tourism and Recreational Facilities does not include recognition of the cultural landscape values held by WIFN in the Project area. WIFN has occupied and used the lands of its territory since time immemorial, which would include cultural and spiritual use activities. WIFN continues to hold cultural and spiritual use values and activities throughout is territories and Treaty lands. Please be aware that the current condition of the Study Area does not preclude WIFN from re-establishing condition to support future desired cultural and spiritual uses.	Enbridge Gas would like to obtain further details from WIFN regarding its cultural and spiritual uses on lands in the area so that we can ensure that we can mitigate any potential impacts the Project or Enbridge Gas's operations may have on WIFN's ability to use this land in the future.
Air & Noise	The Report would benefit from a more detailed explanation of what the Project is expected to achieve, and the resulting changes in emissions (air and noise) from the two compressor stations.	As detailed design progresses, further details regarding potential changes in air and noise emissions will become known. Enbridge Gas will obtain or update permits for air and noise emissions from the MECP, if required.
	The Project intends to install an "up to 36-inch diameter" pipe. Presumably, this size of pipe could carry a lot of product. IF this large amount of product is being transferred from one station to another, one would expect the compressor at one end or the other to have to compress this material. Since the amount is large, a significant amount of noise would be generated at one compressor station or the other that wasn't previously done. Does this operation make significant amount of noise? Neither station appears to be within 500m of a sensitive receptor so a significant increase in noise at either locations is unlikely to have a significant impact; however, text describing the situation and lack of impact is reasonable to include in the Report.	As detailed design progresses, further details regarding potential changes in air and noise emissions will become known. Enbridge Gas will obtain or update permits for air and noise emissions from the MECP, if required. One of the purposes of the Project is to address aging infrastructure. The new 36-inch pipeline is designed to enable the same movement capacity of natural gas as the current facilities with the removal of 7 compressors from the Corunna Compressor Station. There will be no new compressor installations as a result of the proposed 36" pipeline while maintaining the current required gas transportation requirements. This means no increased noise volume will be emitted by any facility operation. All compressor facilities will remain within all existing approved operating parameters.
1.3.2. Archaeological Resources	Please provide WIFN a copy of the completed Stage 2 Archaeological Assessment report for review.	Enbridge Gas will provide this to WIFN when it is complete.
1.4 Cumulative Effects Assessment The Environmental Guidelines (2016) set	Due to the proponent's ongoing development and operations within the WIFN territory, we encourage a collaborative approach to developing a cumulative effects assessment framework with WIFN.	Enbridge Gas would be happy to further engage with WIFN regarding this issue to understand how WIFN Aboriginal or treaty rights may be impacted by Enbridge's ongoing development and operations in the WIFN territory.

out by the Ontario Energy Board are temporally and spatially inadequate to assess cumulative effects, and do not necessarily take indigenous values into account. We do not recommend or anticipate that the existing gap in evaluating cumulative effects as set-out in the Environmental Guidelines (2016) will be addressed through this project.		
	In lieu of an immediate solution to comprehensively monitor, assess, and manage cumulative effects, we encourage Enbridge to seriously consider how it may achieve net environmental gains through its ongoing projects and operations within WIFN's territorial and Treaty lands. For example, could Enbridge improve upon its current and regulated standard of replanting 1:1 vegetation, and instead strive for 3:1 replanting plan? There is an opportunity for Enbridge to collaborate with WIFN to determine what actions and policies could achieve net environmental gain, in order to prevent and reduce cumulative effects and begin to restore condition to support WIFN future desired uses.	Where feasible, in consultation with directly impacted landowners, Enbridge Gas will restore the lands to preexisting conditions with the exception of woodlands and trees within the permanent easement. Enbridge Gas will implement a tree replacement program that replants twice the area of woodland removed (2:1) with seedlings of native species that are guaranteed until they reach free to grow status. As requested by WIFN this program will be increased to a ratio of 3:1 for area. Additional restoration programs may be developed and implemented as a result of the environmental permitting process. Enbridge Gas would be happy to discuss ways that we could collaborate with WIFN and actions we can take to restore conditions to support WIFN's future desired uses .

LAND MATTERS

1. The purpose of this section of evidence is to provide an overview of land rights required for the Project, the Enbridge Gas forms of easement and of temporary land use and the status of outreach and negotiations with affected landowners.

2. This Exhibit of evidence is organized as follows:
   A. Land Rights for the Project
   B. Proposed Easement Requirements
   C. Landowner Relations
   D. Construction Monitoring and Follow-up
   E. Authorizations and Permits Required

A. Land Rights for the Project

3. Drawings showing the location of the PR are provided at Attachment 1 to this Exhibit. The names and addresses of landowners have been removed from this Attachment to safeguard landowner privacy.

4. The proposed pipeline is approximately 20 km in length requiring approximately 95.68 hectares (236.44 acres) of easement and temporary land use. 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. /U

5. 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 this filing, formal land rights negotiations have not yet commenced.

B. Proposed Easement Requirements

6. A list of the properties and the approximate dimensions of permanent easements and temporary easements required for the Project is outlined in Attachment 2 to this Exhibit. The names and addresses shown on this list have been redacted to safeguard landowner privacy where appropriate.

7. Enbridge Gas's form of Pipeline Easement is included as Attachment 3 to this Exhibit. This agreement was approved by the OEB for use as part of the Company's Greenstone Pipeline Project (EB-2021-0205) on March 17, 2022. This agreement covers the installation, operation, and maintenance of one pipeline. The major restrictions imposed on the landowner by the agreement are that the landowner cannot erect buildings or privacy fencing on the easement. In addition, the landowner cannot excavate on the easement or install field tile without prior notification to Enbridge Gas. The landowner is free to farm the easement or turn the easement into a laneway.

8. The Enbridge Gas form of Temporary Land Use agreement is included as Attachment 4 to this Exhibit. This agreement was approved by the OEB for use as part of the Company's Greenstone Pipeline Project (EB-2021-0205) on March 17, 2022. This agreement typically applies for a period of two years, beginning in the year of construction, allowing Enbridge Gas to return in the year following construction to perform clean-up work as required.

C. Landowner Relations

9. Enbridge Gas is implementing a comprehensive program to provide landowners, tenants and other interested parties with information regarding the Project. Information was previously distributed through correspondence and meetings with the public. Where formal public meetings were held, in conjunction with the ER (as discussed in Exhibit F), directly affected landowners and agencies were invited to participate by letter, and the general public was invited to participate through newspaper advertisements.

10. Enbridge Gas is in the process of obtaining early access from landowners to conduct preliminary surveys in support of the Project. Preliminary discussions have not identified any strong opposition to the Project.

D. Construction Monitoring and Follow-up

11. Enbridge Gas has a comprehensive and proven landowner relations program in place. Key elements of this program include complaint tracking and assignment of a lands agent to: (i) ensure that commitments made to landowners are fulfilled; (ii) address landowner questions/concerns as promptly as possible; and (iii) act as a liaison between landowners, the Pipeline Contractor and Enbridge Gas Project personnel.

12. When Project cleanup is completed, landowners will be asked by Enbridge Gas to sign a clean-up acknowledgement form if satisfied with the clean-up. This form, when signed, releases the Pipeline Contractor, allowing payment for clean-up on the property. This form in no way releases Enbridge Gas from its obligation for tile repairs, compensation for damages and/or further clean-up as required due to erosion or subsidence directly related to pipeline construction.

E. Authorizations and Permits Required

13. Enbridge Gas's preliminary work on the Project has identified the potential need for authorizations/approvals from and/or compliance with the policies of the following ministries, agencies, municipalities and organizations:

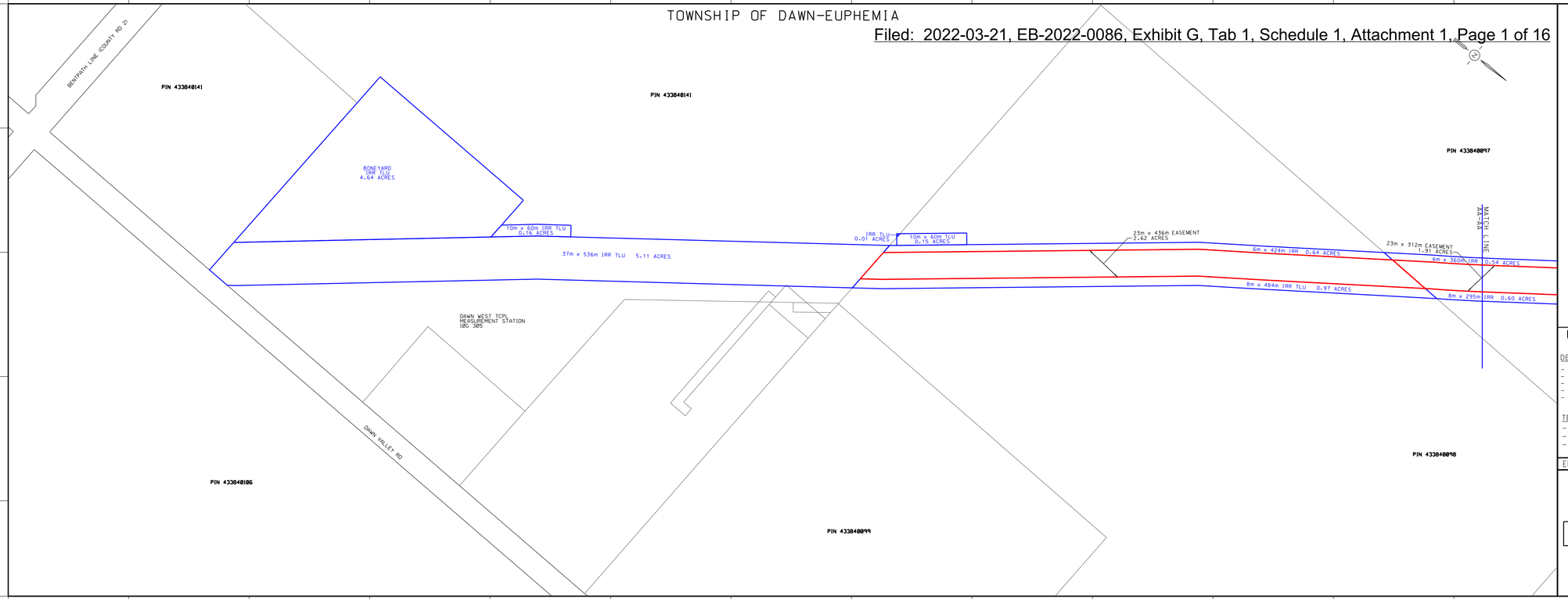
Federal
- Environment Canada
- Fisheries and Oceans Canada ("DFO")

Provincial
- Ontario Energy Board
- Ministry of Environment, Conservation and Parks ("MECP")
- Ministry of Heritage, Sport, Tourism and Culture Industries ("MHSTCI")
- St. Clair Region Conservation Authority ("SCRCA")

Municipal
- Lambton County
- St. Clair Township
- Township of Dawn-Euphemia

Other
- Indigenous engagement
- Utility circulation
- Landowner agreements for easements, temporary working space, and/or storage sites
- Third-party utility crossing agreements including Hydro One

14. Other authorizations, notifications, permits and/or approvals may be required in addition to those identified above. Enbridge Gas will complete all required notifications and will obtain all required authorizations, approvals, permits and land rights prior to the commencement of Project construction.



LEGEND

- PROPOSED PIPELINE EASEMENT –
- TEMPORARY LAND USE –
- PROPOSED ACCESS LANE –
- EXISTING HYDRO/FOREIGN EASEMENT –
- WATERBODY/WATERCOURSE –

12.5 0 25 50 75 METRES
25 0 25 50 75 100 125 250 FEET

DESIGN PARAMETERS

DESIGN

- DESIGNED TO CSA Z662-**
- DESIGN FACTOR - *.*
- LOCATION FACTOR - *.**
- DESIGN TEMPERATURE - ***
- DESIGN PRESSURE - **** kPa

TEST PRESSURE

- MINIMUM – ****kPa
- MAXIMUM – ****kPa
- TEST DATE:_____

ENGINEER: GRANT STRACHAN

PRELIMINARY

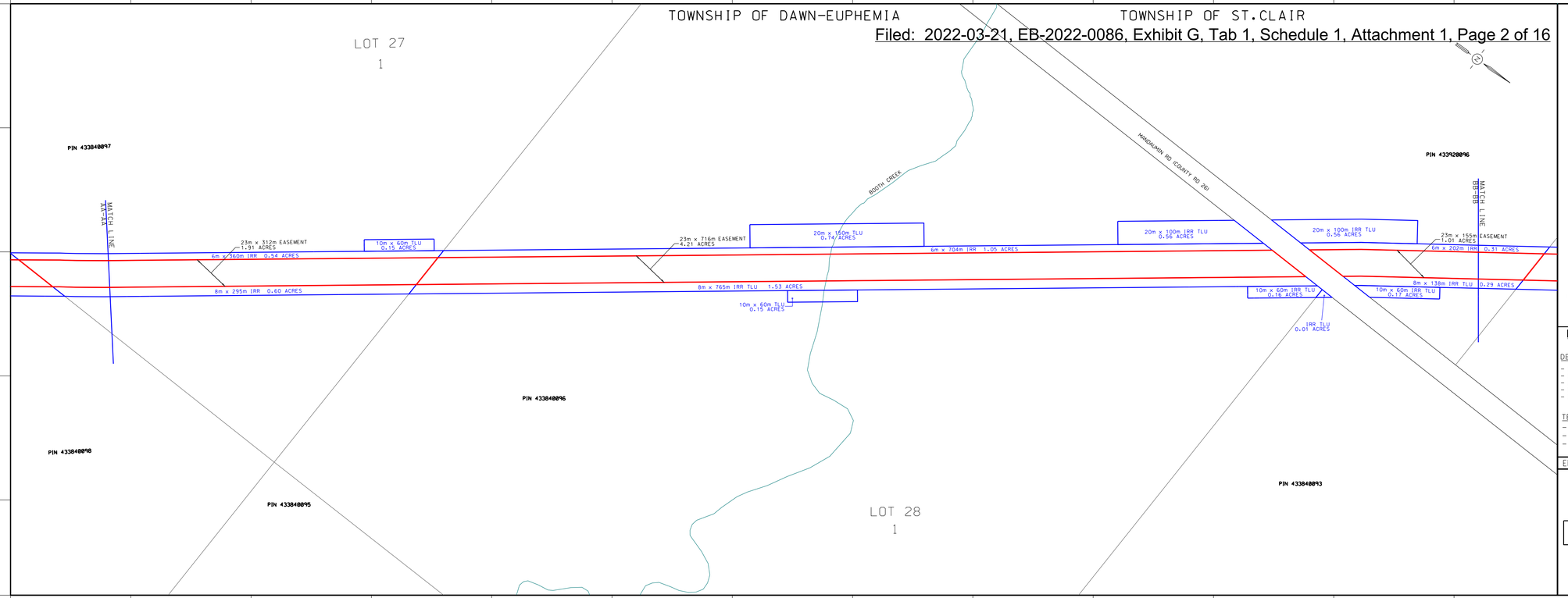
No.	DATE	BY	APP'D	REMARKS
A	2021-11-22	N.C.	G.S.	OEB FILING

REVISIONS

ENBRIDGE
Life Takes Energy

PROPOSED DAWN TO CORUNNA TR7 - NPS 36 PIPELINE
TOWNSHIPS OF DAWN/EUPHEMIA & ST. CLAIR
START TO MATCH LINE AA-AA

DRAWN BY: NICO CARIATI	DATE: 2021-10-25	PLOT SPEC:	1:2000
CHECKED BY: CAROLE GAGNE	DATE: 2021-11-22	CAD CODE:	PL3430-OEB-01A.dgn
APPROVED BY: GRANT STRACHAN	DATE: 2021-11-22	FILE REVISION DATE	2021-11-22
SIZE: STRIP	SHEET: N/A	DRAWING No.:	PL3430-OEB-01A



LEGEND

- PROPOSED PIPELINE EASEMENT –
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ENGINEER: GRANT STRACHAN

PRELIMINARY

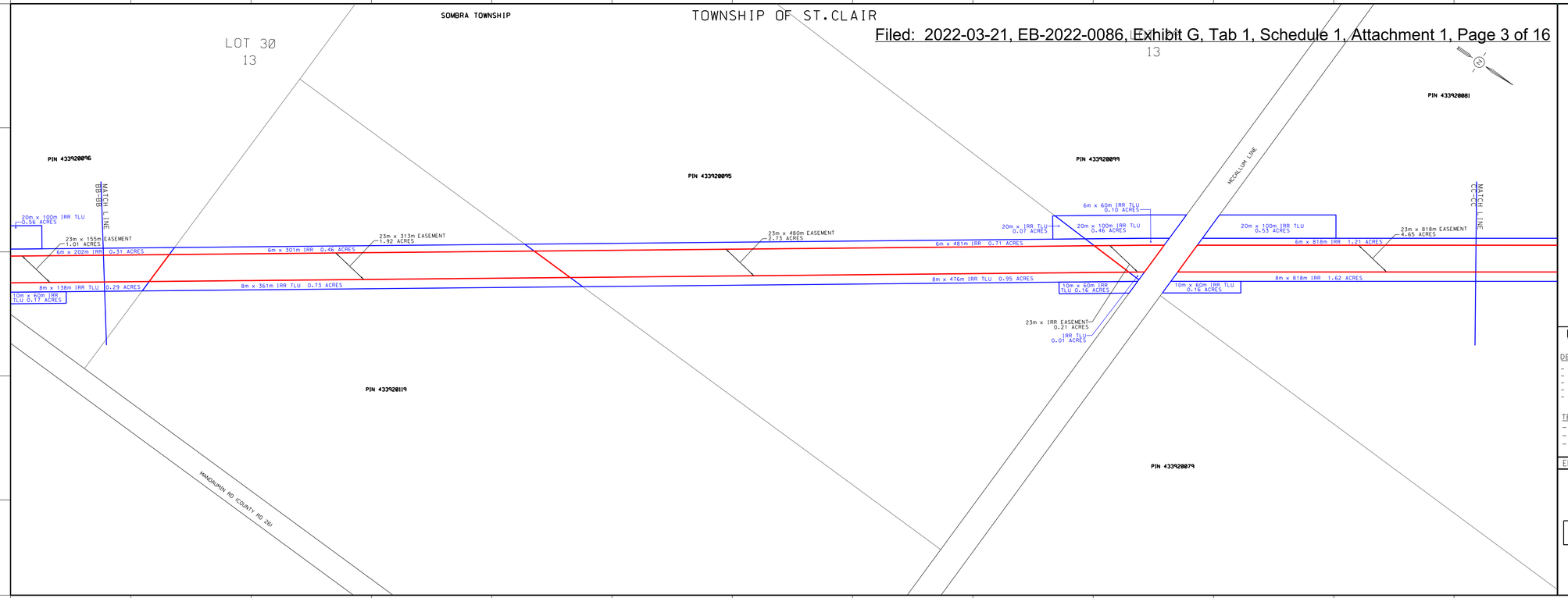
No.	DATE	BY	APP'D	REMARKS
A	2021-11-22	N.C.	G.S.	OEB FILING

REVISIONS

ENBRIDGE
Life Takes Energy

PROPOSED DAWN TO CORUNNA TR7 - NPS 36 PIPELINE
TOWNSHIPS OF DAWN/EUPHEMIA & ST. CLAIR
MATCH LINE AA-AA TO MATCH LINE BB-BB

DRAWN BY: NICO CARIATI	DATE: 2021-10-25	PLOT SPEC:	1:2000
CHECKED BY: CAROLE GAGNE	DATE: 2021-11-22	CAD CODE:	PL3430-OEB-02A.dgn
APPROVED BY: GRANT STRACHAN	DATE: 2021-11-22	FILE REVISION DATE	2021-11-22
SIZE: STRIP	SHEET: N/A	DRAWING No.:	PL3430-OEB-02A



LEGEND

- PROPOSED PIPELINE EASEMENT –
- TEMPORARY LAND USE –
- PROPOSED ACCESS LANE –
- EXISTING HYDRO/FOREIGN EASEMENT –
- WATERBODY/WATERCOURSE –

12.5 0 25 50 75 METRES
25 0 25 50 75 100 125 250 FEET

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ENGINEER: GRANT STRACHAN

PRELIMINARY

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REVISIONS

ENBRIDGE
Life Takes Energy

PROPOSED DAWN TO CORUNNA TR7 - NPS 36 PIPELINE
TOWNSHIPS OF DAWN/EUPHEMIA & ST. CLAIR
MATCH LINE BB-BB TO MATCH LINE CC-CC

DRAWN BY: NICO CARIATI	DATE: 2021-10-25	PLOT SPEC:	1:2000
CHECKED BY: CAROLE GAGNE	DATE: 2021-11-22	CAD CODE:	PL3430-OEB-03A.dgn
APPROVED BY: GRANT STRACHAN	DATE: 2021-11-22	FILE REVISION DATE	2021-11-22
SIZE: STRIP	SHEET: N/A	DRAWING No.:	PL3430-OEB-03A

SOMBRA TOWNSHIP

TOWNSHIP OF ST.CLAIR

14

PIN 433920081

PIN 433920083

PIN 433920080

MATCH LINE CC-CC

MATCH LINE DD-DD

6m x 818m IRR 1.21 ACRES

23m x 818m EASEMENT 3.65 ACRES

6m x 409m IRR 0.61 ACRES

23m x 409m EASEMENT 2.33 ACRES

23m x 343m EASEMENT 2.06 ACRES

6m x 343m IRR 0.51 ACRES

8m x 818m IRR 1.62 ACRES

8m x 409m IRR 0.81 ACRES

8m x 343m IRR 0.69 ACRES

13m x 205m IRR ACCESS 0.66 ACRES (TO STANLEY LINE)

STANLEY LINE

LOT 29

14

PIN 433920084

PIN 433920067

SOMBRA TWP
LOT 28 CON 15
REGULATOR STATION
(ID 573

DETAIL A
1:6000

LEGEND

- PROPOSED PIPELINE EASEMENT –
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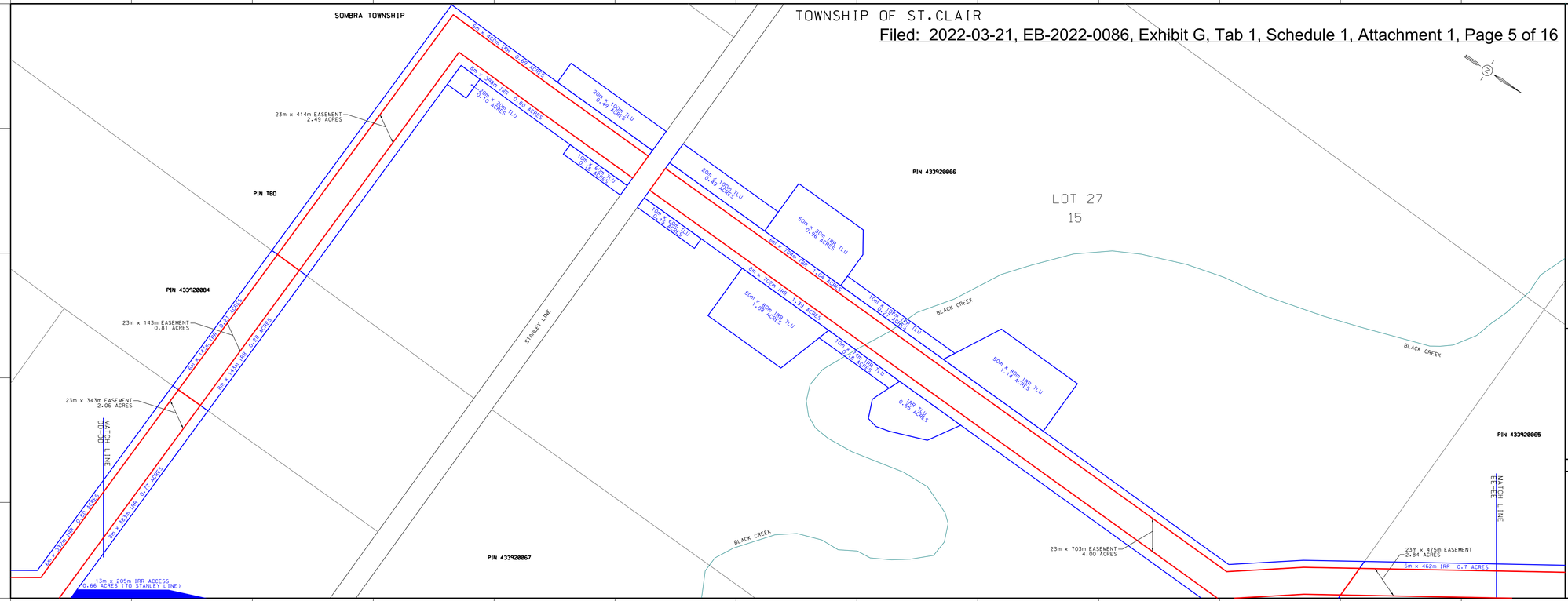
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ENBRIDGE
Life Takes Energy

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TOWNSHIPS OF DAWN/EUPHEMIA & ST. CLAIR
MATCH LINE CC-CC TO MATCH LINE DD-DD

DRAWN BY: NICO CARIATI	DATE: 2021-10-25	PLOT SPEC:	1:2000
CHECKED BY: CAROLE GAGNE	DATE: 2021-11-22	CAD CODE:	PL3430-OEB-04A.dgn
APPROVED BY: GRANT STRACHAN	DATE: 2021-11-22	FILE REVISION DATE	2021-11-22
SIZE: STRIP	SHEET: N/A	DRAWING No.:	PL3430-OEB-04A



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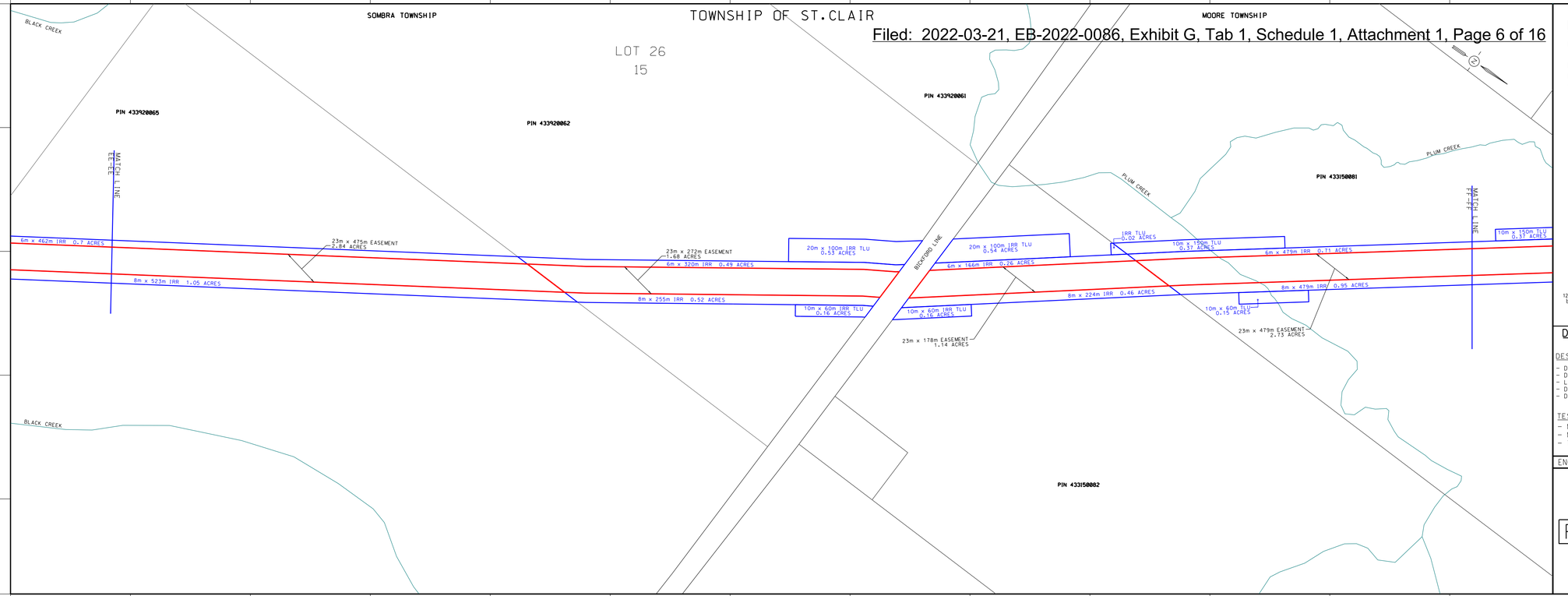
No.	DATE	BY	APP'D	REMARKS
A	2021-11-22	N.C.	G.S.	OEB FILING

REVISIONS

ENBRIDGE
Life Takes Energy

PROPOSED DAWN TO CORUNNA TR7 – NPS 36 PIPELINE
TOWNSHIPS OF DAWN/EUPHEMIA & ST. CLAIR
MATCH LINE DD-DD TO MATCH LINE EE-EE

DRAWN BY: NICO CARIATI	DATE: 2021-10-25	PLOT SPEC:	1:2000
CHECKED BY: CAROLE GAGNE	DATE: 2021-11-22	CAD CODE:	PL3430-OEB-05A.dgn
APPROVED BY: GRANT STRACHAN	DATE: 2021-11-22	FILE REVISION DATE	2021-11-22
SIZE: STRIP	SHEET: N/A	DRAWING No.:	PL3430-OEB-05A



LEGEND

- PROPOSED PIPELINE EASEMENT –
- TEMPORARY LAND USE –
- PROPOSED ACCESS LANE –
- EXISTING HYDRO/FOREIGN EASEMENT –
- WATERBODY/WATERCOURSE –

DESIGN PARAMETERS

DESIGN

- DESIGNED TO CSA Z662-**
- DESIGN FACTOR - *.*
- LOCATION FACTOR - *.**
- DESIGN TEMPERATURE - ***
- DESIGN PRESSURE - **** kPa

TEST PRESSURE

- MINIMUM – ****kPa
- MAXIMUM – ****kPa
- TEST DATE:_____

ENGINEER: GRANT STRACHAN

PRELIMINARY

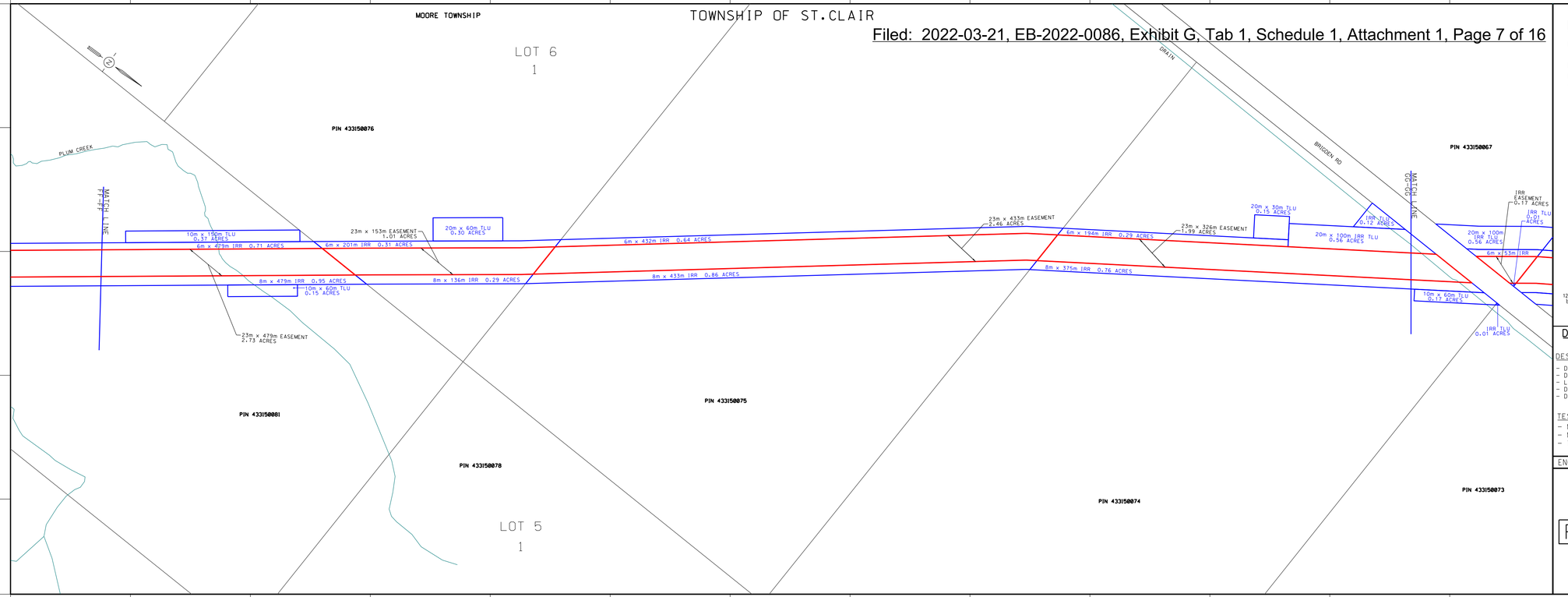
No.	DATE	BY	APP'D	REMARKS
A	2021-11-22	N.C.	G.S.	OEB FILING

REVISIONS

ENBRIDGE
Life Takes Energy

PROPOSED DAWN TO CORUNNA TR7 - NPS 36 PIPELINE
TOWNSHIPS OF DAWN/EUPHEMIA & ST. CLAIR
MATCH LINE EE-EE TO MATCH LINE FF-FF

DRAWN BY: NICO CARIATI	DATE: 2021-10-25	PLOT SPEC:	1:2000
CHECKED BY: CAROLE GAGNE	DATE: 2021-11-22	CAD CODE:	PL3430-GL-06A.dgn
APPROVED BY: GRANT STRACHAN	DATE: 2021-11-22	FILE REVISION DATE	2021-11-22
SIZE: STRIP	SHEET: N/A	DRAWING No.	PL3430-OEB-06A



LEGEND

- PROPOSED PIPELINE EASEMENT –
- TEMPORARY LAND USE –
- PROPOSED ACCESS LANE –
- EXISTING HYDRO/FOREIGN EASEMENT –
- WATERBODY/WATERCOURSE –

DESIGN PARAMETERS

DESIGN

- DESIGNED TO CSA Z662-**
- DESIGN FACTOR - *.*
- LOCATION FACTOR - *.**
- DESIGN TEMPERATURE - ***
- DESIGN PRESSURE - **** kPa

TEST PRESSURE

- MINIMUM – ****kPa
- MAXIMUM – ****kPa
- TEST DATE:_____

ENGINEER: GRANT STRACHAN

PRELIMINARY

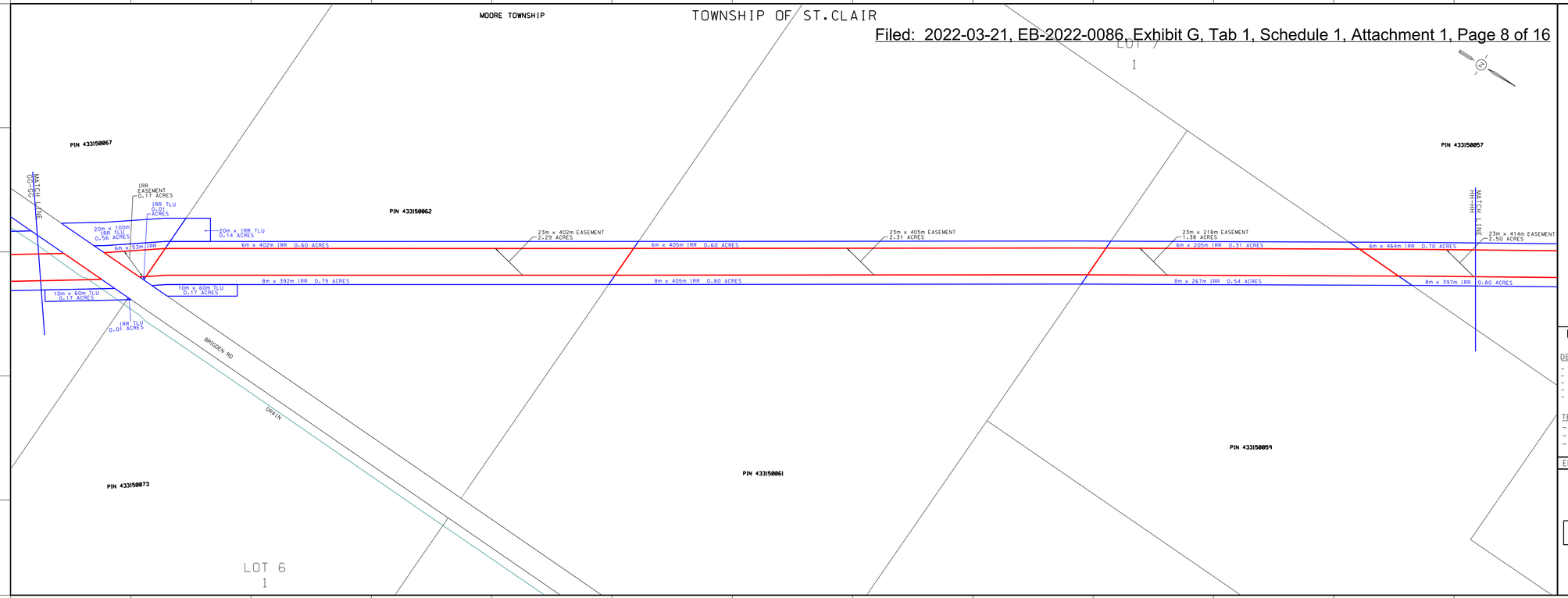
No.	DATE	BY	APP'D	REMARKS
A	2021-11-22	N.C.	G.S.	OEB FILING

REVISIONS

ENBRIDGE
Life Takes Energy

PROPOSED DAWN TO CORUNNA TR7 - NPS 36 PIPELINE
TOWNSHIPS OF DAWN/EUPHEMIA & ST. CLAIR
MATCH LINE FF-FF TO MATCH LINE GG-GG

DRAWN BY: NICO CARIATI	DATE: 2021-10-25	PLOT SPEC:	1:2000
CHECKED BY: CAROLE GAGNE	DATE: 2021-11-22	CAD CODE:	PL3430-OEB-07A.dgn
APPROVED BY: GRANT STRACHAN	DATE: 2021-11-22	FILE REVISION DATE	2021-11-22
SIZE: STRIP	SHEET: N/A	DRAWING No.:	PL3430-OEB-07A



LEGEND

- PROPOSED PIPELINE EASEMENT –
- TEMPORARY LAND USE –
- PROPOSED ACCESS LANE –
- EXISTING HYDRO/FOREIGN EASEMENT –
- WATERBODY/WATERCOURSE –

DESIGN PARAMETERS

DESIGN

- DESIGNED TO CSA Z662-**
- DESIGN FACTOR – *.*
- LOCATION FACTOR – *.**
- DESIGN TEMPERATURE – ***
- DESIGN PRESSURE – **** kPa

TEST PRESSURE

- MINIMUM – ****kPa
- MAXIMUM – ****kPa
- TEST DATE: _____

ENGINEER: GRANT STRACHAN

PRELIMINARY

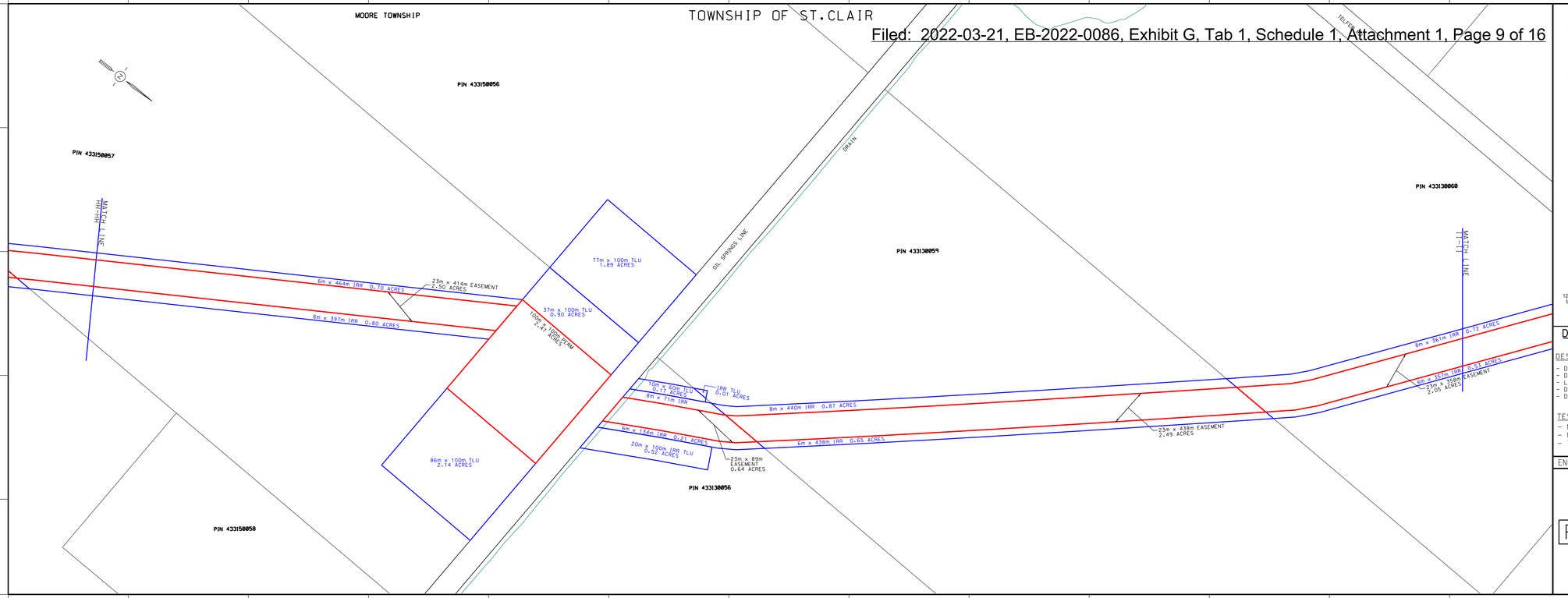
No.	DATE	BY	APP'D	REMARKS
A	2021-11-22	N.C.	G.S.	OEB FILING

REVISIONS

ENBRIDGE
Life Takes Energy

PROPOSED DAWN TO CORUNNA TR7 – NPS 36 PIPELINE
TOWNSHIPS OF DAWN/EUPHEMIA & ST. CLAIR
MATCH LINE GG-GG TO MATCH LINE HH-HH

DRAWN BY: NICO CARIATI	DATE: 2021-10-25	PLOT SPEC:	1:2000
CHECKED BY: CAROLE GAGNE	DATE: 2021-11-22	CAD CODE:	PL3430-OEB-08A.dgn
APPROVED BY: GRANT STRACHAN	DATE: 2021-11-22	FILE REVISION DATE	2021-11-22
SIZE: STRIP	SHEET: N/A	DRAWING No.	PL3430-OEB-08A



LEGEND

- PROPOSED PIPELINE EASEMENT –
- TEMPORARY LAND USE –
- PROPOSED ACCESS LANE –
- EXISTING HYDRO/FOREIGN EASEMENT –
- WATERBODY/WATERCOURSE –

12.5 0 25 50 75 METRES
25 0 25 50 75 100 125 250 FEET

DESIGN PARAMETERS

DESIGN

- DESIGNED TO CSA Z662-**
- DESIGN FACTOR - *.*
- LOCATION FACTOR - *.**
- DESIGN TEMPERATURE - ***
- DESIGN PRESSURE - **** kPa

TEST PRESSURE

- MINIMUM – ****kPa
- MAXIMUM – ****kPa
- TEST DATE: _____

ENGINEER: GRANT STRACHAN

PRELIMINARY

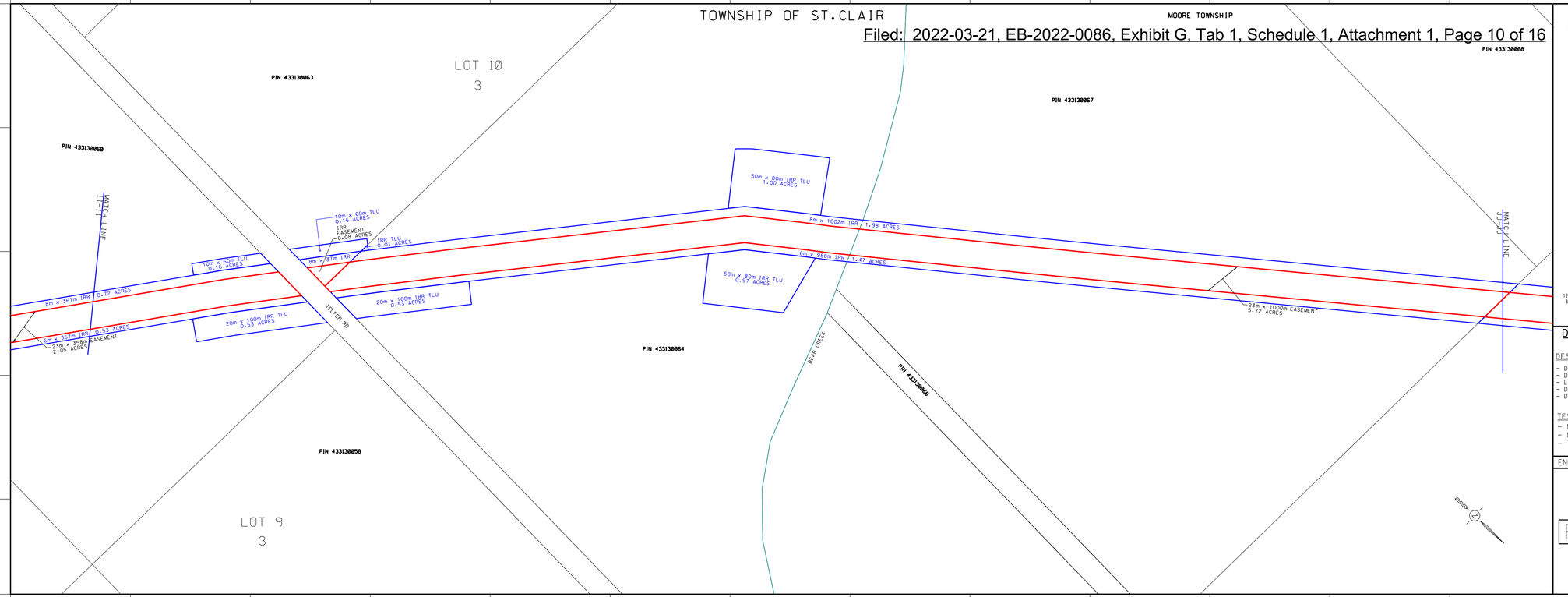
No.	DATE	BY	APP'D	REMARKS
A	2021-11-22	N.C.	G.S.	OEB FILING

REVISIONS

ENBRIDGE
Life Takes Energy

PROPOSED DAWN TO CORUNNA TR7 - NPS 36 PIPELINE
TOWNSHIPS OF DAWN/EUPHEMIA & ST. CLAIR
MATCH LINE HH-HH TO MATCH LINE II-II

DRAWN BY: NICO CARIATI	DATE: 2021-10-25	PLOT SPEC:	1:2000
CHECKED BY: CAROLE GAGNE	DATE: 2021-11-22	CAD CODE:	PL3430-OEB-09A.dgn
APPROVED BY: GRANT STRACHAN	DATE: 2021-11-22	FILE REVISION DATE	2021-11-22
SIZE: STRIP	SHEET: N/A	DRAWING No.:	PL3430-OEB-09A



LEGEND

- PROPOSED PIPELINE EASEMENT –
- TEMPORARY LAND USE –
- PROPOSED ACCESS LANE –
- EXISTING HYDRO/FOREIGN EASEMENT –
- WATERBODY/WATERCOURSE –

12.5 0 25 50 75 METRES
25 0 25 50 75 100 125 250 FEET

DESIGN PARAMETERS

DESIGN

- DESIGNED TO CSA Z662-**
- DESIGN FACTOR - *.*
- LOCATION FACTOR - *.**
- DESIGN TEMPERATURE - ***
- DESIGN PRESSURE - **** kPa

TEST PRESSURE

- MINIMUM – ****kPa
- MAXIMUM – ****kPa
- TEST DATE:_____

ENGINEER: GRANT STRACHAN

PRELIMINARY

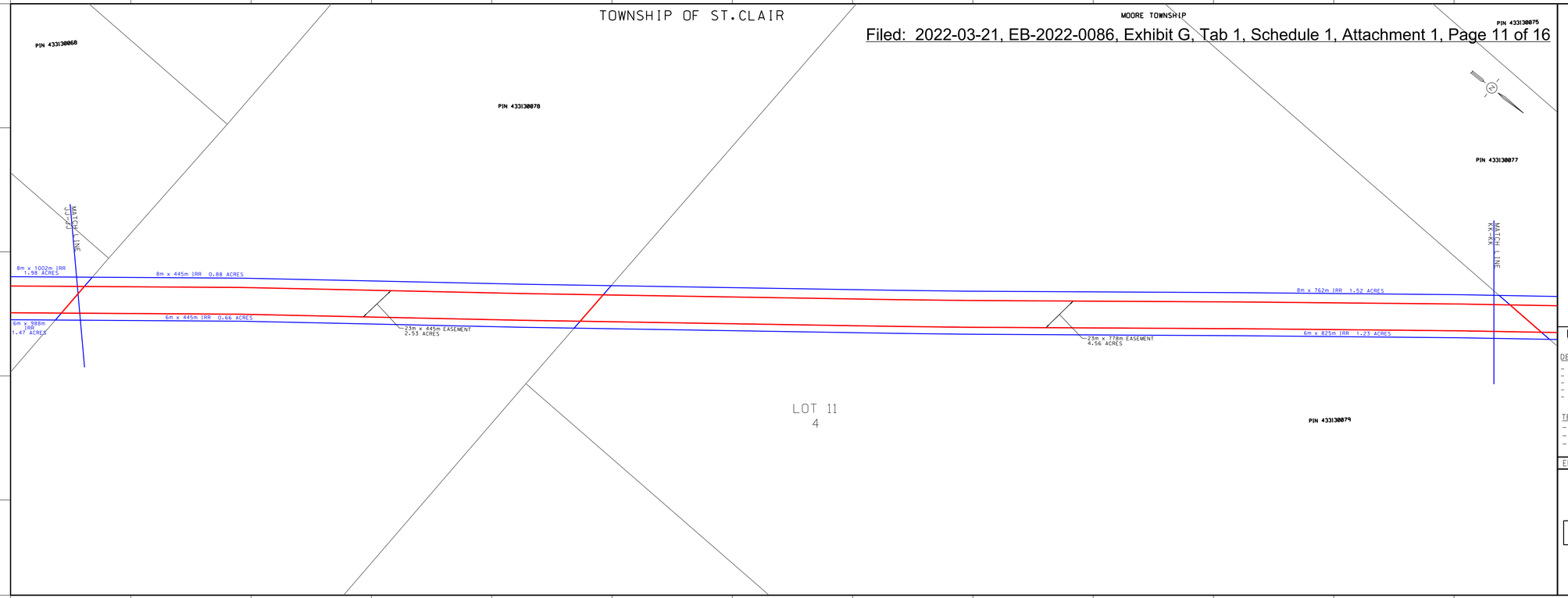
No.	DATE	BY	APP'D	REMARKS
A	2021-11-22	N.C.	G.S.	OEB FILING

REVISIONS

ENBRIDGE
Life Takes Energy

PROPOSED DAWN TO CORUNNA TR7 - NPS 36 PIPELINE
TOWNSHIPS OF DAWN/EUPHEMIA & ST. CLAIR
MATCH LINE II-II TO MATCH LINE JJ-JJ

DRAWN BY: NICO CARIATI	DATE: 2021-10-25	PLOT SPEC:	1:2000
CHECKED BY: CAROLE GAGNE	DATE: 2021-11-22	CAD CODE:	PL3430-OEB-10A.dgn
APPROVED BY: GRANT STRACHAN	DATE: 2021-11-22	FILE REVISION DATE	2021-11-22
SIZE: STRIP	SHEET: N/A	DRAWING No.:	PL3430-OEB-10A



LEGEND

- PROPOSED PIPELINE EASEMENT –
- TEMPORARY LAND USE –
- PROPOSED ACCESS LANE –
- EXISTING HYDRO/FOREIGN EASEMENT –
- WATERBODY/WATERCOURSE –

12.5 0 25 50 75 METRES
25 0 25 50 75 100 125 250 FEET

DESIGN PARAMETERS

DESIGN

- DESIGNED TO CSA Z662-**
- DESIGN FACTOR - *.*
- LOCATION FACTOR - *.**
- DESIGN TEMPERATURE - ***
- DESIGN PRESSURE - **** kPa

TEST PRESSURE

- MINIMUM - ****kPa
- MAXIMUM - ****kPa
- TEST DATE:_____

ENGINEER: GRANT STRACHAN

PRELIMINARY

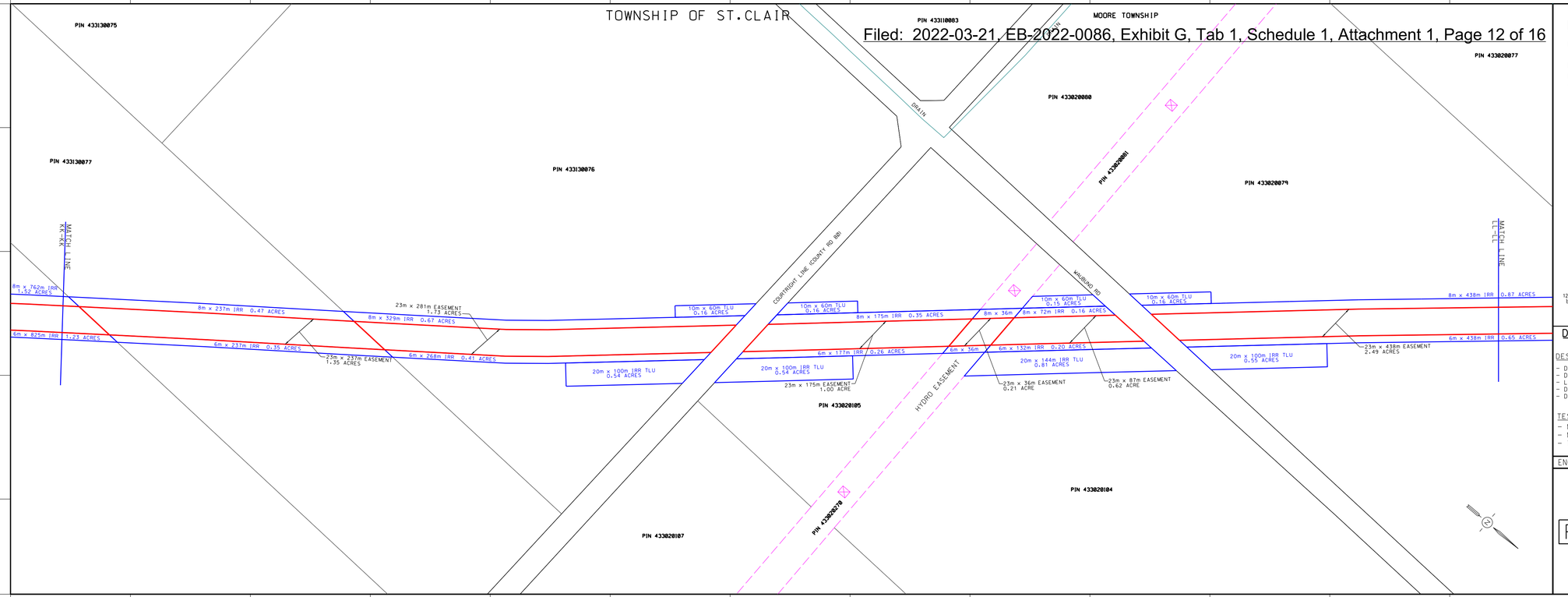
No.	DATE	BY	APP'D	REMARKS
A	2021-11-22	N.C.	G.S.	OEB FILING

REVISIONS

ENBRIDGE
Life Takes Energy

PROPOSED DAWN TO CORUNNA TR7 - NPS 36 PIPELINE
TOWNSHIPS OF DAWN/EUPHEMIA & ST. CLAIR
MATCH LINE JJ-JJ TO MATCH LINE KK-KK

DRAWN BY: NICO CARIATI	DATE: 2021-10-25	PLOT SPEC:	1:2000
CHECKED BY: CAROLE GAGNE	DATE: 2021-11-22	CAD CODE:	PL3430-OEB-11A.dgn
APPROVED BY: GRANT STRACHAN	DATE: 2021-11-22	FILE REVISION DATE	2021-11-22
SIZE: STRIP	SHEET: N/A	DRAWING No.:	PL3430-OEB-11A



LEGEND

- PROPOSED PIPELINE EASEMENT –
- TEMPORARY LAND USE –
- PROPOSED ACCESS LANE –
- EXISTING HYDRO/FOREIGN EASEMENT –
- WATERBODY/WATERCOURSE –

12.5 0 25 50 75 METRES
25 0 25 50 75 100 125 250 FEET

DESIGN PARAMETERS

DESIGN

- DESIGNED TO CSA Z662-**
- DESIGN FACTOR - *.*
- LOCATION FACTOR - *.**
- DESIGN TEMPERATURE - ***
- DESIGN PRESSURE - **** kPa

TEST PRESSURE

- MINIMUM - ****kPa
- MAXIMUM - ****kPa
- TEST DATE: _____

ENGINEER: GRANT STRACHAN

PRELIMINARY

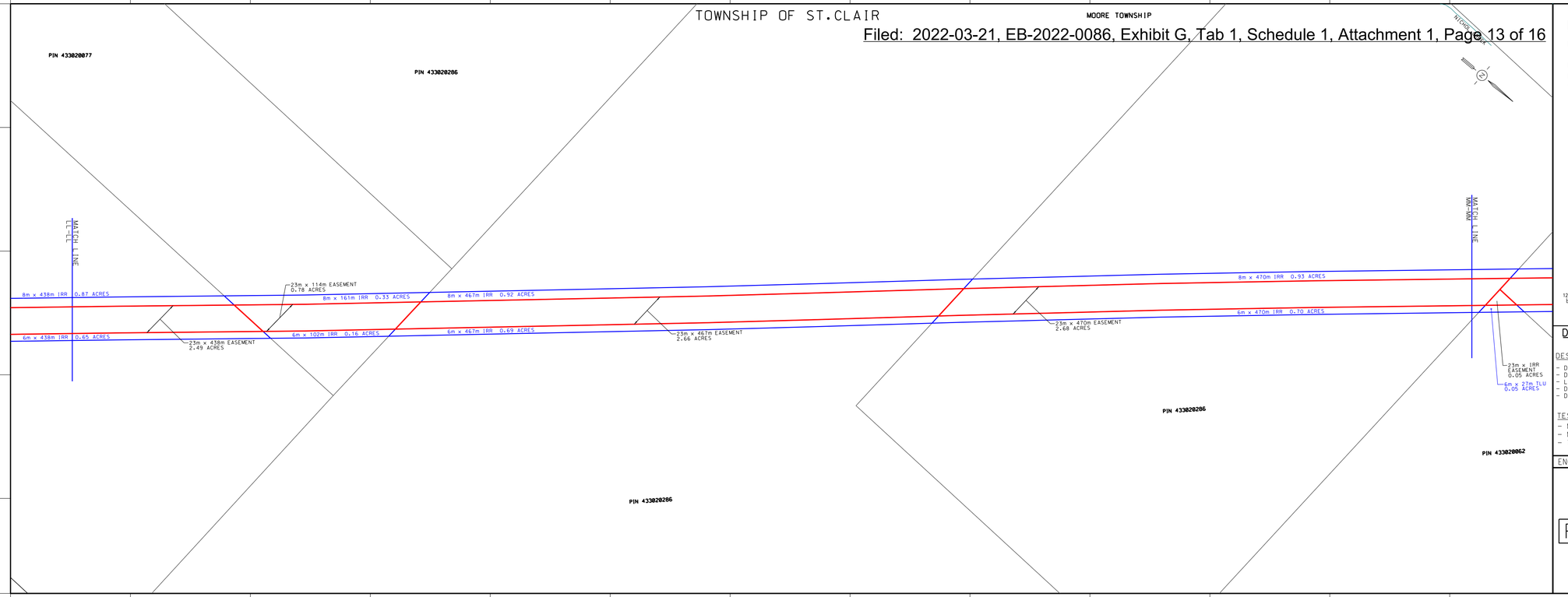
No.	DATE	BY	APP'D	REMARKS
A	2021-11-22	N.C.	G.S.	OEB FILING

REVISIONS

ENBRIDGE
Life Takes Energy

PROPOSED DAWN TO CORUNNA TR7 - NPS 36 PIPELINE
TOWNSHIPS OF DAWN/EUPHEMIA & ST. CLAIR
MATCH LINE KK-KK TO MATCH LINE LL-LL

DRAWN BY: NICO CARIATI	DATE: 2021-10-25	PLOT SPEC:	1:2000
CHECKED BY: CAROLE GAGNE	DATE: 2021-11-22	CAD CODE:	PL3430-OEB-12A.dgn
APPROVED BY: GRANT STRACHAN	DATE: 2021-11-22	FILE REVISION DATE	2021-11-22
SIZE: STRIP	SHEET: N/A	DRAWING No.:	PL3430-OEB-12A



LEGEND

- PROPOSED PIPELINE EASEMENT –
- TEMPORARY LAND USE –
- PROPOSED ACCESS LANE –
- EXISTING HYDRO/FOREIGN EASEMENT –
- WATERBODY/WATERCOURSE –

12.5 0 25 50 75 METRES
25 0 25 50 75 100 125 250 FEET

DESIGN PARAMETERS

DESIGN
- DESIGNED TO CSA Z662-**
- DESIGN FACTOR - *.*
- LOCATION FACTOR - *.**
- DESIGN TEMPERATURE - ***
- DESIGN PRESSURE - **** kPa

TEST PRESSURE
- MINIMUM – ****kPa
- MAXIMUM – ****kPa
- TEST DATE: _____

ENGINEER: GRANT STRACHAN

PRELIMINARY

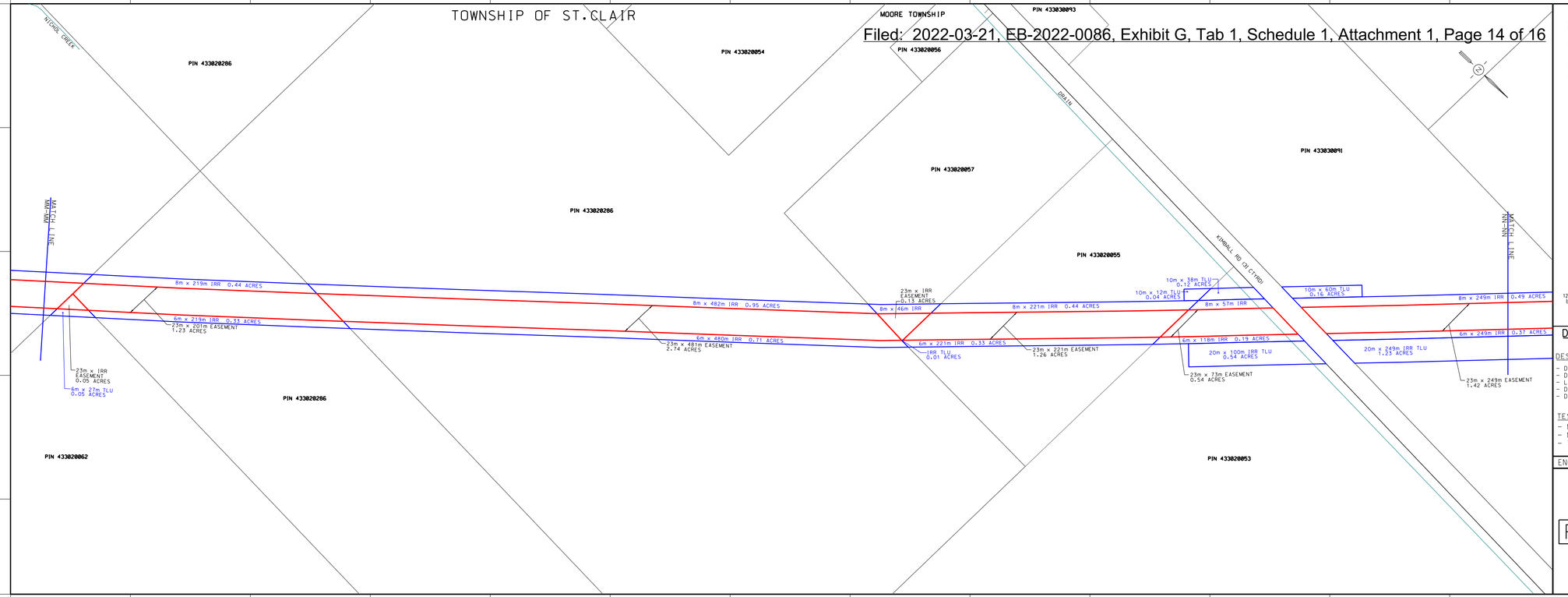
No.	DATE	BY	APP'D	REMARKS
A	2021-11-22	N.C.	G.S.	OEB FILING

REVISIONS

ENBRIDGE
Life Takes Energy

PROPOSED DAWN TO CORUNNA TR7 - NPS 36 PIPELINE
TOWNSHIPS OF DAWN/EUPHEMIA & ST. CLAIR
MATCH LINE LL-LL TO MATCH LINE MM-MM

DRAWN BY: NICO CARIATI	DATE: 2021-10-25	PLOT SPEC:	1:2000
CHECKED BY: CAROLE GAGNE	DATE: 2021-11-22	CAD CODE:	PL3430-OEB-13A.dgn
APPROVED BY: GRANT STRACHAN	DATE: 2021-11-22	FILE REVISION DATE	2021-11-22
SIZE: STRIP	SHEET: N/A	DRAWING No.:	PL3430-OEB-13A



LEGEND

- PROPOSED PIPELINE EASEMENT –
- TEMPORARY LAND USE –
- PROPOSED ACCESS LANE –
- EXISTING HYDRO/FOREIGN EASEMENT –
- WATERBODY/WATERCOURSE –

12.5 0 25 50 75 METRES
25 0 25 50 75 100 125 250 FEET

DESIGN PARAMETERS

DESIGN

- DESIGNED TO CSA Z662-**
- DESIGN FACTOR - *.*
- LOCATION FACTOR - *.**
- DESIGN TEMPERATURE - ***
- DESIGN PRESSURE - **** kPa

TEST PRESSURE

- MINIMUM – ****kPa
- MAXIMUM – ****kPa
- TEST DATE:_____

ENGINEER: GRANT STRACHAN

PRELIMINARY

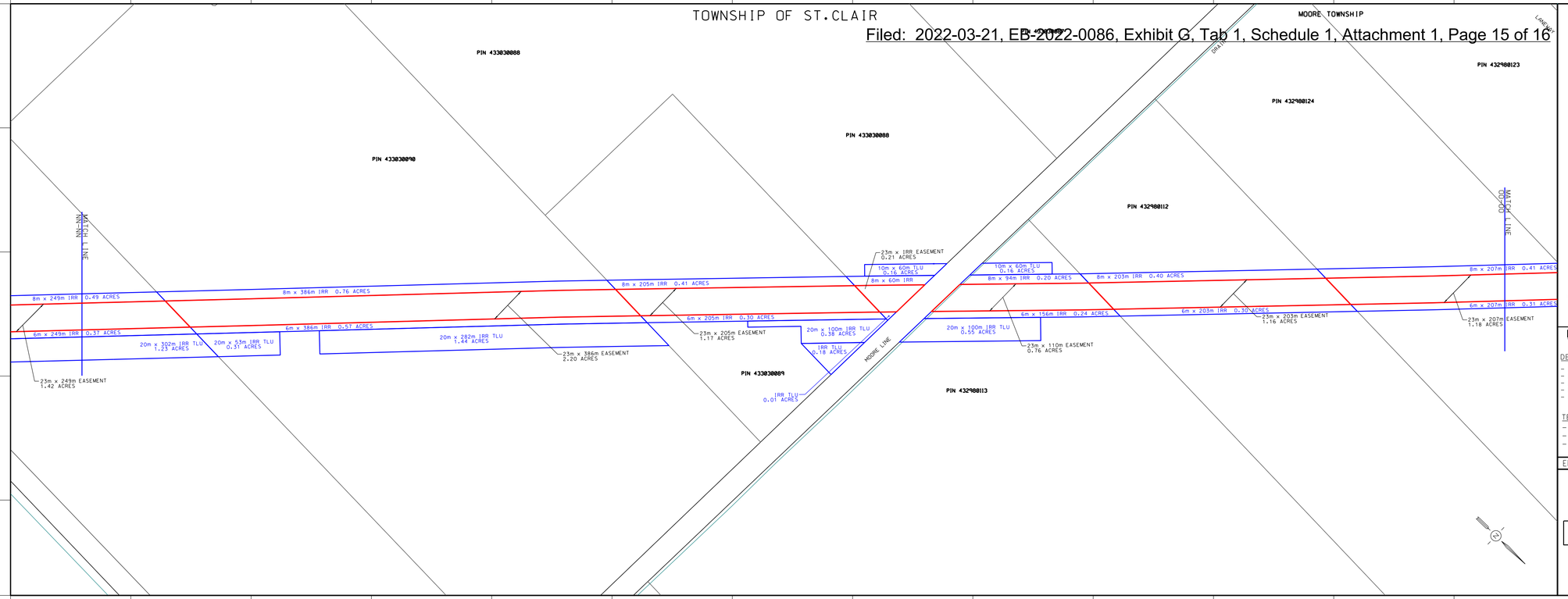
No.	DATE	BY	APP'D	REMARKS
A	2021-11-22	N.C.	G.S.	OEB FILING

REVISIONS

ENBRIDGE
Life Takes Energy

PROPOSED DAWN TO CORUNNA TR7 - NPS 36 PIPELINE
TOWNSHIPS OF DAWN/EUPHEMIA & ST. CLAIR
MATCH LINE MM-MM TO MATCH LINE NN-NN

DRAWN BY NICO CARIATI	DATE 2021-10-25	PLOT SPEC:	1:2000
CHECKED BY CAROLE GAGNE	DATE 2021-11-22	CAD CODE:	PL3430-OEB-14A.dgn
APPROVED BY GRANT STRACHAN	DATE 2021-11-22	FILE REVISION DATE	2021-11-22
SIZE STRIP	SHEET N/A	DRAWING No.	PL3430-OEB-14A



LEGEND

- PROPOSED PIPELINE EASEMENT –
- TEMPORARY LAND USE –
- PROPOSED ACCESS LANE –
- EXISTING HYDRO/FOREIGN EASEMENT –
- WATERBODY/WATERCOURSE –

12.5 0 25 50 75 METRES
25 0 25 50 75 100 125 250 FEET

DESIGN PARAMETERS

DESIGN

- DESIGNED TO CSA Z662-**
- DESIGN FACTOR - *.*
- LOCATION FACTOR - *.**
- DESIGN TEMPERATURE - ***
- DESIGN PRESSURE - **** kPa

TEST PRESSURE

- MINIMUM - ****kPa
- MAXIMUM - ****kPa
- TEST DATE: _____

ENGINEER: GRANT STRACHAN

PRELIMINARY

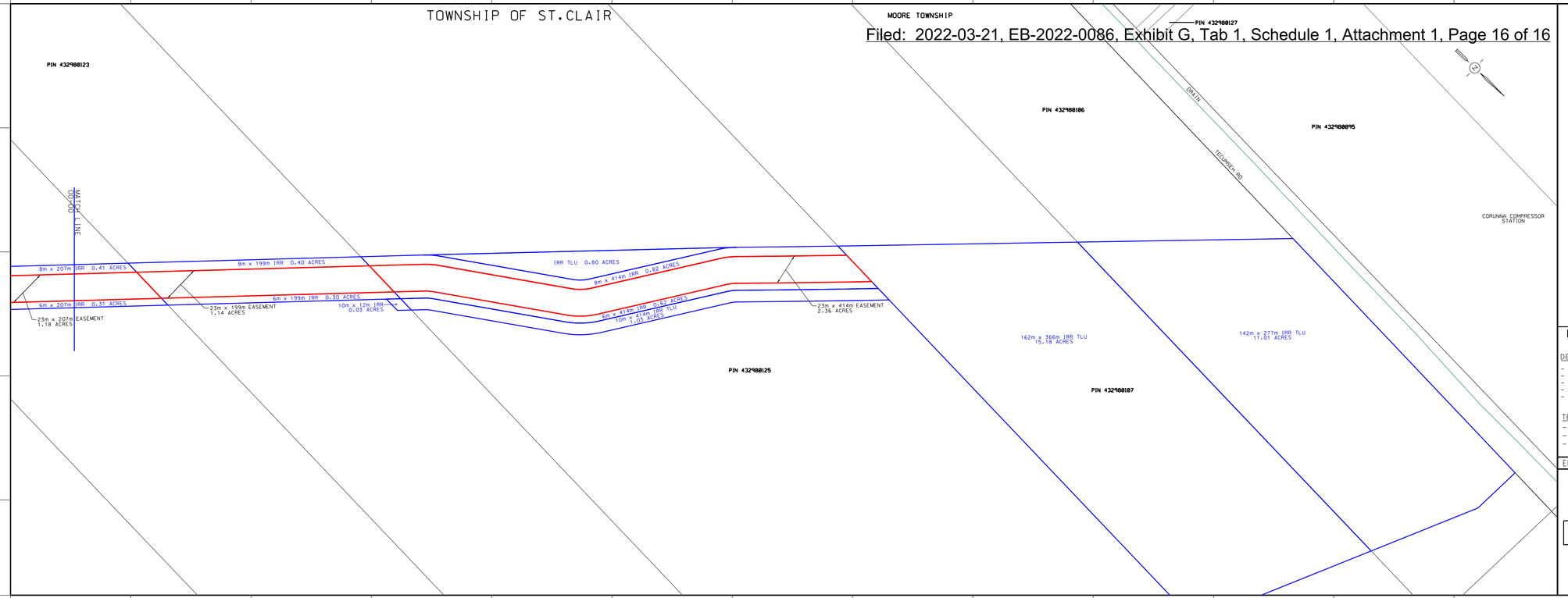
No.	DATE	BY	APP'D	REMARKS
A	2021-11-22	N.C.	G.S.	OEB FILING

REVISIONS

ENBRIDGE
Life Takes Energy

PROPOSED DAWN TO CORUNNA TR7 - NPS 36 PIPELINE
TOWNSHIPS OF DAWN/EUPHEMIA & ST. CLAIR
MATCH LINE NN-NN TO MATCH LINE 00-00

DRAWN BY: NICO CARIATI	DATE: 2021-10-25	PLOT SPEC:	1:2000
CHECKED BY: CAROLE GAGNE	DATE: 2021-11-22	CAD CODE:	PL3430-OEB-15A.dgn
APPROVED BY: GRANT STRACHAN	DATE: 2021-11-22	FILE REVISION DATE	2021-11-22
SIZE: STRIP	SHEET: N/A	DRAWING No.:	PL3430-OEB-15A



LEGEND

- PROPOSED PIPELINE EASEMENT –
- TEMPORARY LAND USE –
- PROPOSED ACCESS LANE –
- EXISTING HYDRO/FOREIGN EASEMENT –
- WATERBODY/WATERCOURSE –

12.5 0 25 50 75 METRES
25 0 25 50 75 100 125 250 FEET

DESIGN PARAMETERS

DESIGN

- DESIGNED TO CSA Z662-**
- DESIGN FACTOR - *.*
- LOCATION FACTOR - *.**
- DESIGN TEMPERATURE - ***
- DESIGN PRESSURE - **** kPa

TEST PRESSURE

- MINIMUM – ****kPa
- MAXIMUM – ****kPa
- TEST DATE:_____

ENGINEER: GRANT STRACHAN

PRELIMINARY

No.	DATE	BY	APP'D	REMARKS
A	2021-11-22	N.C.	G.S.	OEB FILING

REVISIONS

ENBRIDGE
Life Takes Energy

PROPOSED DAWN TO CORUNNA TR7 - NPS 36 PIPELINE
TOWNSHIPS OF DAWN/EUPHEMIA & ST. CLAIR
MATCH LINE 00+00 TO END

DRAWN BY: NICO CARIATI	DATE: 2021-10-25	PLOT SPEC:	1:2000
CHECKED BY: CAROLE GAGNE	DATE: 2021-11-22	CAD CODE:	PL3430-OEB-16A.dgn
APPROVED BY: GRANT STRACHAN	DATE: 2021-11-22	FILE REVISION DATE	2021-11-22
SIZE: STRIP	SHEET: N/A	DRAWING No.:	PL3430-OEB-16A

LANDOWNER	BUSINESS_NAME	FIRST_NAME	LAST_NAME	PROPERTY_ADDRESS	LANDOWNER_ADDRESS	TOWN	PROVINCE	POSTAL_CODE	LEGAL DESCRIPTION	ENCUMBRANCERS	ENCUMBRANCER_ADDRESS
ENBRIDGE GAS INC.				N/A	3332 BENTPATH LINE	DAWN-EUPHEMIA TOWNSHIP	ON	N0P2M0			
[redacted]		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	E 1/2 LT 27 CON 1 DAWN EXCEPT L245899, S/T DN24095, L766276, PARTIALLY RELEASED BY L202947 & L202948, S/T L403877; S/T L193643, L243209, L248853, L423467, L790020, L793790, L800242, L845907; DAWN-EUPHEMIA	TECUMSEH GAS STORAGE LTD. TRANS-CANADA PIPE LINES LIMITED UNION GAS COMPANY OF CANADA, LIMITED N/A TECUMSEH GAS STORAGE LTD. THE CONSUMERS' GAS COMPANY LTD. UNION GAS LIMITED UNION GAS LIMITED VECTOR PIPELINE LIMITED PARTNERSHIP ELS AND COMPANY INC., IN TRUST ELS AND COMPANY INC., IN TRUST ELS AND COMPANY INC.	TECUMSEH GAS STORAGE LTD. - 1 THE PATH - FIRST CANADIAN PL, TORONTO, ON M5X 1C8 TRANS-CANADA PIPE LINES LIMITED - 450 - 1 STREET S.W. CALGARY, AB T2P 5H1 UNION GAS COMPANY OF CANADA, LIMITED/THE CONSUMERS' GAS COMPANY LTD./UNION GAS LIMITED - 500 CONSUMERS ROAD NORTH YORK, ON M2J 1P8 VECTOR PIPELINE LIMITED PARTNERSHIP - 38705 SEVEN MILE ROAD, SUITE 490 LIVONIA, MI 48152 ELS AND COMPANY INC. - 9888 LEONARD ST., P.O. BOX 969, GRAND BEND, ONTARIO N0M 1T0
[redacted]		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	W 1/2 LT 27 CON 1 DAWN S/T L403888; S/T L193640, L241819, L424192, L789944, L841989; DAWN-EUPHEMIA	TECUMSEH GAS STORAGE LTD. TRANS-CANADA PIPE LINES LIMTIED N/A TECUMSEH GAS STORAGE LTD THE CONSUMERS' GAS COMPANY LTD. VECTOR PIPELINE LIMITED ELS AND COMPANY INC ELS AND COMPANY INC.	TECUMSEH GAS STORAGE LTD. - 1 THE PATH - FIRST CANADIAN PL, TORONTO, ON M5X 1C8 TRANS-CANADA PIPE LINES LIMITED - 450 - 1 STREET S.W. CALGARY, AB T2P 5H1 THE CONSUMERS' GAS COMPANY LTD. VECTOR PIPELINE LIMITED - 425 1st Street SW, Suite 200, Calgary AB T2P 3L8 ELS AND COMPANY INC. - 9888 Leonard St., P.O. Box 969, Grand Bend, Ontario N0M 1T0
[redacted]		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	W 1/2 LT 28 CON 1 DAWN EXCEPT PT 3, 4 & 5, 25R7995, S/T L402741, S/T L763900; S/T L193644, L423081, L789941; DAWN-EUPHEMIA	TECUMSEH GAS STORAGE LTD. N/A TECUMSEH GAS STORAGE LTD. THE CONSUMERS' GAS COMPANY LTD. ELS AND COMPANY INC. ELS AND COMPANY INC., IN TRUST ELS AND COMPANY INC.	TECUMSEH GAS STORAGE LTD. - 1 THE PATH - FIRST CANADIAN PL, TORONTO, ON M5X 1C8 THE CONSUMERS' GAS COMPANY LTD. ELS AND COMPANY INC. - 9888 Leonard St., P.O. Box 969, Grand Bend, Ontario N0M 1T0
[redacted]		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	S 1/2 LT 30 CON 13 SOMBRA S/T INTEREST IN L270715; S/T L194041, L424189, L789940; ST. CLAIR	TECHUMSEH GAS STORAGE LTD. N/A TECUMSEH GAS STORAGE LTD. THE CONSUMERS' GAS COMPANY LTD.	TECUMSEH GAS STORAGE LTD. - 1 THE PATH - FIRST CANADIAN PL, TORONTO, ON M5X 1C8 THE CONSUMERS' GAS COMPANY LTD.
[redacted]		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	NE 1/4 LT 30 CON 13 SOMBRA EXCEPT PT 3 PLAN 25R8586; S/T L193637, L424190; ST. CLAIR	TECUMSEH GAS STORAGE LTD. N/A TECUMSEH GAS STORAGE LTD.	TECUMSEH GAS STORAGE LTD. - 1 THE PATH - FIRST CANADIAN PL, TORONTO, ON M5X 1C8

LANDOWNER	BUSINESS_NAME	FIRST_NAME	LAST_NAME	PROPERTY_ADDRESS	LANDOWNER_ADDRESS	TOWN	PROVINCE	POSTAL_CODE	LEGAL DESCRIPTION	ENCUMBRANCERS	ENCUMBRANCER_ADDRESS
[redacted]		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	W 1/2 OF N 1/2 LT 30 CON 13 SOMBRA S/T SO29013; S/T L193638, L424188; ST. CLAIR	N/A TECUMEH GAS STORAGE LTD. N/A TECUMSEH GAS STORAGE LTD.	TECUMSEH GAS STORAGE LTD. - 1 THE PATH - FIRST CANADIAN PL, TORONTO, ON M5X 1C8
[redacted]		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	N 1/2 LT 29 CON 13 SOMBRA S/T DEBTS IN L840329; ST. CLAIR	N/A	
[redacted]		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	PT LT 29 CON 14 SOMBRA AS IN L852214; S/T SO27505; S/T L193625, L258982, L423000; ST. CLAIR	N/A TECUMSEH GAS STORAGE LIMITED UNION GAS COMPANY OF CANADA, LIMITED TECUMSEH GAS STORGAE LTD.	TECUMSEH GAS STORAGE LTD. - 1 THE PATH - FIRST CANADIAN PL, TORONTO, ON M5X 1C8 UNION GAS COMPANY OF CANADA, LIMITED
[redacted]		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	PT LT 28-30 CON 14 SOMBRA AS IN L930100; S/T L193635, L423001, L423002; ST. CLAIR	TECUMSEH GAS STORAGE LTD. TECUMSEH GAS STORAGE LTD. TECUMSEH GAS STORAGE LTD. ELS AND COMPANY INC. ELS AND COMPANY INC.	TECUMSEH GAS STORAGE LTD. - 1 THE PATH - FIRST CANADIAN PL, TORONTO, ON M5X 1C8 ELS AND COMPANY INC. - 9888 Leonard St., P.O. Box 969, Grand Bend, Ontario N0M 1T0
[redacted]		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	S 1/2 LT 28 CON 15 SOMBRA S/T LIFE INTEREST IN L381957; S/T L507575; S/T L193636, L423041; ST. CLAIR	TECUMSEH GAS STORAGE LIMITED N/A TECUMSEH GAS STORAGE LTD. N/A UNION GAS LIMITED	TECUMSEH GAS STORAGE LTD. - 1 THE PATH - FIRST CANADIAN PL, TORONTO, ON M5X 1C8 UNION GAS COMPANY OF CANADA, LIMITED - 500 CONSUMERS ROAD NORTH YORK, ON M2J 1P8
[redacted]		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	PT LT 28 CON 14 SOMBRA AS IN L513965; ST. CLAIR	N/A	
[redacted]	[redacted]			[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	PT LT 27 CON 14 SOMBRA AS IN L635585; ST. CLAIR	ELS AND COMPANY INC. ELS AND COMPANY INC.	ELS AND COMPANY INC. - 9888 LEONARD ST., P.O. BOX 969, GRAND BEND, ONTARIO N0M 1T0
[redacted]		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	S 1/2 LT 27 CON 15 SOMBRA S/T SO29017; S/T L193553, L424191; ST. CLAIR	UNION GAS COMPANY OF CANADA, LIMITED TECUMSEH GAS STORAGE LIMITED TECUMSEH GAS STORAGE LIMITED	UNION GAS COMPANY OF CANADA, LIMITED - 500 CONSUMERS ROAD NORTH YORK, ON M2J 1P8 TECUMSEH GAS STORAGE LTD. - 1 THE PATH - FIRST CANADIAN PL, TORONTO, ON M5X 1C8

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[redacted]		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	N 1/2 LT 27 CON 15 SOMBRA; S/T L193639, L423879; ST. CLAIR	TECUMSEH GAS STORAGE LIMITED N/A TECUMSEH GAS STORAGE LIMITED	TECUMSEH GAS STORAGE LTD. - 1 THE PATH - FIRST CANADIAN PL, TORONTO, ON M5X 1C8
[redacted]		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	PT LT 26 CON 15 SOMBRA AS IN L533365; S/T L195055, L423878; ST. CLAIR	TECUMSEH GAS STORAGE LIMITED N/A TECUMSEH GAS STORAGE LTD.	TECUMSEH GAS STORAGE LTD. - 1 THE PATH - FIRST CANADIAN PL, TORONTO, ON M5X 1C8
[redacted]		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	PT LT 5 CON 1 MOORE AS IN L840473; S/T L416755; S/T L194860, L419560, MO28834; ST. CLAIR	UNION GAS COMPANY OF CANADA, LIMITED TECUMSEH GAS STORAGE LIMITED TECUMSEH GAS STORAGE LTD.	UNION GAS COMPANY OF CANADA, LIMITED - 500 CONSUMERS ROAD NORTH YORK, ON M2J 1P8 TECUMSEH GAS STORAGE LTD. - 1 THE PATH - FIRST CANADIAN PL, TORONTO, ON M5X 1C8
[redacted]		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	PT LT 5 CON 1 MOORE AS IN L460313; S/T 419184; S/T L193633, L422932; ST. CLAIR	TECUMSEH GAS STORAGE LIMITED TECUMSEH GAS STORAGE LTD.	TECUMSEH GAS STORAGE LTD. - 1 THE PATH - FIRST CANADIAN PL, TORONTO, ON M5X 1C8
[redacted]		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	PT LT 6 CON 1 MOORE AS IN L601852; S/T L419168; S/T L193633, L422931; ST. CLAIR	TECUMSEH GAS STORAGE LIMITED TECUMSEH GAS STORAGE LTD.	TECUMSEH GAS STORAGE LTD. - 1 THE PATH - FIRST CANADIAN PL, TORONTO, ON M5X 1C8
[redacted]		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	S 1/2 OF N 1/2 LT 6 CON 1 MOORE S/T L94430, L94761 & L402693; S/T L118903, L201975, L422930, MO28958; ST. CLAIR	UNION GAS COMPANY OF CANADA LIMITED UNION GAS COMPANY OF CANADA, LIMITED UNION GAS COMPANY OF CANADA, LIMITED UNION GAS COMPANY OF CANADA LIMITED TECUMSEH GAS STORAGE LTD. N/A TECUMSEH GAS STORAGE LTD.	UNION GAS COMPANY OF CANADA, LIMITED - 500 CONSUMERS ROAD NORTH YORK, ON M2J 1P8 TECUMSEH GAS STORAGE LTD. - 1 THE PATH - FIRST CANADIAN PL, TORONTO, ON M5X 1C8
[redacted]		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	N 1/4 LT 6 CON 1 MOORE; S/T L193546, L402674, L419341; ST. CLAIR	TECUMSEH GAS STORAGE LIMITED N/A TECUMSEH GAS STORAGE LTD.	TECUMSEH GAS STORAGE LTD. - 1 THE PATH - FIRST CANADIAN PL, TORONTO, ON M5X 1C8
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	N 1/2 LT 7 CON 1 MOORE; S/T L92639, L94852; ST. CLAIR	UNION GAS COMPANY OF CANADA LIMITED UNION GAS COMPANY OF CANADA, LIMITED	UNION GAS COMPANY OF CANADA, LIMITED - 500 CONSUMERS ROAD NORTH YORK, ON M2J 1P8

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[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]		[redacted]	S 1/2 OF S 1/2 LT 7 CON 2 MOORE S/T INTEREST IN MO28762; S/T L833400; S/T L193626, L401828, L423880; ST. CLAIR	UNION GAS COMPANY OF CANADA, LIMITED TECUMSEH GAS STORAGE LTD. N/A TECUMSEH GAS STORAGE LTD.	UNION GAS COMPANY OF CANADA, LIMITED - 500 CONSUMERS ROAD NORTH YORK, ON M2J 1P8 TECUMSEH GAS STORAGE LTD. - 1 THE PATH - FIRST CANADIAN PL, TORONTO, ON M5X 1C8
[redacted]		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]		[redacted]	N1/2 OF S1/2 LT 7 CON 2 MOORE S/T L401829; S/T L193627, L424004, MO28763; ST. CLAIR	UNION GAS COMPANY OF CANADA, LIMITED TECUMSEH GAS STORAGE LIMITED N/A TECUMSEH GAS STORAGE LTD.	UNION GAS COMPANY OF CANADA, LIMITED - 500 CONSUMERS ROAD NORTH YORK, ON M2J 1P8
[redacted]		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	PT LT 7 CON 2 MOORE AS IN L577991; S/T L193628, L401504, L423881, MO28838; ST. CLAIR	UNION GAS COMPANY OF CANADA, LIMITED TECUMSEH GAS STORAGE LIMITED N/A TECUMSEH GAS STORAGE LTD.	UNION GAS COMPANY OF CANADA, LIMITED - 500 CONSUMERS ROAD NORTH YORK, ON M2J 1P8 TECUMSEH GAS STORAGE LTD. - 1 THE PATH - FIRST CANADIAN PL, TORONTO, ON M5X 1C8
[redacted]		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	E 1/2 LT 8 CON 2 MOORE S/T MO30080; S/T L193631, L412583, L424005, MO28772; ST. CLAIR	UNION GAS COMPANY OF CANADA, LIMITED TECUMSEH GAS STORAGE LIMITED N/A TECUMSEH GAS STORAGE LTD.	TECUMSEH GAS STORAGE LTD. - 1 THE PATH - FIRST CANADIAN PL, TORONTO, ON M5X 1C8
[redacted]		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	SE1/4 LT 8 CON 3 MOORE S/T L193550 & L424788; ST. CLAIR	TECUMSEH GAS STORGE LIMITED N/A TECUMSEH GAS STORAGE LTD.	TECUMSEH GAS STORAGE LTD. - 1 THE PATH - FIRST CANADIAN PL, TORONTO, ON M5X 1C8
[redacted]		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	SW1/4 LT 8 CON 3 MOORE S/T L193550 & L424009; S/T L401830; ST. CLAIR	TECUMSEH GAS STORGE LIMITED TECUMSEH GAS STORAGE LIMITED TECUMSEH GAS STORAGE LTD.	TECUMSEH GAS STORAGE LTD. - 1 THE PATH - FIRST CANADIAN PL, TORONTO, ON M5X 1C8

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[redacted]		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	SE1/4 LT 9 CON 3 MOORE EXCEPT SRO PT 12, 25R2187; S/T L193556 & L424006; ST. CLAIR	TECUMSEH GAS STORAGE LTD. N/A TECUMSEH GAS STORAGE LTD.	TECUMSEH GAS STORAGE LTD. - 1 THE PATH - FIRST CANADIAN PL, TORONTO, ON M5X 1C8
[redacted]		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	PT LT 9-10 CON 3 MOORE; PT RDAL BTN LT 9 AND 10 CON 3 MOORE CLOSED BY UNREGISTERED BYLAW NO. 1866; PARTS 1, 2 & 3, 25R1676 EXCEPT SRO PT 9, 25R2187; S/T L193555 & L420177; S/T L412582, L508107, MO28841; ST. CLAIR	UNION GAS COMPANY OF CANADA LIMITED TECUMSEH GAS STORAGE LTD. N/A TECUMSEH GAS STORAGE LTD. THE ST CLAIRE REGION CONSRVATION AUTHORITY	UNION GAS COMPANY OF CANADA, LIMITED - 500 CONSUMERS ROAD NORTH YORK, ON M2J 1P8 TECUMSEH GAS STORAGE LTD. - 1 THE PATH - FIRST CANADIAN PL, TORONTO, ON M5X 1C8 THE ST CLAIRE REGION CONSERVATION AUTHORITY - 205 MILL POND CRES., STRATHROY, ONTARIO N7G 3P9
[redacted]		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	PT LT 9-10 CON 3 MOORE; PT RDAL BTN LT 9 AND 10 CON 3 MOORE CLOSED BY UNREGISTERED BYLAW NO. 1866; AS IN L954456 EXCEPT SRO PT 10, 25R2187; S/T L193555 & L424003; S/T L412581, L452979, L508107, MO28841; ST. CLAIR	UNION GAS COMPANY OF CANADA LIMITED TECUMSEH GAS STORAGE LTD. N/A TECUMSEH GAS STORAGE LTD. TECUMSEH GAS STORAGE LTD. THE ST CLAIRE REGION CONSERVATION AUTHORITY	UNION GAS COMPANY OF CANADA, LIMITED - 500 CONSUMERS ROAD NORTH YORK, ON M2J 1P8 TECUMSEH GAS STORAGE LTD. - 1 THE PATH - FIRST CANADIAN PL, TORONTO, ON M5X 1C8 THE ST CLAIRE REGION CONSERVATION AUTHORITY - 205 MILL POND CRES., STRATHROY, ONTARIO N7G 3P9
[redacted]		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	LT 10 CON 3 MOORE LYING W OF BEAR CREEK EXCEPT PT 1, 25R1737; S/T INTEREST IN L844537; S/T L193549 & L424281; S/T L401836, L452979, L508107; ST. CLAIR	UNION GAS COMPANY OF CANADA, LIMITED TECUMSEH GAS STORAGE LTD. TECUMSEH GAS STORAGE LTD. TECUMSEH GAS STORAGE LTD. TECUMSEH GAS STORAGE LTD. THE ST CLAIR REGION CONSERVATION AUTHORITY	UNION GAS COMPANY OF CANADA, LIMITED - 500 CONSUMERS ROAD NORTH YORK, ON M2J 1P8 TECUMSEH GAS STORAGE LTD. - 1 THE PATH - FIRST CANADIAN PL, TORONTO, ON M5X 1C8 THE ST CLAIRE REGION CONSERVATION AUTHORITY - 205 MILL POND CRES., STRATHROY, ONTARIO N7G 3P9
[redacted]		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	PT LT 10 CON 3 MOORE PT 1, 25R1737; ST. CLAIR	UNION GAS COMPANY OF CANADA, LIMITED	UNION GAS COMPANY OF CANADA, LIMITED - 500 CONSUMERS ROAD NORTH YORK, ON M2J 1P8
[redacted]		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	PT LT 10-11 CON 4 MOORE AS IN L952871 & L952870; S/T L424008; S/T L401835, L508108, MO28841; ST. CLAIR	UNION GAS COMPANY OF CANADA LIMITED UNION GAS COMPANY OF CANADA LIMITED TECUMSEH GAS STORAGE LTD. THE ST CLAIR REGION CONSERVATION AUTHORITY	UNION GAS COMPANY OF CANADA, LIMITED - 500 CONSUMERS ROAD NORTH YORK, ON M2J 1P8 TECUMSEH GAS STORAGE LTD. - 1 THE PATH - FIRST CANADIAN PL, TORONTO, ON M5X 1C8 THE ST CLAIRE REGION CONSERVATION AUTHORITY - 205 MILL POND CRES., STRATHROY, ONTARIO N7G 3P9

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[redacted]		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	PT LT 11 CON 4 MOORE AS IN L952872; EXCEPT L415797 & PT 3, PP926; S/T L193548 & L424007; S/T L401835, L508108; ST. CLAIR	TECUMSEH GAS STORAGE LIMITED TECUMSEH GAS STORAGE LIMITED TECUMSEH GAS STORAGE LIMITED THE ST. CLAIR REGION CONSERVATION AUTHORITY	UNION GAS COMPANY OF CANADA, LIMITED - 500 CONSUMERS ROAD NORTH YORK, ON M2J 1P8 TECUMSEH GAS STORAGE LTD. - 1 THE PATH - FIRST CANADIAN PL, TORONTO, ON M5X 1C8 THE ST CLAIRE REGION CONSERVATION AUTHORITY - 205 MILL POND CRES., STRATHROY, ONTARIO N7G 3P9
[redacted]		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	PT LT 12 CON 4 MOORE AS IN L839438; S/T L196415 & L430343; S/T MO28816; S/T L422933; ST. CLAIR	UNION GAS COMPANY OF CANADA, LIMITED TECUMSEH GAS STORAGE LIMITED N/A TECUMSEH GAS STORAGE LIMITED	UNION GAS COMPANY OF CANADA, LIMITED - 500 CONSUMERS ROAD NORTH YORK, ON M2J 1P8 TECUMSEH GAS STORAGE LTD. - 1 THE PATH - FIRST CANADIAN PL, TORONTO, ON M5X 1C8
[redacted]		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	PT LT 12 CON 4 MOORE AS IN L776786 EXCEPT PT 3, 25R1966; S/T L193559 & L423040; S/T L403874; ST. CLAIR	TECUMSEH GAS STORAGE LIMITED N/A TECUMSEH GAS STORAGE LIMITED LINDROSS HOLDINGS (SARNIA) LTD.	UNION GAS COMPANY OF CANADA, LIMITED - 500 CONSUMERS ROAD NORTH YORK, ON M2J 1P8 TECUMSEH GAS STORAGE LTD. - 1 THE PATH - FIRST CANADIAN PL, TORONTO, ON M5X 1C8 LINDROSS HOLDINGS (SARNIA) LTD. - 300 KENNEY, BOX 411, SARNIA, ONTARIO, CANADA, N7T 7J2
[redacted]		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	PT LT 12 CON 5 MOORE AS IN L948796 LYING S OF FORMER RAILWAY; S/T L403873; S/T L129025, L193545, L274194, L422934; ST. CLAIR	THE MUNICIPAL CORPORATION OF THE TOWNSHIP OF MOORE TECUMSEH GAS STORAGE LIMITED THE HYDRO-ELECTRIC POWER COMMISSION OF ONTARIO N/A TECUMSEH GAS STORAGE LTD.	THE MUNICIPAL CORPORATION OF THE TOWNSHIP OF MOORE - 1155 EMILY STREET MOORETOWN ON N0N 1M0 TECUMSEH GAS STORAGE LTD. - 1 THE PATH - FIRST CANADIAN PL, TORONTO, ON M5X 1C8 THE HYDRO-ELECTRIC POWER COMMISSION OF ONTARIO - 185 CLEGG RD MARKHAM ON, L6G 1B7
THE HYDRO-ELECTRIC POWER COMMISSION OF ONTARIO	THE HYDRO-ELECTRIC POWER COMMISSION OF ONTARIO			185 CLEGG ROAD MARKHAM ON L6G 1B7	185 CLEGG ROAD	MARKHAM	ON	L6G 1B7	PT LT 10-12 CON 5 MOORE SRO AS IN L207689; S/T L318716, L335958, L428389, L925086; ST. CLAIR	TECUMSEH GAS STORAGE LIMITED HER MAJESTY THE QUEEN BY THE MINISTRY OF THE ENVIRONMENT TECUMSEH GAS STORAGE LTD. GENERAL CHEMICAL CANADA LTD. N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A	TECUMSEH GAS STORAGE LTD. - 1 THE PATH - FIRST CANADIAN PL, TORONTO, ON M5X 1C8 HER MAJESTY THE QUEEN BY THE MINISTRY OF THE ENVIRONMENT - 5775 YONGE STREET, 8TH FLOOR TORONTO, ON M2M 4J1 GENERAL CHEMICAL CANADA LTD. - 201 CITY CENTRE DRIVE, MISSISSAUGA, ONTARIO, CANADA, L5B 3A3

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[redacted]		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	PT LT 12 CON 5 MOORE AS IN L948796 LYING N OF FORMER RAILWAY; S/T L403873; S/T L193545, L220883, L422934, L847881; ST. CLAIR	TECUMSEH GAS STORAGE LIMITED CANADIAN DELHI OIL LIMITED N/A TECUMSEH GAS STORAGE LTD. TOWNSHIP OF MOORE	TECUMSEH GAS STORAGE LTD. - 1 THE PATH - FIRST CANADIAN PL, TORONTO, ON M5X 1C8 CANADIAN DELHI OIL LIMITED - 505 QUARRY PARK BOULEVARD S.E. CALGARY AB, T2C 5N1 TOWNSHIP OF MOORE - 1155 EMILY STREET MOORETOWN ON N0N 1M0
[redacted]		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	PT LT 13 CON 5 MOORE AS IN L572432 N OF FORMER RAILWAY; S/T DEBTS IN L572432; S/T L403873; S/T L193545, L220883, L422934; ST. CLAIR	TECUMSEH GAS STORAGE LIMITED CANADIAN DELHI OIL LIMITED N/A TECUMSEH GAS STORAGE LTD.	CANADIAN DELHI OIL LIMITED - 505 QUARRY PARK BOULEVARD S.E. CALGARY AB, T2C 5N1 TECUMSEH GAS STORAGE LTD. - 1 THE PATH - FIRST CANADIAN PL, TORONTO, ON M5X 1C8
[redacted]		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	PT LT 13 CON 5 MOORE AS IN L276349 N OF FORMER RAILWAY; S/T L401826; S/T L193629, L220884, L422935; ST. CLAIR	TECUMSEH GAS STORAGE LIMITED CANADIAN DELHI OIL LIMITED N/A TECUMSEH GAS STORAGE LTD.	TECUMSEH GAS STORAGE LTD. - 1 THE PATH - FIRST CANADIAN PL, TORONTO, ON M5X 1C8 CANADIAN DELHI OIL LIMITED - 505 QUARRY PARK BOULEVARD S.E. CALGARY AB, T2C 5N1
[redacted]	[redacted]			[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted] 1/2 OF W 1/2 LT 14 CON 6 MOORE; PT LT 15 CON 6 MOORE AS IN L483845 EXCEPT PTS 1 & 2 25R4094; PT LT 13-15 CON 5 MOORE AS IN L483841, L483952, L483953 EXCEPT PT 1 25R9662 & SRO L535801; T/W L548544; S/T L193551, L193630, L193632, L422104, L426048, L426049; ST. CLAIR	TECUMSEH GAS STORAGE LIMITED TECUMSEH GAS STORAGE LIMITED TECUMSEH GAS STORAGE LIMITED N/A N/A NA TECUMSEH GAS STORAGE LIMITED TECUMSEH GAS STORAGE LIMITED TECUMSEH GAS STORAGE LIMITED ENBRIDGE GAS INC.	TECUMSEH GAS STORAGE LTD. - 1 THE PATH - FIRST CANADIAN PL, TORONTO, ON M5X 1C8

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[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]		[redacted]	PT LT 13-14 CON 6 MOORE AS IN L823119; S/T L704025, L704029 & L704030 TOWNSHIP OF ST. CLAIR	TOWNSHIP OF MOORE TOWNSHIP OF MOORE TOWNSHIP OF MOORE	TOWNSHIP OF MOORE - 1155 EMILY STREET MOORETOWN ON N0N 1M0
[redacted]		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]		[redacted]	PT LT 15 CON 6 MOORE AS IN L928094; S/T L193630, L427111; ST. CLAIR	TECUMSEH GAS STORAGE LIMITED TECUMSEH GAS STORAGE LIMITED	TECUMSEH GAS STORAGE LTD. - 1 THE PATH - FIRST CANADIAN PL, TORONTO, ON M5X 1C8
[redacted]		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]		[redacted]	PT LT 15 CON 6 MOORE AS IN L466518; S/T L193630, L422349; ST. CLAIR	TECUMSEH GAS STORAGE LIMITED N/A TECUMSEH GAS STORAGE LTD.	TECUMSEH GAS STORAGE LTD. - 1 THE PATH - FIRST CANADIAN PL, TORONTO, ON M5X 1C8
[redacted]		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]		[redacted]	N 1/2 LT 15 CON 6 MOORE; S/T L193558, L422936; ST. CLAIR	TECUMSEH GAS STORAGE LIMITED TECUMSEH GAS STORAGE LTD. TOWNSHIP OF MOORE	TECUMSEH GAS STORAGE LTD. - 1 THE PATH - FIRST CANADIAN PL, TORONTO, ON M5X 1C8 TOWNSHIP OF MOORE - 1155 EMILY STREET MOORETOWN ON N0N 1M0
[redacted]	[redacted]			[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	PT LT 16 CON 6 MOORE AS IN L598450 EXCEPT L513156; S/T INTEREST IN L522475; S/T L193544, L193557, L402692, L408152, L426430; ST. CLAIR	TECUMSEH GAS STORAGE LIMITED TECUMSEH GAS STORAGE LIMITED N/A TECUMSEH GAS STORAGE LIMITED TECUMSEH GAS STORAGE LTD. TOWNSHIP OF MOORE	TECUMSEH GAS STORAGE LTD. - 1 THE PATH - FIRST CANADIAN PL, TORONTO, ON M5X 1C8 TOWNSHIP OF MOORE - 1155 EMILY STREET MOORETOWN ON N0N 1M0
[redacted]		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]		[redacted]	PT LT 16 CON 6 MOORE PT 1, 25R2140; S/T L193544, L402692, L422350, L432417, L704022; ST. CLAIR	TECUMSEH GAS STORAGE LIMITED N/A TECUMSEH GAS STORAGE LTD. TECUMSEH GAS STORAGE LTD. TOWNSHIP OF MOORE	TECUMSEH GAS STORAGE LTD. - 1 THE PATH - FIRST CANADIAN PL, TORONTO, ON M5X 1C8 TOWNSHIP OF MOORE - 1155 EMILY STREET MOORETOWN ON N0N 1M0

LANDOWNER	BUSINESS_NAME	FIRST_NAME	LAST_NAME	PROPERTY_ADDRESS	LANDOWNER_ADDRESS	TOWN	PROVINCE	POSTAL_CODE	LEGAL DESCRIPTION	ENCUMBRANCERS	ENCUMBRANCER_ADDRESS
[redacted]		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	PT LT 16 CON 6 MOORE AS IN L927783; S/T L408153, L426050, L704020; ST. CLAIR	TECUMSEH GAS STORAGE LTD. TOWNSHIP OF MOORE	TECUMSEH GAS STORAGE LTD. - 1 THE PATH - FIRST CANADIAN PL, TORONTO, ON M5X 1C8 TOWNSHIP OF MOORE - 1155 EMILY STREET MOORETOWN ON N0N 1M0
[redacted]		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	PT LT 16-17 CON 6 MOORE AS IN L869199, S/T L361136, L338801; S/T L112307, L193562, L422106, L704019, L704021; ST. CLAIR	UNION GAS COMPANY OF CANADA LIMITED TECUMSEH GAS STORAGE LIMITED COCHIN PIPE LINES LTD. COCHIN PIPE LINES LTD. TECUMSEH GAS STORAGE LTD. TOWNSHIP OF MOORE TOWNSHIP OF MOORE	TECUMSEH GAS STORAGE LTD. - 1 THE PATH - FIRST CANADIAN PL, TORONTO, ON M5X 1C8 COCHIN PIPE LINES LTD. - 1001 LOUISIANA ST., SUITE 1000 HOUSTON, TX 77002 TOWNSHIP OF MOORE - 1155 EMILY STREET MOORETOWN ON N0N 1M0
[redacted]				[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	W 1/2 LT 16 CON 7 MOORE; E 1/2 OF E 1/2 LT 17 CON 7 MOORE; S/T L201188, L424194; ST. CLAIR		
[redacted]		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	W 1/2 OF E 1/2 LT 17 CON 7 MOORE; S/T L193561, L409235, L422937, L340694, L361135; ST. CLAIR	TECUMSEH GAS STORAGE LIMITED COCHIN PIPE LINES LTD. TECUMSEH GAS STORAGE LTD.	TECUMSEH GAS STORAGE LTD. - 1 THE PATH - FIRST CANADIAN PL, TORONTO, ON M5X 1C8 COCHIN PIPE LINES LTD. - 1001 LOUISIANA ST., SUITE 1000 HOUSTON, TX 77002
[redacted]		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	E 1/2 OF W 1/2 LT 17 CON 7 MOORE; ST. CLAIR; S/T EASEMENT AS IN L419342; S/T L733722	TECUMSEH GAS STORAGE LTD.	TECUMSEH GAS STORAGE LTD. - 1 THE PATH - FIRST CANADIAN PL, TORONTO, ON M5X 1C8
[redacted]		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	TECUMSEH GAS STORAGE LTD.	TECUMSEH GAS STORAGE LTD. - 1 THE PATH - FIRST CANADIAN PL, TORONTO, ON M5X 1C8

LANDOWNER	BUSINESS_NAME	FIRST_NAME	LAST_NAME	PROPERTY_ADDRESS	LANDOWNER_ADDRESS	TOWN	PROVINCE	POSTAL_CODE	LEGAL DESCRIPTION	ENCUMBRANCERS	ENCUMBRANCER_ADDRESS
[redacted]		[redacted]	[redacted]	[redacted]	[redacted]	[redacted]		[redacted]	E 1/2 LT 18 CON 7 MOORE EXCEPT PTS 1 & 2 PLAN 25R7392; S/T MO30904; S/T L193543, L420176, L442583; ST. CLAIR	TECUMSEH GAS STORAGE LIMITED TECUMSEH GAS STORAGE LTD. TECUMSEH GAS STORAGE LTD.	TECUMSEH GAS STORAGE LTD. - 1 THE PATH - FIRST CANADIAN PL, TORONTO, ON M5X 1C8
912176 ONTARIO LIMITED (ENBRIDGE)				N/A	N/A	MOORETOWN	ON	N0N 1M0			
912176 ONTARIO LIMITED (ENBRIDGE)				N/A	3782 TECUMSEH RD	ST. CLAIR	ON	N0N 1M0			
912176 ONTARIO LIMITED (ENBRIDGE)				N/A	3595 TECUMSEH RD	ST. CLAIR	ON	N0N 1M0			

PIPELINE EASEMENT

(hereinafter called the “Easement”)

Between
(hereinafter called the “Transferor”)

and

ENBRIDGE GAS INC.
(hereinafter called the “Transferee”)

This is an Easement in Gross.

WHEREAS the Transferor is the owner in fee simple of those lands and premises more particularly described as:

PIN:

Legal Description:

(hereinafter called the "Transferor's Lands").

The Transferor does hereby GRANT, CONVEY, TRANSFER AND CONFIRM unto the Transferee, its successors and assigns, to be used and enjoyed as appurtenant to all or any part of the lands, the right, liberty, privilege and easement on, over, in, under and/or through a strip of the Transferor's Lands more particularly described as:

BEING PIN/PART OF THE PIN:

Legal Description:

(hereinafter called the "Lands") to survey, lay, construct, maintain, brush, clear trees and vegetation, inspect, patrol, alter, remove, replace, reconstruct, repair, move, keep, use and/or operate one pipeline for the transmission of Pipeline quality natural gas as defined in The Ontario Energy Board Act S.O. 1998 (hereinafter called the "Pipeline") including therewith all such buried attachments, equipment and appliances for cathodic protection which the Transferee may deem necessary or convenient thereto, together with the right of ingress and egress at any and all times over and upon the Lands for its servants, agents, employees, those engaged in its business, contractors and subcontractors on foot and/or with vehicles, supplies, machinery and equipment for all purposes necessary or incidental to the exercise and enjoyment of the rights, liberty, privileges and easement hereby granted. The Parties hereto mutually covenant and agree each with the other as follows:

1. In Consideration of the sum of ---- 00/100 Dollars ($) (hereinafter called the "Consideration"), which sum is payment in full for the rights and interest hereby granted and for the rights and interest, if any, acquired by the Transferee by expropriation, including in either or both cases payment in full for all such matters as injurious affection to remaining lands and the effect, if any, of registration on title of this document and where applicable, of the expropriation documents, subject to Clause 12 hereof to be paid by the Transferee to the Transferor within 90 days from the date of these presents or prior to the exercise by the Transferee of any of its rights hereunder other than the right to survey (whichever may be the earlier date), the rights, privileges and easement hereby granted shall continue in perpetuity or until the Transferee, with the express written consent of the Transferor, shall execute and deliver a surrender thereof. Prior to such surrender, the Transferee shall remove all debris as may have resulted from the Transferee's use of the Lands from the Lands and in all respects restore the Lands to its previous productivity and fertility so far as is reasonably possible , save and except for items in respect of which compensation is due under Clause 2, hereof. As part of the Transferee’s obligation to restore the Lands upon surrender of its easement, the Transferee agrees at the option of the Transferor to remove the Pipeline from the Lands. The Transferee and the Transferor shall surrender the Easement and the Transferee shall remove the Pipeline at the Transferor’s option where the Pipeline has been abandoned. The Pipeline shall be deemed to be abandoned where: (a) corrosion protection is no longer applied to the Pipeline, or, (b) the Pipeline becomes unfit for service in accordance with Ontario standards. The Transferee shall, within 60 days of either of these events occurring, provide the Transferor with notice of the event.

Upon removal of the Pipeline and restoration of the Lands as required by this agreement, the Transferor shall release the Transferee from further obligations in respect of restoration.

2. The Transferee shall make to the Transferor (or the person or persons entitled thereto) due compensation for any damages to the Lands resulting from the exercise of any of the rights herein granted, and if the compensation is not agreed upon by the Transferee and the Transferor, it shall be determined by arbitration in the manner prescribed by the Expropriations Act, R.S.O. 1990, Chapter E-26 or any Act passed in amendment thereof or substitution therefore. Any gates, fences and tile drains curbs, gutters, asphalt paving, lock stone, patio tiles interfered with by the Transferee shall be restored by the Transferee at its expense as closely as reasonably possible to the condition and function in which they existed immediately prior to such interference by the Transferee and in the case of tile drains, such restoration shall be performed in accordance with good drainage practice and applicable government regulations.

3. The Pipeline (including attachments, equipment and appliances for cathodic protection but excluding valves, take-offs and fencing installed under Clause 9 hereof) shall be laid to such a depth that upon completion of installation it will not obstruct the natural surface run-off from the Lands nor ordinary cultivation of the Lands nor any tile drainage system existing in the Lands at the time of installation of the Pipeline nor any planned tile drainage system to be laid in the Lands in accordance with standard drainage practice, if the Transferee is given at least thirty (30) days' notice of such planned system prior to the installation of the Pipeline. The Transferee agrees to make reasonable efforts to accommodate the planning and installation of future tile drainage systems following installation of the Pipeline so as not to obstruct or interfere with such tile installation. In the event there is a change in the use of all, or a portion of the Transferor Lands adjacent to the Lands which results in the pipeline no longer being in compliance with the pipeline design class location requirements, then the Transferee shall be responsible for any costs associated with any changes to the Pipeline required to ensure compliance with the class location requirements.

4. As soon as reasonably possible after the construction of the Pipeline, the Transferee shall level the Lands and unless otherwise agreed to by the Transferor, shall remove all debris as may have resulted from the Transferee's use of the Lands therefrom and in all respects restore the Lands to its previous productivity and fertility so far as is reasonably possible, save and except for items in respect of which compensation is due under Clause 2 hereof.

5. It is further agreed that the Transferee shall assume all liability and obligations for any and all loss, damage or injury, (including death) to persons or property that would not have happened but for this Easement or anything done or maintained by the Transferee hereunder or intended so to be and the Transferee shall at all times indemnify and save harmless the Transferor from and against all such loss, damage or injury and all actions, suits, proceedings, costs, charges, damages, expenses, claims or demands arising therefrom or connected therewith provided that the Transferee shall not be liable under the clause to the extent to which such loss, damage or injury is caused or contributed to by the negligence or wilful misconduct of the Transferor.

6. In the event that the Transferee fails to comply with any of the requirements set out in Clauses 2, 3, or 4 hereof within a reasonable time of the receipt of notice in writing from the Transferor setting forth the failure complained of, the Transferee shall compensate the Transferor (or the person or persons entitled thereto) for any damage, if any, necessarily resulting from such failure and the reasonable costs if any, incurred in the recovery of those damages.

7. Except in case of emergency, the Transferee shall not enter upon any of the Transferor's Lands, other than the Lands, without the consent of the Transferor. In case of emergency the right of entry upon the Transferor's Lands for ingress and egress to and from the Lands is hereby granted. The determination of what circumstances constitute an emergency, for purposes of this paragraph is within the absolute discretion of the Transferee, but is a situation in which the Transferee has a need to access the Pipeline in the public interest without notice to the Transferor, subject to the provisions of Clause 2 herein. The Transferee will, within 72 hours of entry upon such lands, advise the Transferor of the said emergency circumstances and thereafter provide a written report to Transferor with respect to the resolution of the emergency situation The Transferee shall restore the lands of the Transferor at its expense as closely as reasonably practicable to the condition in which

they existed immediately prior to such interference by the Transferee and in the case of tile drains, such restoration shall be performed in accordance with good drainage practice.

8. The Transferor shall have the right to fully use and enjoy the Lands except for planting trees over the lesser of the Lands or a six (6) meter strip centered over the Pipeline, and except as may be necessary for any of the purposes hereby granted to the Transferee, provided that the Transferor shall not excavate, drill, install, erect or permit to be excavated, drilled, installed or erected in, on, over or through the Lands any pit, well, foundation, building, mobile homes or other structure or installation and the Transferor shall not deposit or store any flammable material, solid or liquid spoil, refuse, waste or effluent on the Lands. Notwithstanding the foregoing the Transferee upon request shall consent to the Transferor erecting or repairing fences, hedges, pavement, lockstone constructing or repairing tile drains and domestic sewer pipes, water pipes, and utility pipes and constructing or repairing lanes, roads, driveways, pathways, and walks across, on and in the Lands or any portion or portions thereof, provided that before commencing any of the work referred to in this sentence the Transferor shall (a) give the Transferee at least (30) clear days' notice in writing describing the work desired so as to enable the Transferee to evaluate and comment on the work proposed and to have a representative inspect the site and/or be present at any time or times during the performance of the work, (b) shall follow the instructions of such representative as to the performance of such work without damage to the Pipeline, (c) shall exercise a high degree of care in carrying out any such work and, (d) shall perform any such work in such a manner as not to endanger or damage the Pipeline as may be required by the Transferee.

9. The rights, privileges and easement herein granted shall include the right to install, keep, use, operate, service, maintain, repair, remove and/or replace in, on and above the Lands any valves and/or take-offs subject to additional agreements and to fence in such valves and/or take-offs and to keep same fenced in, but for this right the Transferee shall pay to the Transferor (or the person or persons entitled thereto) such additional compensation as may be agreed upon and in default of agreement as may be settled by arbitration under the provisions of The Ontario Energy Board Act, S.O. 1998, or any Act passed in amendment thereof or substitution therefore. The Transferee shall keep down weeds on any lands removed from cultivation by reason of locating any valves and/or take-offs in the Lands.

10. Notwithstanding any rule of law or equity and even though the Pipeline and its appurtenances may become annexed or affixed to the realty, title thereto shall nevertheless remain in the Transferee.

11. Neither this Agreement nor anything herein contained nor anything done hereunder shall affect or prejudice the Transferee's rights to acquire the Lands or any other portion or portions of the Transferor's lands under the provisions of The Ontario Energy Board Act, S.O. 1998, or any other laws, which rights the Transferee may exercise at its discretion in the event of the Transferor being unable or unwilling for any reason to perform this Agreement or give to the Transferee a clear and unencumbered title to the easement herein granted.

12. The Transferor covenants that he has the right to convey this Easement notwithstanding any act on his part, that he will execute such further assurances of this Easement as may be requisite and which the Transferee may at its expense prepare and that the Transferee, performing and observing the covenants and conditions on its part to be performed, shall have quiet possession and enjoyment of the rights, privileges and easement hereby granted. If it shall appear that at the date hereof the Transferor is not the sole owner of the Lands, this Easement shall nevertheless bind the Transferor to the full extent of his interest therein and shall also extend to any after-acquired interest, but all moneys payable hereunder shall be paid to the Transferor only in the proportion that his interest in the Lands bears to the entire interest therein.

13. In the event that the Transferee fails to pay the Consideration as hereinbefore provided, the Transferor shall have the right to declare this Easement cancelled after the expiration of 15 days from personal service upon the Lands Department of the Transferee at its Executive Head Office in Chatham, Ontario, (or at such other point in Ontario as the Transferee may from time to time specify by notice in writing to the Transferor) of notice in writing of such default, unless during such 15 day period the Transferee shall pay the Consideration; upon failing to pay as aforesaid, the Transferee shall forthwith after the expiration of 15 days from the service of such notice execute

and deliver to the Transferor at the expense of the Transferee, a valid and registrable release and discharge of this Easement.

14. All payments under these presents may be made either in cash or by cheque of the Transferee and may be made to the Transferor (or person or persons entitled thereto) either personally or by mail. All notices and mail sent pursuant to these presents shall be addressed to:

    the Transferor at:

    and to the Transferee at: Enbridge Gas Inc.
    P.O. Box 2001
    50 Keil Drive North
    Chatham, Ontario N7M 5M1
    Attention: Lands Department

    or to such other address in either case as the Transferor or the Transferee respectively may from time to time appoint in writing.

15. The rights, privileges and easement hereby granted are and shall be of the same force and effect as a covenant running with the Transferor's Land and this Easement, including all the covenants and conditions herein contained, shall extend to, be binding upon and inure to the benefit of the heirs, executors, administrators, successors and assigns of the Parties hereto respectively; and, wherever the singular or masculine is used it shall, where necessary, be construed as if the plural, or feminine or neuter had been used, as the case may be.

16. (a) The Transferee represents that it is registered for the purposes of the Harmonized Goods and Services Tax (hereinafter called "HST") in accordance with the applicable provisions in that regard and pursuant to the Excise Tax Act, (R.S.C., 1985, c. E-15), (hereinafter called "Excise Tax Act"), as amended.

    (b) The Transferee shall undertake to self-assess the HST payable in respect of this transaction pursuant to subparagraphs 221(2) and 228(4) of the Excise Tax Act, and to remit and file a return in respect of HST owing as required under the said Act for the reporting period in which the HST in this transaction became payable.

    (c) The Transferee shall indemnify and save harmless the Transferor from and against any and all claims, liabilities, penalties, interest, costs and other legal expenses incurred, directly or indirectly, in connection with the assessment of HST payable in respect of the transaction contemplated by this Easement. The Transferee's obligations under this Clause shall survive this Easement.

17. The Transferor hereby acknowledges that this Easement will be registered electronically.

18. Transferee hereby declares that this easement is being acquired by Transferee for the purpose of a hydrocarbon line within the meaning of Part VI of the Ontario Energy Board Act, 1998 and/or a utility line within the meaning of the Ontario Energy Board Act, 1998.

Dated this _____ day of _____ 20__.

Signature (Transferor)	**Signature (Transferor)**
Print Name(s) (and position held if applicable)	**Print Name(s) (and position held if applicable)**
Address (Transferor)	**Address (Transferor)**

ENBRIDGE GAS INC.

Signature (Transferee)

, Choose an item.

Name & Title (Enbridge Gas Inc.)

I have authority to bind the Corporation.

519-436-4673

Telephone Number (Enbridge Gas Inc.)

Additional Information: (if applicable):

Property Address:

HST Registration Number:

TEMPORARY LAND USE AGREEMENT

(hereinafter called the “Agreement”)

Between

(hereinafter called the “Owner”)

and

ENBRIDGE GAS INC.
(hereinafter called the “Company”)

In consideration of the sum of _____XX/100 Dollars ($_____), payable by the Company to the Owner within thirty (30) days of signing of this Agreement in accordance with the Compensation labelled as **Appendix “D”** hereto.

the Owner of **PIN:**

Legal Description: labelled as **Appendix “B”** hereto, hereby grants to the Company, its servants, agents, employees, contractors and sub-contractors and those engaged in its and their business, the right on foot and/or with vehicles, supplies, machinery and equipment at any time and from time to time during the term of this Agreement to enter upon, use and occupy a parcel of land (hereinafter called the "Lands") more particularly described on the Sketch attached hereto labelled as Appendix “A” and forming part of this Agreement, the Lands being immediately adjacent to and abutting the Choose an item. for any purpose incidental to, or that the Company may require in conjunction with, the construction by or on behalf of the Company of a proposed Choose an item. and appurtenances on the Lands including, without limiting the generality of the foregoing, the right to make temporary openings in any fence (if applicable) along or across the Lands and to remove any other object therein or thereon interfering with the free and full enjoyment of the right hereby granted and further including the right of surveying and placing, storing, levelling and removing earth, dirt, fill, stone, debris of all kinds, pipe, supplies, equipment, vehicles and machinery and of movement of vehicles, machinery and equipment of all kinds.

1. This Agreement is granted upon the following understandings:

   a) The rights hereby granted terminate on the day of , 20.

   b) The Company shall make to the person entitled thereto due compensation for any damages resulting from the exercise of the right hereby granted and if the compensation is not agreed upon it shall be determined in the manner prescribed by Section 100 of The Ontario Energy Board Act, R.S.O. 1998 S.O. 1998, c.15 Schedule B, as amended or any Act passed in amendment thereof or substitution there for;

   c) As soon as reasonably possible after the construction, the Company at its own expense will level the Lands, remove all debris therefrom and in all respects, restore the Lands to their former state so far as is reasonably possible, save and except for items in respect of which compensation is due under paragraph (b) and the Company will also restore any gates and fences interfered with around, (*if applicable*) the Lands as closely and as reasonably possible to the condition in which they existed immediately prior to such interference by the Company.

   d) It is further agreed that the Company shall assume all liability and obligations for any and all loss, damage or injury, (including death) to persons or property that would not have happened but for this Agreement or anything done or maintained by the Company hereunder or intended so to be and the Company shall at all times indemnify and save harmless the Owner from and against all such loss, damage or injury and all actions, suits, proceedings, costs, charges, damages, expenses, claims or demands arising therefrom or connected therewith provided that the Company shall not be liable under the Clause to the extent to which such loss, damage or injury is caused or contributed to by the negligence or wilful misconduct of the Owner.

The Company and the Owner agree to perform the covenants on its part herein contained.

Dated this ____ day of _____ 20__.

[Insert name of individual or corporation]

Signature (Owner)	**Signature (Owner)**
Print Name(s) (and position held if applicable) Choose an item	**Print Name(s) (and position held if applicable)** Choose an item.
Address (Owner)	**Address (Owner)**

ENBRIDGE GAS INC.

Signature (Company)

, Choose an item.

Name & Title (Enbridge Gas Inc.)

I have authority to bind the Corporation.

519-436-4673

Telephone Number (Enbridge Gas Inc.)

Additional Information: (if applicable):

Property Address:

HST Registration Number:

INDIGENOUS[1] CONSULTATION

1. Enbridge Gas is committed to creating processes that support meaningful engagement with potentially affected Indigenous groups (First Nations and Métis). Enbridge Gas works to build an understanding of project related interests, ensure regulatory requirements are met, mitigate or avoid project-related impacts on Indigenous interests including rights, and provide mutually beneficial opportunities where possible.

2. This Exhibit of evidence is organized as follows:
   A. Indigenous Engagement Program Objectives
   B. Overview of Indigenous Engagement Program Activities
   C. Ongoing Indigenous Engagement Activities

3. Pursuant to the OEB's Guidelines, 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 and, if so, if the MOE would delegate the procedural aspects of the duty to consult to Enbridge Gas. This correspondence, dated January 19, 2021, is set out in Attachment 1 to this Exhibit.

4. Enbridge Gas received a letter ("Delegation Letter") from the MOE dated February 19, 2021, indicating that the MOE 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. A copy of the Delegation Letter is provided in Attachment 2 to this Exhibit.

[1] Enbridge Gas has used the terms "Aboriginal" and "Indigenous" interchangeably in its application. "Indigenous" has the meaning assigned by the definition "aboriginal peoples of Canada" in subsection 35(2) of the *Constitution Act, 1982*.

5. This Indigenous Consultation Report ("ICR") was provided to the MOE on the date of this filing. The MOE will review Enbridge Gas's consultation with Indigenous groups potentially affected by the Project and provide its decision as to whether Enbridge Gas' consultation has been sufficient. Upon receipt of the MOE's decision regarding the sufficiency of Indigenous consultation on the Project, Enbridge Gas will file it with the OEB. The sufficiency letter provided by the MOE will be included as Attachment 3 to this Exhibit.

A. Indigenous Engagement Program Objectives

6. The design of the Indigenous engagement program was based on adherence to the OEB's Guidelines and Enbridge Inc.'s company-wide *Indigenous Peoples Policy* ("Policy") (set out in Attachment 4 to this Exhibit). The Policy lays out key principles for establishing relationships with Indigenous groups, Including recognizing the legal and constitutional rights possessed by Indigenous Peoples in Canada and the importance of the relationship between Indigenous Peoples and their traditional lands and resources.

7. Enbridge Gas strives to achieve meaningful relationships with Indigenous groups by providing timely exchanges of information, understanding and addressing Indigenous project-specific concerns, and ensuring ongoing dialogue regarding its projects, their potential impacts and benefits. Enbridge Gas aligns its interests with those of Indigenous communities through meaningful, direct Indigenous economic activity in projects corresponding to community capacity and project needs, where possible.

8. The Indigenous engagement program for the Project recognizes the rights of Indigenous groups and assists Enbridge Gas in engaging in meaningful dialogue with potentially affected Indigenous groups to address any Project-related concerns

and interests. It also assists Enbridge Gas in meeting the procedural aspects of consultation that may be required by the Crown and the OEB's Guidelines.

B. Overview of Indigenous Engagement Program Activities

9. Enbridge Gas conducts its Indigenous engagement generally through phone calls, in-person meetings, Project mail-outs, open houses and email communications. During these engagement activities, Enbridge Gas representatives will provide an overview of the Project, respond to questions and concerns, and address any interests or concerns expressed by Indigenous communities to appropriately avoid or mitigate any Project-related impacts on Aboriginal or treaty rights. Capacity Funding is offered to ensure there are reasonable resources for Indigenous communities to meaningfully participate in consultation. In addition, Enbridge Gas discusses with Indigenous communities options to accommodate any potential adverse effects the Project may have on Aboriginal or treaty rights. In order to accurately document Indigenous engagement activities and ensure follow-up by either the Crown or Enbridge Gas, applicable supporting documents are tracked using a database.

C. Ongoing Indigenous Engagement Activities

10. Enbridge Gas will continue to actively engage all identified Indigenous groups in meaningful ongoing dialogue concerning the Project and endeavor to meet with each Indigenous group, provided they are willing, for the purpose of exchanging information regarding the Project and to respond to inquiries in a timely manner. Enbridge Gas will hear and address concerns as is feasible and seek information on the exercise of, and potential impacts to, Aboriginal or treaty rights, traditional use in the Project area and how any potential Project-related impacts can be mitigated. During ongoing engagement activities, Enbridge Gas engages with the

Crown to ensure they are kept apprised of rights assertions by communities.

11. Attachment 5 to this Exhibit contains a summary of Enbridge Gas's Indigenous engagement activities for the Project. Attachment 6 to this Exhibit contains the ICR and associated attachments for the Project.

12. The information presented in the Attachment 5 and Attachment 6 reflects Enbridge Gas's Indigenous engagement activities for the Project up to and including February 7, 2022; however, Enbridge Gas will continue to engage throughout the life of the Project to ensure any impacts on Aboriginal or treaty rights are addressed, as appropriate.

From: Lauren Whitwham <Lauren.Whitwham@enbridge.com>
Sent: January 19, 2021 4:43 PM
To: Delaquis, Dan (ENDM) <Dan.Delaquis@ontario.ca>
Cc: Adam Stiers <AStiers@uniongas.com>
Subject: Dawn Corunna Project

CAUTION -- EXTERNAL E-MAIL - Do not click links or open attachments unless you recognize the sender.

Good afternoon Dan,

Please find attached a project description and preliminary map for the Enbridge Gas Inc. Dawn Corunna Project ("Project").

Pursuant to the Ontario Energy Board's *Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Pipelines and Facilities in Ontario 7th Edition, 2016*, we are providing a description of the Project such that the Ministry of Energy, Northern Development and Mines can determine if it will delegate the procedural aspects of the duty to consult for the Project to Enbridge Gas.

If you have any questions or concerns, please contact me.

Many thanks,

Lauren

Lauren Whitwham
Senior Advisor, Community & Indigenous Engagement, Southern Region

Public Affairs, Communications & Sustainability

Enbridge Gas Inc – Dawn Corunna Project
Summary for Ministry of Energy, Northern Development and Mines

1. Introduction

The purpose of this report is to provide the Ministry of Energy, Northern Development and Mines (MENDM) with preliminary information regarding the proposed project and acquire a list of Indigenous communities that may be interested in being consulted and providing feedback during the project planning process.

1.1 Project Summary

Enbridge Gas Inc. ("Enbridge Gas") is currently conducting a review of its gas storage and transmission system and has identified the potential need to replace some assets in order to maintain the safe and reliable operation of Enbridge Gas's systems and to continue to meet the firm demands of Enbridge Gas customers.

This proposed project (the "Project") may include all or some of the following:

- The decommissioning of up to seven (7) reciprocating compressors located at the Corunna Compressor Station, which were installed between 1964 and 1974 and are approaching the end of their lifecycle.
- Meeting existing firm demand through the construction of approx. 20 kms of up to 42-inch diameter steel pipeline between the Dawn Operations Centre in the Township of Dawn-Euphemia and the Corunna Compressor Station in St. Clair Township and / or the construction of new compression at the Corunna Compressor Station.

The projected in-service date of the Project is November 1, 2023.

Proposed Locations	Latitude	Longitude
Start Point **Dawn Operation Centre**	**42.848752**	**-82.371928**
End Point **Corunna Compressor Station**	**42.714438**	**-82.221582**

A study area has been determined for the Project and a preliminary preferred route and alternative routes will be established during the preparation of the Environmental Report (ER).

- Figure 1 (attached) shows the study area being considered.

Where possible, the Project will be located within existing easements. Temporary working space, construction yards and laydown areas may be required adjacent to these areas to facilitate the movement and storage of equipment necessary for construction. Permanent easements may also be

required. Enbridge Gas will work with regulators and landowners to identify and secure appropriate working space and easements as required.

Work for the preparation of an ER for the Project has been initiated. The ER will examine the study area to determine a preliminary preferred and alternative route(s) and determine, from an environmental and socio-economic perspective, the preferred route for the Project.

Engineering design is expected to be finalized during the permitting stage of the Project.

2. Regulatory Requirements and Approvals

Ontario Energy Board ("OEB") review and approval is required before this project can proceed. As part of that application, an ER will be conducted in accordance with the OEB Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Pipelines and Facilities in Ontario 7th Edition (2016). The ER for this Project is anticipated to be completed and submitted to the OEB as early as November 2021, and the proposed project to be in service by November 2023. Other permits and authorizations for the project will be determined and may be necessary at the Federal, Provincial and Municipal levels.

3. Environmental Planning Process

The environmental planning process for the Project will be initiated in 2021 by Enbridge Gas, with support provided throughout the process by consultant archaeologists, cultural heritage specialists, and environmental professionals. The following provides a general overview of the environmental planning process for the Project:

Complete an Environmental Report (ER)

- Describe the proposed work necessary for the Project;
- Identify route options and determine an environmentally preferred route
- Describe the procedures that will be followed during construction of the facilities;
- Identify potential environmental impacts and recommend measures to minimize those impacts; and
- Describe the Agency, Indigenous and public consultation opportunities.

Complete all necessary studies and assessments

- An Archaeological Assessment will be conducted by a licensed archaeologist in accordance with the Ministry of Heritage, Sport Tourism and Cultural Industries (MHSTCI) guidelines to identify known or potential archaeological resources within the Project area and will develop an appropriate mitigation plan if required.
- A heritage specialist will review the running line for potential cultural heritage landscapes and built heritage resources and will develop an appropriate mitigation plan if required.
- A qualified biologist will review the running line for potential species at risk and determine if any species will be impacted by construction activities and will develop an appropriate mitigation plan if required.

Obtain all necessary permits and approvals
The ER will identify the potential authorizations required. The following potential authorizations have been identified at this stage of the Project:

Federal Approvals

- Fisheries and Ocean Canada

Provincial approvals:

- Ontario Energy Board
- Ministry of Environment, Conservation and Parks
- Ministry of Heritage, Sport, Tourism and Culture Industries
- Ministry of Transportation

Municipal approvals:

- Lambton County
- St. Clair Township
- Township of Dawn-Euphemia
- St. Clair Region Conservation Authority

Other approvals:

- Indigenous engagement
- Utility circulation
- Landowner Agreements for Easements, Temporary Workspace, Storage Sites
- Third Party Utility Crossing Agreements

Other authorizations, notifications, permits and/or approvals may be required in addition to those identified above.

4. Project Activities

Planning activities for the Project commenced in 2020 and will continue through to the commencement of pre-construction activities in Q1 of 2023. Pursuant to the Guidelines an ER will be prepared and geotechnical and archaeological studies will be completed. The design process involves the selection of a specific running line location, appropriate materials, the selection of valves/fittings and location(s) for trenchless drilling activities. Information obtained from the geotechnical analysis, subsurface utility engineering and soil sampling is typically used to inform pipeline design.

Engineered drawings will be produced with the final design and issues to local municipalities and other regulators for approval. Once all approvals are obtained final engineered drawings will be prepared for construction.

All facilities will be installed using Enbridge Gas's standard construction practices which may include grading the site, digging a trench, installing the welded pipeline in the trench, testing the pipeline, and restoring the area to its original condition.

5. Potential Environmental Effects and Mitigation Measures

The area in which the Project is to be constructed is within the St. Clair Township and depending on the alternative selected, it may also be within the Township of Dawn-Euphemia, in the County of Lambton. It is expected that the majority of adverse environmental and/or socio-economic effects will be construction related. These effects are expected to be temporary and transitory. The majority of facilities to be constructed for the Project will also be underground once construction is complete, further limiting the potential for any long-term effects. Those facilities that are constructed above ground will be constructed to minimize any environmental or socio-economic impacts.

Mitigation measures recommended in the ER will be followed in conjunction with Enbridge Gas' construction standards. In addition, Enbridge Gas will use professional judgement, past experience, industry best practices and any additional feedback received through the consultation process when constructing the Project.

Indigenous engagement for the Project will be robust, and Enbridge is committed to ensuring significant and meaningful consultations, participation and involvement in the planning, construction and operations of the Project that aligns with Enbridge's commitment to a "Life Cycle" approach to indigenous engagement.

6. Project Benefits

The Project will allow for Enbridge Gas to maintain the safe and reliable operation of Enbridge Gas's systems and to continue to meet the firm demands of Enbridge Gas customers on a design day.

7. Contact Information

Regulatory Applications:

Adam Stiers
AStiers@uniongas.com
(519) 350-5196

Indigenous Affairs:

Lauren Whitwham
Lauren.Whitwham@enbridge.com
(519) 852-3474

Ministry of Energy, Northern Development and Mines

Energy Networks & Indigenous Policy Branch

77 Grenville Street
6th Floor
Toronto ON M7A 2C1

Ministère de l'Énergie, du Développement du Nord et des Mines

Direction Générale des Réseaux Énergétiques et des Politiques Autochthones

77, rue Grenville
6e étage
Toronto ON M7A 2C1

Ontario

VIA EMAIL

February 19, 2021

Re: Dawn Corunna Project; Letter of Delegation

Dear Adam Stiers,

Thank you for your January 19, 2021 email notifying the Ministry of Energy, Northern Development and Mines (ENDM) of Enbridge's intention to apply to the Ontario Energy Board (OEB) for Leave to Construct for the proposed Dawn Corunna Project (the Project).

I understand that Enbridge is currently conducting a review of its gas storage and transmission system and has identified the potential need to replace some assets, between the Dawn Operations Centre in Dawn-Euphemia Township and the Corunna Compressor Station in St. Clair Township. ENDM understands that the proposed project may include:

- decommissioning of up to seven (7) reciprocating compressors at Corunna Compressor Station;
- construction of up to 20 kilometers of 42-inch diameter steel pipe between the Dawn Operations Centre and the Corunna Compressor Station; and/or
- the installation of new compression at Corunna Compressor Station.

ENDM has reviewed the information provided by Enbridge with respect to the Project and assessed it against the Crown's current understanding of the interests and rights of Indigenous communities who hold or claim Aboriginal or treaty rights, protected under Section 35 of Canada's *Constitution Act, 1982,* in the area. In doing so, ENDM has determined that the Project may have the potential to adversely affect the established or credibly asserted Aboriginal or treaty rights of First Nations in the vicinity of the project.

The Government of Ontario (the "Crown") has a constitutional duty to consult and, where appropriate, accommodate Indigenous communities when the Crown contemplates conduct that might adversely impact established or asserted Aboriginal or Treaty rights. These consultations are in addition to consultation imposed by statute.

While the legal responsibility to meet the duty to consult lies with the Crown, the Crown may delegate the day-to-day, procedural aspects of consultation to project proponents. I am writing to advise you that on behalf of the Crown, ENDM is delegating the procedural aspects of consultation in respect of the Project to Enbridge (the Proponent) through this letter. ENDM expects that the Proponent will undertake the procedural aspects of consultation with respect to any regulated requirements for the proposed Project. The Crown will fulfill the substantive aspects of consultation and retain oversight over all aspects of the process for fulfilling the

Crown's duty.

The Ministry relies on consultation conducted by proponents when it assesses the Crown's obligations and directs proponents during the regulatory process. The Proponent's responsibilities for procedural aspects of consultation are determined based on the scope of consultation assessed by the Crown. Please see Appendix A, attached at the end of this correspondence, for details.

Based on the Crown's assessment of First Nation and Métis community rights and potential project impacts, the following Indigenous communities should be consulted on the basis that they have or may have constitutionally protected Aboriginal or Treaty rights that may be adversely affected by the Project:

Community	**Mailing Address**
Aamjiwnaang (Sarnia) First Nation	978 Tashmoo Avenue Sarnia, ON N7T 7H5 T: (519) 336-8410 F: (519) 336-0382 Web: Aamjiwnaang
Bkejwanong (Walpole Island) First Nation	RR 3, Wallaceburg, ON N8A 4K9 T: (519) 627-1481 F: (519) 627-0440 Web: Walpole Island
Chippewas of Kettle and Stony Point First Nation	6247 Indian Lane Kettle and Stony Point First Nation, ON N0N 1J1 T: (519) 786-2125 F: (519) 786-2108 Web: Chippewas of Kettle and Stony Point
Chippewas of the Thames First Nation	RR 1, Muncey, ON N0L 1Y0 T: (519) 289-5555 F: (519) 289-2230 Web: Chippewas of the Thames First Nation
Oneida of the Thames First Nation	RR 2, Southwold, ON N0L 2G0 T: (519) 652-3244 F: (519) 652-9287 Web: Oneida Nation of the Thames

This rights-based consultation list is based on information that is subject to change. Consultation is ongoing throughout the duration of the project, including project development and design, consultation, approvals, construction, operation and decommissioning. First Nation and Métis communities may make new rights assertions at any time, and further

project-related developments can occur that may require additional First Nation and/or Métis communities to be notified and/or consulted.

If you become aware of potential rights impacts on Indigenous communities that are not listed above at any stage of project design, consultation, approval, construction, operation or decommissioning, please bring this to the attention of ENDM immediately along with any supporting information regarding the claim. ENDM will then assess whether it is necessary to add the community to the rights-based consultation list above.

It is ENDM's expectation that, throughout the life of the project, the Proponent will communicate directly with the communities listed above while carrying out procedural aspects of the duty to consult, and that the Proponent will, at the earliest possible time following receipt of this letter of delegation:

- Notify the communities that the Proponent has been delegated the procedural aspects of consultation by ENDM on behalf of the Crown.
- Notify the communities that they may contact the Crown directly should they have any questions or concerns.
- Provide the communities with the following contact information should they wish to communicate directly with the Ministry:

  Jonathon Wilkinson, Senior Advisor
  Indigenous Energy Policy
  Ministry of Energy, Northern Development and Mines
  705-313-3658
  jonathon.wilkinson@ontario.ca

Please copy the Ministry contact when communicating the above information.

Acknowledgement

By accepting this letter, the Proponent acknowledges this Crown delegation and the procedural consultation responsibilities enumerated in the appendix. If you have any questions about this request, you may contact Jonathon Wilkinson, Senior Advisor in my Indigenous Energy Policy Section. Jonathon may be reached by calling 705-313-3658, or through email at: jonathon.wilkinson@ontario.ca.

I trust that this information provides clarity and direction regarding the respective roles of the Crown and Enbridge. If you have any questions about this letter or require any additional information, please contact me directly.

Sincerely,



Dan Delaquis
Manager, Indigenous Energy Policy
Ministry of Energy, Northern Development and Mines

C: Ontario Pipeline Coordinating Committee (OPCC)

APPENDIX: PROCEDURAL CONSULTATION

Roles and Responsibilities Delegated to the Proponent

On behalf of the Crown, please be advised that your responsibilities as Project Proponent for this Project include:

- providing notice and information about the Project to Indigenous communities, with sufficient detail and at a stage in the process that allows the communities to prepare their views on the Project and, if appropriate, for changes to be made to the Project. This can include:
    - accurate, complete and plain language information including a detailed description of the nature and scope of the Project and translations into Aboriginal languages where appropriate;
    - maps of the Project location and any other affected area(s);
    - information about the potential negative effects of the Project on the environment, including their severity, geographic scope and likely duration. This can include, but is not limited to, effects on ecologically sensitive areas, water bodies, wetlands, forests or the habitat of species at risk and habitat corridors;
    - a description of other provincial or federal approvals that may be required for the Project to proceed;
    - whether the Project is on privately owned or Crown controlled land;
    - any information the Proponent may have on the potential effects of the Project, including particularly any likely adverse impacts on established or asserted Aboriginal or treaty rights;
    - a written request asking the Indigenous community to provide in writing or through a face-to-face meeting:
        - any information available to them that should be considered when preparing the Project documentation;
        - any information the community may have about any potential adverse impacts on their Aboriginal or treaty rights; and
        - any suggested measures for avoiding, minimizing or mitigating potential adverse impacts;
        - information about how information provided by the Indigenous community as part of the consultation process will be collected, stored, used, and shared for their approval;
    - identification of any mechanisms that will be applied to avoid, minimize or mitigate potential adverse impacts;
    - identification of a requested timeline for response from the community and the anticipated timeline for meeting Project milestones following each notification;
    - an indication of the Proponent's availability to discuss the process and provide further information about the Project;
    - the Proponent's contact information; and
    - any additional information that might be helpful to the community;

- following up, as necessary, with Indigenous communities to ensure they received Project notices and information and are aware of the opportunity to comment, raise questions or concerns and identify potential adverse impacts on their established or asserted rights;
- gathering information about how the Project may adversely affect Aboriginal or treaty rights;
- bearing the reasonable costs associated with the procedural aspects of consultation (paying for meeting costs, making technical support available, etc.) and considering reasonable requests by communities for capacity funding to assist in participating in the consultation process;
- considering and responding to comments and concerns raised by Indigenous communities and answering questions about the Project and its potential impacts on Aboriginal or treaty rights;
- as appropriate, discussing and implementing changes to the Project in response to concerns raised by Indigenous communities. This could include modifying the Project to avoid or minimize an impact on an Aboriginal or treaty right (e.g. altering the season when construction will occur to avoid interference with mating or migratory patterns of wildlife); and
- informing Indigenous communities about how their concerns were taken into consideration and whether the Project proposal was altered in response. It is considered a best practice to provide the Indigenous community with a copy of the consultation record as part of this step for verification.

If you are unclear about the nature of a concern raised by an Indigenous community, you should seek clarification and further details from the community, provide opportunities to listen to community concerns and discuss options, and clarify any issues that fall outside the scope of the consultation process. These steps should be taken to ensure that the consultation process is meaningful and that concerns are heard and, where possible, addressed.

You can also seek guidance from the Crown at any time. It is recommended that you contact the Crown if you are unsure about how to deal with a concern raised by an Indigenous community, particularly if the concern relates to a potential adverse impact on established or asserted Aboriginal or treaty rights.

The consultation process must maintain sufficient flexibility to respond to new information, and we request that you make all reasonable efforts to build positive relationships with all Indigenous communities potentially affected by the Project. If a community is unresponsive to efforts to notify and consult, you should nonetheless make attempts to update the community on the progress of the Project, the environmental assessment (if applicable) and other regulatory approvals.

If you reach a business arrangement with an Indigenous community that may affect or relate to the Crown's duty to consult, we ask that that Crown be advised of those aspects of such an arrangement that may relate to or affect the Crown's consultation obligations, and that the

community itself be apprised of the Proponent's intent to so-apprise the Crown. Whether or not any such business arrangements may be reached with any community, the Crown expects the Proponent to fulfill all of its delegated procedural consultation responsibilities to the satisfaction of the Crown.

If the Crown considers that there are outstanding issues related to consultation, the Crown may directly undertake additional consultation with Indigenous communities, which could result in delays to the Project. The Crown reserves the right to provide further instructions or add communities throughout the consultation process.

Roles and responsibilities assumed directly by the Crown

The role of the Crown in fulfilling any duty to consult and accommodate in relation to this Project includes:

- identifying for the Proponent, and updating as appropriate, the Indigenous communities to consult for the purposes of fulfillment of the Crown duty;
- carrying out, from time to time, any necessary assessment of the extent of consultation or, where appropriate, accommodation, required for the project to proceed;
- supervising the aspects of the consultation process delegated to the Proponent;
- determining in the course of Project approvals whether the consultation of Indigenous communities was sufficient;
- determining in the course of Project approvals whether accommodation of Indigenous communities, if required, is appropriate and sufficient.

Consultation Record

It is important to ensure that all consultation activities undertaken with Indigenous communities are fully documented. This includes all attempts to notify or consult the community, all interactions with and feedback from the community, and all efforts to respond to community concerns. Crown regulators require a complete consultation record in order to assess whether Aboriginal consultation and any necessary accommodation is sufficient for the Project to receive Ontario government approvals. The consultation record should include, but not be limited to, the following:

- a list of the identified Indigenous communities that were contacted;
- evidence that notices and Project information were distributed to, and received by, the Indigenous communities (via courier slips, follow up phone calls, etc.). Where a community has been non-responsive to multiple efforts to contact the community, a record of such multiple attempts and the responses or lack thereof.
- a written summary of consultations with Indigenous communities and appended documentation such as copies of notices, any meeting summaries or notes including where the meeting took place and who attended, and any other correspondence (e.g., letters and electronic communications sent and received, dates and records of all phone calls);

- responses and information provided by Indigenous communities during the consultation process. This includes information on Aboriginal or treaty rights, traditional lands, claims, or cultural heritage features and information on potential adverse impacts on such Aboriginal or treaty rights and measures for avoiding, minimizing or mitigating potential adverse impacts to those rights; and
- a summary of the rights/concerns, and potential adverse impacts on Aboriginal or treaty rights or on sites of cultural significance (e.g. burial grounds, archaeological sites), identified by Indigenous communities; how comments or concerns were considered or addressed; and any changes to the Project as a result of consultation, such as:

    - changing the Project scope or design;
    - changing the timing of proposed activities;
    - minimizing or altering the site footprint or location of the proposed activity;
    - avoiding impacts to the Aboriginal interest;
    - environmental monitoring; and
    - other mitigation strategies.

As part of its oversight role, the Crown may, at any time during the consultation and approvals stage of the Project, request records from the Proponent relating to consultations with Indigenous communities. Any records provided to the Crown will be subject to the *Freedom of Information and Protection of Privacy Act,* however may be exempted from disclosure under section 15.1 (Relations with Aboriginal communities) of the Act. Additionally, please note that the information provided to the Crown may also be subject to disclosure where required under any other applicable laws.

The contents of what will make up the consultation record should be shared at the onset with the Indigenous communities consulted with and their permission should be obtained. It is considered a best practice to share the record with the Indigenous community prior to finalizing it to ensure it is a robust and accurate record of the consultation process.

Ministry of Energy

Energy Networks and Indigenous Policy Branch

Indigenous Energy Policy

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Ministère de l'Énergie

Direction Générale des Réseaux Énergétiques et des Politiques Autochtones

Politique Énergétique Autochtones

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Tel: (416) 315-8641

Ontario

November 2, 2022 VIA EMAIL

Mr. Adam Stiers
Manager, Regulatory Applications – Leave to Construct
Regulatory Affairs
Enbridge Gas Incorporated
50 Keil Drive North,
Chatham, ON
N7M 5M1

Re: Letter of Opinion – Dawn Corunna

Dear Mr. Stiers,

The Ontario Ministry of Energy (ENERGY) has completed its review of the consultation undertaken by Enbridge Gas Inc. (Enbridge) with Indigenous communities for the Dawn Corunna Project.

ENERGY has reviewed the information provided by Enbridge as well as materials filed with the Ontario Energy Board (OEB) by the Chippewas of Kettle and Stony Point First Nation (CKSPFN) and Three Fires Group (TFG), an Indigenous business corporation which jointly represents the interests of CKSPFN and Caldwell First Nation (CFN). ENERGY also engaged with Aamjiwnaang First Nation; Walpole Island First Nation, Chippewas of the Thames First Nation, Oneida First Nation and CKSPFN (as represented by TFG) to understand any concerns about potential impacts to Aboriginal and treaty rights from the project as well as community feedback about satisfaction with Enbridge's response or proposed mitigation, where appropriate.

This letter is to notify you that, based on this review of materials and our outreach to Indigenous communities, ENERGY is of the opinion that the procedural aspects of consultation undertaken by Enbridge to-date for the purposes of the Ontario Energy Board's Leave to Construct for the Dawn Corunna Project are satisfactory.

It is expected that Enbridge will continue its consultation activities with the communities throughout the life of the project, and that Enbridge will notify ENERGY should any additional rights-based concerns/issues arise.

If you have any questions about this letter or require any additional information, please contact me at 416-315-8641 or amy.gibson@ontario.ca.

Enbridge Inc. Indigenous Peoples Policy

ENBRIDGE®
Life Takes Energy®

Enbridge Indigenous Peoples Policy

Enbridge recognizes the diversity of Indigenous Peoples who live where we work and operate. We understand that the history of Indigenous Peoples in both Canada and the United States has had destructive impacts on the social and economic wellbeing of Indigenous Peoples. Enbridge recognizes the importance of reconciliation between Indigenous communities and broader society. Positive relationships with Indigenous Peoples, based on mutual respect and focused on achieving common goals, will create constructive outcomes for Indigenous communities and for Enbridge.

Enbridge commits to pursuing sustainable relationships with Indigenous Nations and groups in proximity to where Enbridge conducts business. To achieve this, Enbridge will govern itself by the following principles:

- We recognize the legal and constitutional rights possessed by Indigenous Peoples in Canada and in the U.S., and the importance of the relationship between Indigenous Peoples and their traditional lands and resources. We commit to working with Indigenous communities in a manner that recognizes and respects those legal and constitutional rights and the traditional lands and resources to which they apply, and we commit to ensuring that our projects and operations are carried out in an environmentally responsible manner.

- We recognize the importance of the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) within the context of existing Canadian and U.S. law and the commitments that governments in both countries have made to protecting the rights of Indigenous Peoples.

- We engage in forthright and sincere consultation with Indigenous Peoples about Enbridge's projects and operations through processes that seek to achieve early and meaningful engagement so their input can help define our projects that may occur on lands traditionally used by Indigenous Peoples.

- We commit to working with Indigenous Peoples to achieve benefits for them resulting from Enbridge's projects and operations, including opportunities in training and education, employment, procurement, business development, and community development.

- We foster understanding of the history and culture of Indigenous Peoples among Enbridge's employees and contractors, in order to create better relationships between Enbridge and Indigenous communities.

This commitment is a shared responsibility involving Enbridge and its affiliates, employees and contractors, and we will conduct business in a manner that reflects the above principles. Enbridge will provide ongoing leadership and resources to ensure the effective implementation of the above principles, including the development of implementation strategies and specific action plans.

Enbridge commits to periodically reviewing this policy to ensure it remains relevant and meets changing expectations.

INDIGENOUS CONSULTATION REPORT: SUMMARY TABLES

As of February 7, 2022

Aamjiwnaang First Nation ("AFN") **Environmental Coordinator**		
Was project information provided to the community?	☒ Yes ☐ No	On January 20, 2021, an Enbridge Gas representative emailed the AFN representative to provide details on the Dawn Corunna project ("Project"), including a map of the study area. The email advised the AFN representative that the proposed Project had been sent to the Ministry of Energy Northern Development and Mines ("MENDM"), now the Ministry of Energy ("MOE"), to request a determination of the delegation of the Duty to Consult with respect to the Project. On April 13, 2021, an Enbridge Gas representative sent an email to the AFN representative advising them of Enbridge Gas's plans to proceed with the proposed Project as referred to in a January 20, 2021 email that provided the Project notification. On April 20, 2021, a Stantec representative, acting on behalf of Enbridge Gas ("the Company"), sent an email to the AFN representative to provide information on the Project, a map of the study area and the first virtual open house date. The email included a letter a Notice of Commencement letter from the Enbridge Gas representative. On May 18, 2021, the Enbridge Gas representative attended the AFN Environmental Committee meeting to present on current and proposed Enbridge Gas projects. The Enbridge Gas representative presented information about the Project and provided dates of upcoming virtual open houses. The Enbridge Gas representative advised that Enbridge Gas would initiate a meeting in June 2021 to discuss the Project further and provide more details on environmental aspects after a preferred route had been selected. On June 18, 2022, an Enbridge Gas representative emailed the AFN representative to set up a date to meet regarding the Project as well as other Enbridge Gas projects. After the representatives exchanged several emails, it was agreed that Enbridge Gas would present to the Environmental Committee on September 14, 2021. On July 8, 2021, A Stantec representative, acting on behalf of Enbridge Gas, sent an email to the AFN representatives

		advising them of the second virtual open house date. The letter provided further details on the Project including a map of the Preliminary Preferred Route for the Project. On July 22, 2021, the AFN representative emailed the Enbridge Gas representative to advise that the Environment Committee would like a presentation on the route selection process for the Project. The AFN representative provided the date of August 17, 2021 for this meeting. The Enbridge Gas representative responded on July 23, 2021 and confirmed they would attend the meeting with the AFN Environment Committee. On August 11, 2021, the Enbridge Gas representative sent the power point presentation in advance of the August 17 meeting. On August 17, 2021, the Enbridge Gas representatives and the AFN representatives met virtually to discuss the route selection for the Project. The Enbridge Gas representative reviewed the four routes that were initially selected and explained how the preferred route was chosen. The Enbridge Gas representative used slides from the virtual open house to present the selection criteria. On August 24, 2021, an Enbridge Gas representative emailed the AFN representative requesting to move the September 14, 2021 meeting to early October due to the release of an ER related to another project. The representatives agreed to defer the presentation for the Environmental Committee to October 5, 2021. On September 22, 2021, a Stantec representative, acting on behalf of Enbridge Gas emailed the AFN representative to advise that the Environmental Report ("ER") was available and provided the Internet link for the Report. The Stantec representative requested that any comments on the ER be provided by November 8, 2021, as per the OEB's Guidelines. On October 5, 2021, the AFN representative emailed the Enbridge Gas representative with a quote for a third-party review of the ER and requested Enbridge Gas provide capacity funding for the review. The Enbridge Gas representative advised that it would reimburse AFN the costs of the third party review and that they would send AFN a formal letter to confirm. The letter was sent on October 6, 2021. No response was received. On October 5, 2021, the Enbridge Gas representatives and the AFN representatives met virtually to discuss the proposed Project.

		The Enbridge Gas representative reviewed the purpose and scope of the Project. The Enbridge Gas representative discussed the Species at Risk ("SAR") potentially within the Project area as well as the surveys that would be occurring and the permits that might be required. AFN was invited to participate in the archaeology and natural heritage surveys that would be occurring in Fall 2021. On November 16, 2021, the Enbridge Gas representative emailed the AFN representative asking if they had received the comments back from the third party review on the ER. On the same day, the AFN representative emailed a scanned copy of AFN's comments on the ER. On January 13, 2022, the Enbridge Gas representative emailed the AFN representative to advise that Enbridge Gas was drafting a response to the technical comments received on the ER and would send them to AFN once complete. On January 18, 2022, the Enbridge Gas representative sent an email to the AFN representative to provide the ICR log and Enbridge Gas's response to AFN's comments on the ER. The Enbridge Gas representative offered to meet to discuss the documents, Project or Enbridge Gas's engagement in general. On January 27, 2022, the Enbridge Gas and AFN representative met virtually to review the proposed Enbridge Gas projects.
Was the community responsive/did you have direct contact with the community?	☒ Yes ☐ No	Meetings were held on May 18, August 17 and October 5, 2021 and January 27, 2022 to discuss the Project, route selection and environmental features. AFN also provided comments on the ER. Please see Exhibit F, Tab 1, Schedule 1, Attachment 3 to this Application.

Did the community members or representatives have any questions or concerns?	☒ Yes ☐ No	

AFN Question	Enbridge Gas Response
An AFN representative asked for a copy of the report documenting how the final route was chosen.	The Enbridge Gas representative advised that they would gather that information and provide it to the committee.
An AFN representative asked if there was a water crossing in the preferred route. The AFN representative expressed concern with water crossings.	The Enbridge Gas representative advised that there would be water crossings. The Enbridge Gas representative advised that the mitigation at water crossings would be addressed in the ER.
An AFN representative asked about the compressors that would be decommissioned as part of this Project.	An Enbridge Gas representative advised that these were above ground compressors.
The AFN representative also asked if there was an opportunity for the committee members to review the ER.	The Enbridge Gas representative advised that the ER would be complete around September 20, 2021 and that a copy would be provided to AFN at that time. A meeting would also be set up to discuss the findings and mitigation measures in the report as well as to seek information on Aboriginal and treaty rights.
An AFN representative asked about the replacement of grasslands and trees that would be removed during the construction process.	The Enbridge Gas representative advised that everything will be returned to pre-construction state, with the exception of trees. The Enbridge Gas representative advised that Enbridge Gas has a 2 for 1 tree replacement policy and works with the local residents, conservation authorities, etc., to find appropriate placement for the trees.
An AFN representative advised that the company that has been providing their monitoring services will	An Enbridge Gas representative agreed to copy an AFN representative on all emails to the company

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<tr><td>continue, however, the AFN representative asked that they continue to be copied on Project emails.</td><td>providing monitoring services.</td></tr>
<tr><td>An AFN representative asked if archaeology would be completed in the water courses.</td><td>An Enbridge Gas representative advised that the entire route, including the temporary water crossings would be surveyed.</td></tr>
<tr><td>An AFN representative asked if the water crossings would be Horizontal Directional Drilled (“HDD”).</td><td>An Enbridge Gas representative advised that one crossing would be conducted by way of HDD due to the size and critical habitats for SARs. The other crossings would be completed using isolated dam and pump.</td></tr>
</table></td></tr>
<tr><td>Does the community have any outstanding concerns?</td><td>☐ Yes
☒ No</td><td>To date, AFN has no outstanding Project-related concerns.</td></tr>
<tr><td colspan="3">Chippewas of Kettle and Stony Point First Nation (“CKSPFN”) Consultation Coordinator</td></tr>
<tr><td>Was project information provided to the community?</td><td>☒ Yes
☐ No</td><td>On January 20, 2021, an Enbridge Gas representative emailed the CKSPFN representative to provide details on the Project including a map of the study area. The email advised the CKSPFN representatives that the Project notification had been sent to the MENDM, now the MOE, to request a determination of the Duty to Consult with respect to the Project.

On April 13, 2021, an Enbridge Gas representative sent an email to the CKSPFN representatives advising them of Enbridge Gas’s plans to proceed with the Project and re-sent the Project notification letter and map.

On April 20, 2021, a Stantec representative, acting on behalf of Enbridge Gas, sent an email to the CKSPFN representative to provide information on the Project, a map of the study area and the first virtual open house date. The email included a Notice of Commencement letter from the Enbridge Gas representative

On July 5, 2021, an Enbridge Gas representative emailed the CKSPFN representative requesting a meeting to discuss the Project and other proposed Enbridge Gas projects.

On July 8, 2021, a Stantec representative, acting on behalf of Enbridge Gas, sent an email and letter from the Enbridge Gas representative to the CKSPFN representative advising them of</td></tr>
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		the second virtual open house date. The letter provided further details on the Project including a map of the Preliminary Preferred Route for the Project. On July 19, 2021, an Enbridge Gas representative left a voice message for the CKSPFN representative requesting a call back to discuss the Project. Through correspondence between September 7-14, 2021, the parties agreed to change the date of the meeting to September 20, 2021. On September 20, 2021, the The Enbridge Gas representative and the CKSPFN representative met by telephone to discuss the current Project and proposed Enbridge Gas projects. The Enbridge Gas representative reviewed the purpose and scope of the Project. The Enbridge Gas representative discussed the surveys that would be occurring to identify the SARS and the permits that might be required. CKSPFN was invited to participate in the archaeology and natural heritage surveys that would be occurring in the Fall 2021 On September 22, 2021, a Stantec representative, acting on behalf of Enbridge Gas, emailed the CKSPFN representative to advise that the ER was available and provided the Internet link for the report. The Stantec representative requested that any comments on the ER be provided by November 8, 2021, as per the OEB's Guidelines. On October 25, 2021, an Enbridge Gas representative emailed the CKSPFN representative to touch base on the review of the Environmental Reports on various Enbridge Gas projects and reconfirmed that capacity funding was available for a third-party review of these documents. On December 8, 2021, the Enbridge Gas representative called the CKSPFN representative. The CKSPFN representative advised that the Consultation Committee had just been formed and had their second meeting that week. The parties discussed a presentation in early 2022 to review all of Enbridge Gas's projects and discuss the Nation's comments and concerns. On January 11, 2022, an Enbridge Gas representative emailed the CKSPFN representative to set up a meeting with the newly formed Consultation Committee to discuss proposed Enbridge Gas projects. On February 7, 2022, an Enbridge Gas representative and a CKSPFN representative spoke to discuss Project consultation.

		A third party will be engaged with CKSPFN going forward and Enbridge Gas is working with them on Projects.
Was the community responsive/did you have direct contact with the community?	☒ Yes ☐ No	On September 20, 2021, the Enbridge Gas representative and the CKSPFN representative had a telephone meeting to discuss the Project.
Did the community members or representatives have any questions or concerns?	☐ Yes ☒ No	At this time, CKSPFN has not raised any questions or concerns regarding the Project.
Does the community have any outstanding concerns?	☐ Yes ☒ No	To date, CKSPFN does not have any outstanding concerns regarding the Project.
Chippewas of the Thames First Nation ("COTTFN") Consultation Coordinator		
Was project information provided to the community?	☒ Yes ☐ No	On January 20, 2021, an Enbridge Gas representative emailed the COTTFN representative to provide details on the Project including a map of the study area. The email advised the COTTFN representative that the Project notification had been sent to the MENDM, now the MOE, to request a determination of the Duty to Consult with respect to the Project. On April 13, 2021, an Enbridge Gas representative sent an email to the COTTFN representative advising them of Enbridge Gas's plans to proceed with the Project referred to in the January 20, 2021 email. The Enbridge Gas representative re-sent the Project notification letter and map. On April 20, 2021, a Stantec representative, acting on behalf of Enbridge Gas, sent an email to the COTTFN representative to provide information on the Project, a map of the study area and the first virtual open house date. The email included a Notice of Commencement letter from the Enbridge Gas representative. On July 8, 2021, a Stantec representative, acting on behalf of Enbridge Gas, sent an email and letter from an Enbridge Gas representative to the COTTFN representative advising them of the second virtual open house date. The letter provided further

		details on the Project including a map of the Preliminary Preferred Route for the Project. On July 20, 2021, a COTTFN representative emailed the Enbridge Gas representative to request a meeting to discuss the Project.The Enbridge Gas representative responded and advised that the ER report would likely be available in September and that a meeting in late September would enable Enbridge Gas to provide further information. On September 15, 2021, an Enbridge Gas representative emailed a COTTFN representative to confirm a date for a meeting to provide an update on the Project as well as other Enbridge Gas proposed projects. The Enbridge Gas representative also forwarded the COTTFN representative a job posting. On September 22, 2021, a Stantec representative, acting on behalf of Enbridge Gas, emailed the COTTFN representative to advise that the ER was available and provided the Internet link for the report. The Stantec representative requested that any comments on the ER be provided by November 8, 2021, as per the OEB's Guidelines On October 18, 2021, an Enbridge Gas representative emailed the COTTFN representative asking to set up a meeting for October 21. On October 27, 2021, an Enbridge Gas representative met with the COTTFN representatives to discuss the Project and provided a presentation on the Project. The Enbridge Gas representative provided information on the Project including the Species at Risk (SAR). On October 27-28 2021, an Enbridge Gas representative emailed the COTTFN representative thanking them for meeting on October 27. The Enbridge Gas representative advised that Stantec had sent an email on October 28, 2021 to COTTFN regarding monitoring on the Project and the Enbridge Gas representative would ensure that the COTTFN representative was the new contact for the Nation. On November 8, 2021, the COTTFN representative emailed the Stantec representative, acknowledging receipt of the ER and proved COTTFN's comments on the Report. The COTTFN representative advised the Stantec representative that she would be the lead contact for energy-related consultation and any notices should be sent to her and consultation@cottfn.com.

		On January 19, 2022, the Enbridge Gas representative sent an email to the COTTFN representative and a copy of the presentation that would be reviewed at the January 24, 2022 meeting. On January 24, 2022, The Enbridge Gas representative had a virtual meeting with COTTFN and provided information on the Project and reviewed the presentation on the Project.
Was the community responsive/did you have direct contact with the community?	☒ Yes ☐ No	On October 27, 2021 and January 24, 2022, meetings were held between Enbridge Gas and COTTFN representatives.
Did the community members or representatives have any questions or concerns?	☒ Yes ☐ No	To date, COTTFN has not raised any questions or concerns related to the Project. COTTFN provided comments on the ER. COTTFN advised that they expect Enbridge Gas and its contractors will follow the recommended mitigation measures identified in the ER. COTTFN also requested to be notified and that they be invited to actively participate in any archaeological assessments by sending an Archaeology Field Liaison on behalf of the Nation. COTTFN indicated they were interested in sending monitors to participate in the natural heritage and archaeology assessments if they have the capacity to do so. COTTFN advised that if COTTFN monitors are not able to attend these studies, they request that copies be sent to them for their review. COTTFN requested that they be advised of any changes to the Project that are of a substantive nature. COTTFN further advised to implement meaningful consultation, COTTFN has developed its own consultation protocol.
Does the community have any outstanding concerns?	☐ Yes ☒ No	To date, COTTFN does not have any outstanding concerns related to the Project.
Oneida Nation of the Thames (“Oneida Nation”) Environment and Consultation Coordinator		
Was project information provided to the community?	☒ Yes ☐ No	On January 20, 2021, an Enbridge Gas representative emailed the Oneida Nation representative to provide details on the Project including a map of the study area. The email advised the Oneida Nation representative that the Project notification had been sent to the MENDM, now the MOE, to request a determination of the Duty to Consult with respect to the Project. On April 13, 2021, an Enbridge Gas representative sent an email to the Oneida representatives advising them of Enbridge

		Gas's plans to proceed with the Project referred to in the January 20, 2021 email. The Enbridge Gas representative re-sent the Project notification letter and map. On April 20, 2021, a Stantec representative, acting on behalf of Enbridge Gas, sent an email to the Oneida Nation representative to provide information on the Project, a map of the study area and the first virtual open house date. The email included a Notice of Commencement letter from the Enbridge Gas representative. On June 22, 2021, an Enbridge Gas representative emailed the Oneida Nation representative to confirm a meeting with community representatives to provide an update on the Project. On July 8, 2021, a Stantec representative, acting on behalf of Enbridge Gas, sent an email and letter from the Enbridge Gas representative to the Oneida Nation representative advising them of the second virtual open house date. The letter provided further details on the Project including a map of the Preliminary Preferred Route for the Project. On September 22, 2021, a Stantec representative, acting on behalf of Enbridge Gas emailed the Oneida Nation representative to advise that the ER was available and provided the Internet link for the report. The Stantec representative requested that any comments on the ER be provided by November 8, 2021, as per the OEB's Guidelines. On October 14-15, 2021, an Enbridge Gas representative delivered a package detailing Project information at the Band Office in an attempt to connect with the Oneida Nation representative. The Oneida Nation representative was not available that day and the Enbridge Gas representative sent an email on October 15, 2021 advising the Oneida Nation representative that the package had been delivered to the Band Office. On November 4, 2021, an Enbridge Gas representative received an email from the Oneida Nation representative requesting a virtual meeting with Oneida's leadership and environmental group. The parties agreed to meet virtually on November 10, 2021. On November 10, 2021, an Enbridge Gas representative met virtually with the Oneida Nation representative to discuss the Project. The Enbridge Gas representative presented general information on the Project as well as information on identification of Species at Risk (SAR) in the area.

<table>
<tr><td>Was the community responsive/did you have direct contact with the community?</td><td>☒ Yes
☐ No</td><td>On November 10, 2021, a virtual meeting was held between Enbridge Gas and Oneida Nation to discuss the Project.</td></tr>
<tr><td>Did the community members or representatives have any questions or concerns?</td><td>☒ Yes
☐ No</td><td><table><tr><th>Oneida Nation Question</th><th>Enbridge Gas Response</th></tr><tr><td>The Oneida Nation representative asked what size and type of pipe was being used.</td><td>The Enbridge representative responded that it was a 10 inch steel pipe</td></tr><tr><td>The Oneida Nation representative asked how the route was chosen.</td><td>The Enbridge Gas representative explained that a third party reviewed the potential routes for their environmental characteristics. The route with the least impact on the land was chosen.</td></tr></table></td></tr>
<tr><td>Does the community have any outstanding concerns?</td><td>☐ Yes
☒ No</td><td>To date, the Oneida Nation does not have any outstanding Project-related concerns.</td></tr>
<tr><td colspan="3">Walpole Island First Nation (“WIFN”)
Consultation Manager</td></tr>
<tr><td>Was project information provided to the community?</td><td>☒ Yes
☐ No</td><td>On January 20, 2021, an Enbridge Gas representative emailed the WIFN representative to provide details on the Project, including a map of the study area. The email advised the WIFN representatives that the proposed Project had been sent to the MENDM to request a determination of the delegation of the Duty to Consult in relation to the Project.

On April 13, 2021, an Enbridge Gas representative sent an email to the WIFN representatives advising them of Enbridge Gas’s plans to proceed with the Project as referred to in the January 20, 2021 email, which provided the Project notification.

On April 20, 2021, a Stantec representative, acting on behalf of Enbridge Gas, sent an email to the WIFN representatives to provide information on the Project, a map of the study area and the first virtual open house date. The email included a Notice of Commencement letter from the Enbridge Gas representative.

On July 8, 2021, an Enbridge Gas representative emailed a WIFN representative to inquire as to who should be receiving Project notifications in the absence of the WIFN representative.</td></tr>
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		The WIFN representative advised the Enbridge representative on who to engage with on the Project. On July 8, 2021, a Stantec representative, acting on behalf of Enbridge Gas, sent an email and letter from the Enbridge Gas representative to the WIFN representative advising them of the second virtual open house date. The letter provided further details on the Project including a map of the Preliminary Preferred Route for the Project. On July 13, 2021, an Enbridge Gas representative emailed the WIFN representative requesting a meeting to discuss numerous Enbridge Gas projects. A meeting date was set for July 23, 2021. On July 23, 2021, an Enbridge Gas representative met with the WIFN representative to discuss the Project and other proposed Enbridge Gas Projects. No questions from the WIFN representative were raised at this time. The Enbridge Gas representative advised that capacity funding could be provided to the community for the review of the ER once it has been completed. On September 10, 2021, an Enbridge Gas representative emailed the WIFN representatives requesting a meeting to discuss the Project and other proposed Enbridge Gas projects. On September 22, 2021, a Stantec representative, acting on behalf of Enbridge Gas emailed the WIFN representative to advise that the ER was available and provided the Internet link for the report. The Stantec representative requested that any comments on the ER be provided by November 8, 2021, as per the OEB's Guidelines. On October 6, 2021, an Enbridge Gas representative forwarded the WIFN representative the Stantec email from September 22, 2021 regarding the ER. The WIFN representative had been on vacation when the email had been sent. The Enbridge Gas representative advised that capacity funding could be provided to the community for the review of the ER. On October 18, 2021, an Enbridge Gas representative emailed a WIFN representative to follow up to ensure that the ER was sent over to the third-party reviewer and if needed, it could be obtained from the Enbridge Gas Project webpage. On October 29, 2021, an Enbridge Gas representative emailed the WIFN representatives to ask for a meeting to discuss the Project.

		On November 10, 2021, the WIFN representative emailed the Enbridge Gas representative to ask for a meeting to discuss the Project. A meeting was set for November 15, 2021. PowerPoint slides providing information were sent to the WIFN representative on November 12, 2021. On November 12, 2021, an Enbridge Gas representative and the WIFN representative met virtually to discuss the Project. The Enbridge Gas representative provided information on the Project including the scope and potential Species at Risk (SAR). On November 15, 2021, a virtual meeting was help between Enbridge Gas and WIFN representative to discuss the Project. The Enbridge Gas representative provided information on the Project including the scope and potential Species at Risk (SAR). On December 9, 2021, a Third-Party representative acting on behalf of WIFN sent the technical comments on the ER review to the Enbridge Gas representative. On December 13, 2021, the WIFN representative called the Enbridge Gas representative to advise of an interim staffing change. The parties agreed to meet in the new year to discuss the ongoing Enbridge Gas projects including the Project. On December 14, 2021, the Enbridge Gas representative emailed the WIFN representative to advise that Enbridge Gas was working to provide comments on WIFN's comments on the ER and that Enbridge Gas would send its responses once finalized. On January 13, 2022, the Enbridge Gas representative emailed the WIFN representative to advise that Enbridge Gas was drafting a response to the technical comments on the ER review and would send them to WIFN once complete. On January 27, 2022, the Enbridge Gas and WIFN representatives had a virtual meeting to review the Enbridge Gas proposed projects. On February 4, 2022, the Enbridge Gas representative sent an email to the WIFN representative to provide the Enbridge Gas response comments to the ER review. The Enbridge Gas representative offered to meet to discuss the documents, Project or Enbridge Gas's engagement in general.

Was the community responsive/did you have direct contact with the community?	☒ Yes ☐ No	On July 23, 2021, November 21, 2021 and January 27, 2022, meetings were held between Enbridge Gas and WIFN representatives. WIFN also provided comments on the ER. Please see Exhibit F, Tab 1, Schedule 1, Attachment 4 to this Application.
Did the community members or representatives have any questions or concerns?	☒ Yes ☐ No	To date, WIFN has not raised any questions or concerns regarding the Project. The WIFN representative advised that the archaeology surveys of the Project are of interest to them. The WIFN representative advised that currently, WIFN does not have available monitors to attend all sites, however, Enbridge Gas should continue to reach out to the Consultation Manager to advise of dates for monitoring.
Does the community have any outstanding concerns?	☐ Yes ☒ No	To date, there are no outstanding Project-related concerns from WIFN.

INDIGENOUS CONSULTATION REPORT: LOG AND PROJECT CORRESPONDENCE

As of February 7, 2022

Aamjiwnaang First Nation ("AFN")					
Line Item	**Date of Engagement**	**Method of Engagement**	**Summary of Engagement Activity**	**Response from Community/Outstanding Issues**	**Attachment**
1.1	January 20, 2021	Email	An Enbridge Gas representative emailed the AFN representative to provide details on the Dawn Corunna project ("Project"), including a map of the study area. The email advised the AFN representative that the proposed Project had been sent to the Ministry of Energy Northern Development and Mines ("MENDM"), now the Ministry of Energy ("MOE"), to request a determination of the delegation of the Duty to Consult with respect to the Project.	No response was received from the AFN representative.	Attachment 1.1
1.2	April 13, 2021	Email	An Enbridge Gas representative sent an email to the AFN representative advising them of Enbridge Gas's plans to proceed with the proposed Project as referred to in a January 20, 2021 email that provided the Project notification.	An AFN representative responded asking the Enbridge Gas representative to present at an upcoming Environmental Committee meeting. The Enbridge Gas representative agreed to join the May 18 meeting to provide an update on current and proposed Enbridge Gas projects.	Attachment 1.2
1.3	April 20, 2021	Email	A Stantec representative, acting on behalf of Enbridge Gas ("the Company"), sent an email to the AFN representative to provide information on the Project, a map of the study area and the first virtual open house date. The email included a letter a Notice of Commencement letter from the Enbridge Gas representative.	No response was received from the AFN representative.	Attachment 1.3
1.4	May 18, 2021	Virtual meeting between Enbridge Gas and the AFN environmental committee	The Enbridge Gas representative attended the AFN Environmental Committee meeting to present on current and proposed Enbridge Gas projects. The Enbridge Gas representative presented information about the Project and provided dates of upcoming virtual open houses. The Enbridge Gas representative advised that Enbridge Gas would initiate a meeting in June 2021 to discuss the Project further and provide more details on environmental aspects after a preferred route had been selected.	The AFN representative asked for a copy of the report and how the final route is chosen. The Enbridge Gas representative advised that they would gather that information and provide it to the committee.	Attachment 1.4
1.5	June 18, 2021	Email	An Enbridge Gas representative emailed the AFN representative to set up a date to meet regarding the Project as well as other Enbridge Gas projects.	After the representatives exchanged several emails, it was agreed that Enbridge Gas would present to the	Attachment 1.5

				Environmental Committee on September 14, 2021.	
1.6	July 8, 2021	Email	A Stantec representative, acting on behalf of Enbridge Gas, sent an email to the AFN representatives advising them of the second virtual open house date. The letter provided further details on the Project including a map of the Preliminary Preferred Route for the Project.	No response was received from the AFN representative.	Attachment 1.6
1.7	July 22, 2021	Email	The AFN representative emailed the Enbridge Gas representative to advise that the Environment Committee would like a presentation on the route selection process for the Project. The AFN representative provided the date of August 17, 2021 for this meeting.	The Enbridge Gas representative responded on July 23, 2021 and confirmed they would attend the meeting with the AFN Environment Committee. On August 11, 2021, the Enbridge Gas representative sent the power point presentation in advance of the August 17 meeting.	Attachment 1.7
1.8	August 17, 2021	Virtual Meeting	The Enbridge Gas representatives and the AFN representatives met virtually to discuss the route selection for the Project. The Enbridge Gas representative reviewed the four routes that were initially selected and how the preferred route was chosen. The Enbridge Gas representative used slides from the virtual open house to present the selection criteria.	An AFN representative asked if there was a water crossing in the preferred route. The Enbridge Gas representative advised that there would be water crossings. The AFN representative expressed concern with water crossings. The Enbridge Gas representative advised that the mitigation at water crossings would be addressed in the ER. An AFN representative asked about the compressors that would be decommissioned as part of this Project and the Enbridge Gas representative advised that these were above ground compressors. The AFN representative also asked if there was an opportunity for the committee members to review the Environmental Report (“ER”). The Enbridge Gas representative advised that the ER would be complete around September 20, 2021 and that a copy would be provided to AFN at that time. A meeting would also be set up to discuss the findings and mitigation measures in the report as well as to seek out information on Aboriginal and treaty rights.	Attachment 1.8

				The AFN representative asked about the replacement of grasslands and trees that would be removed during the construction process. The Enbridge Gas representative advised that everything will be returned to pre-construction state, with the exception of trees. The Enbridge Gas representative advised that Enbridge Gas has a 2 for 1 tree replacement policy and works with the local residents, conservation authorities, etc., to find appropriate placement for the trees. The Enbridge Gas representative advised that we would be seeking out Environmental and Archaeological monitors from AFN for survey participation which would occur in the Fall 2021.	
1.9	August 24, 2021	Email	An Enbridge Gas representative emailed the AFN representative requesting to move the September 14, 2021 meeting to early October due to the release of an ER related to another project.	The representatives agreed to defer the presentation for the Environmental Committee to October 5, 2021.	Attachment 1.9
1.10	September 22, 2021	Email	A Stantec representative, acting on behalf of Enbridge Gas emailed the AFN representative to advise that the ER was available and provided the Internet link for the report. The Stantec representative requested that any comments on the ER be provided by November 8, 2021, as per the OEB's Guidelines.	No response received from the AFN representative.	Attachment 1.10
1.11	October 5, 2021	Email	The AFN representative emailed the Enbridge Gas representative with a quote for a third-party review of the ER and requested Enbridge Gas provide capacity funding for the review.	The Enbridge Gas representative advised that it would reimburse AFN the costs of the third party review and that they would send AFN a formal letter to confirm. The letter was sent on October 6, 2021. No response was received.	Attachment 1.11
1.12	October 5, 2021	Virtual Meeting	The Enbridge Gas representatives and the AFN representatives met virtually to discuss the proposed Project. The Enbridge Gas representative reviewed the purpose and scope of the Project. The Enbridge Gas representative discussed the Species at Risk ("SAR") potentially within the Project area as well as the surveys that would be occurring and the permits that might be required. AFN was invited to participate in the	The AFN representative advised that the company that has been providing their monitoring services will continue their work. However, Enbridge Gas should ensure that the AFN representative is copied on Project emails. An Enbridge Gas representative agreed to copy an AFN representative on all emails to the company	Attachment 1.12

			archaeology and natural heritage surveys that would be occurring in Fall 2021.	providing monitoring services. The AFN representative asked if archaeology would be completed in the water courses. An Enbridge Gas representative advised that the entire route, including the temporary water crossings would be surveyed. An AFN representative asked if the water crossings would be Horizontal Directional Drilled ("HDD"). An Enbridge Gas representative advised that one crossing would be conducted by way of HDD due to the size and critical habitats for SARs. The other crossings would be completed using isolated dam and pump.	
1.13	November 16, 2021	Email	The Enbridge Gas representative emailed the AFN representative asking if they had received the comments back from the third party review on the ER.	On November 16, 2021, the AFN representative emailed a scanned copy of AFN's comments on the ER.	Attachment 1.13
1.14	January 13, 2022	Email	The Enbridge Gas representative emailed the AFN representative to advise that Enbridge Gas was drafting a response to the technical comments received on the ER and would send them to AFN once complete.		Attachment 1.14
1.15	January 18, 2022	Email	The Enbridge Gas representative sent an email to the AFN representative to provide the ICR log and Enbridge Gas response comments to the ER review. The Enbridge Gas representative offered to meet to discuss the documents, Project or Enbridge engagement in general.	The AFN representative responded to acknowledge the email and advised they would take a look.	Attachment 1.15
1.16	January 27, 2022	Virtual Meeting	The Enbridge Gas and AFN representative met virtually to review the proposed Enbridge projects.	The Enbridge Gas representative followed up the following day with an email to provide the slides used during the meeting.	Attachment 1.16
Chippewa of Kettle and Stony Point First Nation ("CKSPFN")					
Line Item	**Date of Engagement**	**Method of Engagement**	**Summary of Engagement Activity**	**Response from Community/Outstanding Issues**	**Attachment**
2.1	January 20, 2021	Email	An Enbridge Gas representative emailed the CKSPFN representative to provide details on the Project including a map of the study area. The email advised the CKSPFN representatives that the Project notification had been sent to the MENDM, now the MOE, to request a determination of the Duty to Consult with respect to the Project.	No response was received from the CKSPFN representative.	Attachment 2.1

2.2	April 13, 2021	Email	An Enbridge Gas representative sent an email to the CKSPFN representatives advising them of Enbridge Gas's plans to proceed with the Project and re-sent the Project notification letter and map.	No response was received from the CKSPFN representative.	Attachment 2.2
2.3	April 20, 2021	Email	A Stantec representative, acting on behalf of Enbridge Gas, sent an email to the CKSPFN representative to provide information on the Project, a map of the study area and the first virtual open house date. The email included a Notice of Commencement letter from the Enbridge Gas representative	No response was received from the CKSPFN representative.	Attachment 2.3
2.4	July 5, 2021	Email	An Enbridge Gas representative emailed the CKSPFN representative requesting a meeting to discuss the Project and other proposed Enbridge Gas projects.	No response was received from the CKSPFN representative.	Attachment 2.4
2.5	July 8, 2021	Email	A Stantec representative, acting on behalf of Enbridge Gas, sent an email and letter from the Enbridge Gas representative to the CKSPFN representative advising them of the second virtual open house date. The letter provided further details on the Project including a map of the Preliminary Preferred Route for the Project.	No response was received from the CKSPFN representative.	Attachment 2.5
2.6	July 19, 2021	Telephone	An Enbridge Gas representative left a voice message for the CKSPFN representative requesting a call back to discuss the Project.	No response received from the CKSPFN representative.	N/A
2.7	August 9, 2021.	Email	The CKSPFN representative responded to an email on a different project and provided dates to schedule a meeting.	The parties agreed to meet to discuss the Project on September 9, 2021.	Attachment 2.7
2.8	September 7, 2021	Email	The Enbridge Gas representative emailed the CKSPFN representative to inform that they would not be able to travel to meet in person to discuss the Project and advised they would still be able to meet over the telephone at the scheduled time or they could reschedule.	The CKSPFN representative requested, and the parties agreed to meet September 15, 2021 by telephone.	Attachment 2.8
2.9	September 14, 15 and 16 2021	Emails	The Enbridge Gas representative emailed a presentation deck to the CKSPFN ahead of the meeting on September 15, 2021.	The CKSPFN representative emailed the Enbridge Gas representative on September 15, 2021 to advise that we would need to postpone the meeting due to an appointment. The parties exchanged emails on September 15 and 16 to confirm that they would meet on September 20, 2021.	Attachment 2.9
2.10	September 20, 2021	Telephone meeting and Email	The Enbridge Gas representative and the CKSPFN representative met by telephone to discuss the current Project and proposed Enbridge Gas projects. The Enbridge Gas representative reviewed the purpose and scope of the Project. The Enbridge Gas	The parties discussed CKSPFN capacity for Environment and Archaeological monitors for Enbridge Gas projects. The CKSPFN representative advised that they only have one monitor available on an	Attachment 2.10

			representative discussed the surveys that would be occurring to identify the SARS and the permits that might be required. CKSPFN was invited to participate in the archaeology and natural heritage surveys that would be occurring in the Fall 2021. The Enbridge Gas representative emailed the CKSPFN representative following the meeting and provided project notifications for other Enbridge Gas projects. The Enbridge Gas representative advised the CKSPFN representative that if they required a third party to review the ER for the Project, Enbridge Gas would accommodate this request and could provide capacity funding for the review. The Enbridge Gas representative also requested a quote from the CKSPFN representative so training could be provided to the monitors.	irregular basis. The Enbridge Gas representative advised CKSPFN that training for monitors could be accommodated to ensure that representatives from the community were present on projects.	
2.11	September 22, 2021	Email	A Stantec representative, acting on behalf of Enbridge Gas, emailed the CKSPFN representative to advise that the ER was available and provided the Internet link for the report. The Stantec representative requested that any comments on the ER be provided by November 8, 2021, as per the OEB's Guidelines.	No response was received from the CKSPFN representative.	Attachment 2.11
2.12	October 25, 2021	Email	An Enbridge Gas representative emailed the CKSPFN representative to touch base on the review of the Environmental Reports on various Enbridge Gas projects and reconfirmed that capacity funding was available for a third-party review of these documents.	The CKSPFN representative acknowledged the email.	Attachment 2.12
2.13	December 8, 2021	Telephone	The Enbridge Gas representative called the CKSPFN representative. The CKSPFN representative advised that the Consultation Committee had just been formed and had their second meeting that week. The parties discussed a presentation in early 2022 to review all of Enbridge Gas's projects and discuss the Nation's comments and concerns.	The Enbridge Gas representative sent an email following up on the phone call and reminded the CKSPFN representative that capacity funding is available for the Project to ensure the Nation can meaningfully engage on the Project, conduct timely technical reviews of documents and participate in field work.	Attachment 2.13
2.14	January 11, 2022	Email	An Enbridge Gas representative emailed the CKSPFN representative to set up a meeting with the newly formed Consultation Committee to discuss proposed Enbridge Gas projects.		Attachment 2.14
2.15	February 7, 2022	Telephone	An Enbridge Gas representative and a CKSPFN representative spoke to discuss Project consultation. A third		

			party will be engaged with CKSPFN going forward and Enbridge Gas is work with them on Projects.		
Chippewas of the Thames First Nation ("COTTFN")					
Line Item	**Date of Engagement**	**Method of Engagement**	**Summary of Engagement Activity**	**Response from Community/Outstanding Issues**	**Attachment**
3.1	January 20, 2021	Email	An Enbridge Gas representative emailed the COTTFN representative to provide details on the Project including a map of the study area. The email advised the COTTFN representative that the Project notification had been sent to the MENDM, now the MOE, to request a determination of the Duty to Consult with respect to the Project.	No response was received from the COTTFN representative.	Attachment 3.1
3.2	April 13, 2021	Email	An Enbridge Gas representative sent an email to the COTTFN representative advising them of Enbridge Gas's plans to proceed with the Project referred to in the January 20, 2021 email. The Enbridge Gas representative re-sent the Project notification letter and map.	No response was received from the COTTFN representative.	Attachment 3.2
3.3	April 20, 2021	Email	A Stantec representative, acting on behalf of Enbridge Gas, sent an email to the COTTFN representative to provide information on the Project, a map of the study area and the first virtual open house date. The email included a Notice of Commencement letter from the Enbridge Gas representative.	No response was received from the COTTFN representative.	Attachment 3.3
3.4	July 8, 2021	Email	A Stantec representative, acting on behalf of Enbridge Gas, sent an email and letter from an Enbridge Gas representative to the COTTFN representative advising them of the second virtual open house date. The letter provided further details on the Project including a map of the Preliminary Preferred Route for the Project.	No response was received from the COTTFN representative.	Attachment 3.4
3.5	July 20, 2021	Email	A COTTFN representative emailed the Enbridge Gas representative to request a meeting to discuss the Project.	The Enbridge Gas representative responded on August 4, 2021 and advised that the ER report would l kely be available in September and that a meeting in late September would enable Enbridge Gas to provide further information.	Attachment 3.5
3.6	September 15, 2021	Email	An Enbridge Gas representative emailed a COTTFN representative to confirm a date for a meeting to provide an update on the Project as well as other Enbridge Gas proposed projects. The Enbridge Gas representative also forwarded the COTTFN representative a job posting.	No response was received from the COTTFN representative.	Attachment 3.6
3.7	September 22, 2021	Email	A Stantec representative, acting on behalf of Enbridge Gas emailed the COTTFN representative to advise that the ER was available and provided the internet link for the	No response was received from the COTTFN representative.	Attachment 3.7

			report. The Stantec representative requested that any comments on the ER be provided by November 8, 2021, as per the OEB's Guidelines.		
3.8	October 18, 2021	Email	An Enbridge Gas representative emailed the COTTFN representative asking to set up a meeting for October 21.	The representatives agreed to a meeting on October 27, 2021 at the COTTFN Band Office.	Attachment 3.8
3.9	October 27, 2021	In person meeting	An Enbridge Gas representative met with the COTTFN representatives to discuss the Project and provided a presentation on the Project. The Enbridge Gas representative provided information on the Project including the Species at Risk (SAR)	The COTTFN representatives had no concerns with respect to information provided on the Project. COTTFN expressed an interest in future business opportunities with Enbridge Gas with respect to this Project and other proposed projects.	Attachment 3.9
3.10	October 28 and 29, 2021	Emails	The Enbridge Gas representative emailed the COTTFN representative thanking them for meeting on October 27. The Enbridge representative advised that Stantec had sent an email on October 28, 2021 to COTTFN regarding monitoring on the Project and the Enbridge representative would ensure that the COTTFN representative was the new contact for the Nation.	The COTTFN representative responded thanking the Enbridge Gas representative for meeting with them and advised they have been in touch with the Stantec representative regarding the surveys. The COTTFN representative requested shapefiles for other Enbridge Gas proposed projects.	Attachment 3.10
3.11	November 8, 2021	Email	The COTTFN representative emailed the Stantec representative, acknowledging receipt of the ER and proved COTTFN's comments on the report. The COTTFN representative advised the Stantec representative that she would be the lead contact for energy-related consultation and any notices should be sent to her and consultation@cottfn.com.	COTTFN provided comments on the ER. COTTFN advised that they expect Enbridge Gas and its contractors will follow the recommended mitigation measures identified in the ER. COTTFN also requested to be notified and that they be invited to actively participate in any archaeological assessments by sending an Archaeology Field Liaison on behalf of the Nation. COTTFN indicated they were interested in sending monitors to participate in the natural heritage and archaeology assessments if they have the capacity to do so. COTTFN advised that if COTTFN monitors are not able to attend these studies, they request that copies be sent to them for their review. COTTFN requested that they be advised of any changes to the Project that are of a substantive nature. COTTFN further advised to implement meaningful consultation, COTTFN	Attachment 3.11

				has developed its own consultation protocol.	
3.12	January 19, 2022	Email	The Enbridge Gas representative sent an email to the COTTFN representative to a copy of the presentation that would be reviewed at the January 24, 2022 meeting.		Attachment 3.12
3.13	January 24, 2022	Virtual Meeting	The Enbridge Gas representative had a virtual meeting with COTTFN and provided information on the Project and reviewed the presentation on the Project.	There were no questions on the Project during this meeting.	
Oneida Nation of the Thames (Oneida Nation)					
Line Item	**Date of Engagement**	**Method of Engagement**	**Summary of Engagement Activity**	**Response from Community/Outstanding Issues**	**Attachment**
4.1	January 20, 2021	Email	An Enbridge Gas representative emailed the Oneida Nation representative to provide details on the Project including a map of the study area. The email advised the Oneida Nation representative that the Project notification had been sent to the MENDM, now the MOE, to request a determination of the Duty to Consult with respect to the Project.	No response was received from the Oneida Nation representative.	Attachment 4.1
4.2	April 13, 2021	Email	An Enbridge Gas representative sent an email to the Oneida representatives advising them of Enbridge Gas's plans to proceed with the Project referred to in the January 20, 2021 email. The Enbridge Gas representative re-sent the Project notification letter and map.	No response was received from the Oneida Nation representative.	Attachment 4.2
4.3	April 20, 2021	Email	A Stantec representative, acting on behalf of Enbridge Gas, sent an email to the Oneida Nation representative to provide information on the Project, a map of the study area and the first virtual open house date. The email included a Notice of Commencement letter from the Enbridge Gas representative.	No response was received from the Oneida Nation representative.	Attachment 4.3
4.4	June 22, 2021	Email	An Enbridge Gas representative emailed the Oneida Nation representative to confirm a meeting with community representatives to provide an update on the Project.	No response was received from the Oneida Nation representative.	Attachment 4.4
4.5	July 8, 2021	Email	A Stantec representative, acting on behalf of Enbridge Gas, sent an email and letter from the Enbridge Gas representative to the Oneida Nation representative advising them of the second virtual open house date. The letter provided further details on the Project including a map of the Preliminary Preferred Route for the Project.	No response was received from the Oneida Nation representative.	Attachment 4.5
4.6	September 22, 2021	Email	A Stantec representative, acting on behalf of Enbridge Gas emailed the Oneida Nation representative to advise that the ER was available and provided the Internet link for the report. The Stantec representative requested that any comments on the ER be provided by November 8, 2021, as per the OEB's Guidelines.	No response was received from the Oneida Nation representative.	Attachment 4.6

4.7	October 14 and 15, 2021	In person and Email	An Enbridge Gas representative delivered a package detailing Project information at the Band Office in an attempt to connect with the Oneida Nation representative.	The Oneida Nation representative was not available that day and the Enbridge Gas representative sent an email on October 15, 2021 advising the Oneida Nation representative that the package had been delivered to the Band Office.	Attachment 4.7
4.8	November 4, 2021	Email	An Enbridge Gas representative received an email from the Oneida Nation representative requesting a virtual meeting with Oneida's leadership and environmental group.	The parties agreed to meet virtually on November 10, 2021.	Attachment 4.8
4.9	November 10, 2021	Virtual Meeting	An Enbridge Gas representative met virtually with the Oneida Nation representative to discuss the Project. The Enbridge Gas representative presented general information on the Project as well as information on identification of Species at Risk (SAR) in the area.	The Oneida Nation representative asked what size and type of pipe was being used. The Enbridge representative responded that it was a 10 inch steel pipe. The Oneida Nation representative asked about how the route was chosen. The Enbridge Gas representative explained that a third party reviewed the potential routes for their environmental characteristics. The route with the least impact on the land was chosen.	Attachment 4.9
Walpole Island First Nation ("WIFN")					
Line Item	**Date of Engagement**	**Method of Engagement**	**Summary of Engagement Activity**	**Response from Community/Outstanding Issues**	**Attachment**
5.1	January 20, 2021	Email	An Enbridge Gas representative emailed the WIFN representative to provide details on the Project, including a map of the study area. The email advised the WIFN representatives that the proposed Project had been sent to the MENDM to request a determination of the delegation of the Duty to Consult in relation to the Project.	No response was received from the WIFN representative.	Attachment 5.1
5.2	April 13, 2021	Email	An Enbridge Gas representative sent an email to the WIFN representatives advising them of Enbridge Gas's plans to proceed with the Project as referred to in the January 20, 2021 email, which provided the Project notification.	No response was received from the WIFN representative.	Attachment 5.2
5.3	April 20, 2021	Email	A Stantec representative, acting on behalf of Enbridge Gas, sent an email to the WIFN representatives to provide information on the Project, a map of the study area and the first virtual open house date. The email included a Notice of Commencement letter from the Enbridge Gas representative.	No response was received from the WIFN representative.	Attachment 5.3

5.4	July 8, 2021	Email	An Enbridge Gas representative emailed a WIFN representative to inquire as to who should be receiving Project notifications in the absence of the WIFN representative.	The WIFN representative advised the Enbridge representative on who to engage with on the Project.	Attachment 5.4
5.5	July 8, 2021	Email	A Stantec representative, acting on behalf of Enbridge Gas, sent an email and letter from the Enbridge Gas representative to the WIFN representative advising them of the second virtual open house date. The letter provided further details on the Project including a map of the Preliminary Preferred Route for the Project.	No response was received from the WIFN representative.	Attachment 5.5
5.6	July 13, 2021	Email	An Enbridge Gas representative emailed the WIFN representative requesting a meeting to discuss numerous Enbridge Gas projects.	A meeting date was set for July 23, 2021.	Attachment 5.6
5.7	July 23, 2021	Telephone meeting	An Enbridge Gas representative met with the WIFN representative to discuss the Project and other proposed Enbridge Gas Projects.	No questions from the WIFN representative were raised at this time. The Enbridge Gas representative advised that capacity funding could be provided to the community for the review of the ER once it has been completed.	Attachment 5.7
5.8	September 10, 2021	Email	An Enbridge Gas representative emailed the WIFN representatives requesting a meeting to discuss the Project and other proposed Enbridge Gas projects.	No response was received from the WIFN representative.	Attachment 5.8
5.9	September 22, 2021	Email	A Stantec representative, acting on behalf of Enbridge Gas emailed the WIFN representative to advise that the ER was available and provided the Internet link for the report. The Stantec representative requested that any comments on the ER be provided by November 8, 2021, as per the OEB's Guidelines.	No response was received from the WIFN representative.	Attachment 5.9
5.10	October 6, 2021	Email	An Enbridge Gas representative forwarded the WIFN representative the Stantec email from September 22, 2021 regarding the ER. The WIFN representative had been on vacation when the email had been sent. The Enbridge Gas representative advised that capacity funding could be provided to the community for the review of the ER.	The WIFN representative responded advising he was out of the country and that the third-party reviewer would be in touch. The Enbridge Gas representative forwarded the ER to the WIFN's third-party representative.	Attachment 5.10
5.11	October 18, 2021	Email	An Enbridge Gas representative emailed a WIFN representative to follow up to ensure that the ER was sent over to the third-party reviewer and if needed, it could be obtained from the Enbridge Gas Project webpage.	The WIFN representative acknowledged the email.	Attachment 5.11
5.12	October 29, 2021	Email	An Enbridge Gas representative emailed the WIFN representatives to ask for a meeting to discuss the Project.	No response was received.	Attachment 5.12
5.13	November 10, 2021	Email	The WIFN representative emailed the Enbridge Gas representative to	A meeting was set for November 15, 2021. PowerPoint slides	Attachment 5.13

			ask for a meeting to discuss the Project.	providing information were sent to the WIFN representative on November 12, 2021.	
5.14	November 12, 2021	Email	An Enbridge Gas representative emailed the WIFN representative to follow up on the third-party review of the ER as a quote has not yet been received.	The WIFN representative responded that that the third party will put together a budget and that it is a priority for WIFN's third-party reviewer to review the ER.	Attachment 5.14
5.15	November 15, 2021	Virtual Meeting	An Enbridge Gas representative and the WIFN representative met virtually to discuss the Project. The Enbridge Gas representative provided information on the Project including the scope and potential Species at Risk (SAR).	The WIFN representative advised that the archaeology surveys of the Project are of interest to them. The WIFN representative advised that currently, WIFN does not have available monitors to attend all sites, however, Enbridge Gas should continue to reach out to the Consultation Manager to advise of dates for monitoring. The WIFN representative advised that once the third party reviews the report and comments are received back, a meeting will be set to discuss the responses.	Attachment 5.15
5.16	December 9, 2021	Email	The Third-Party representative acting on behalf of WIFN sent the technical comments on the ER review to the Enbridge Gas representative.	The Enbridge Gas representative acknowledged the email.	Attachment 5.16
5.17	December 13, 2021	Telephone and Email	The WIFN representative called the Enbridge Gas representative to advise of an interim staffing change.	The parties agreed to meet in the new year to discuss the ongoing Enbridge Gas projects including the Project.	
5.18	December 14, 2021	Email	The Enbridge Gas representative emailed the WIFN representative to advise that Enbridge Gas was working to provide comments on WIFN's comments on the ER and that Enbridge Gas would send its responses once finalized.	No response was received from WIFN.	Attachment 5.18
5.19	January 13, 2022	Email	The Enbridge Gas representative emailed the WIFN representative to advise that Enbridge Gas was drafting a response to the technical comments on the ER review and would send them to WIFN once complete.		Attachment 5.19
5.20	January 27, 2022	Virtual Meeting	The Enbridge Gas and WIFN representatives had a virtual meeting to review the Enbridge Gas proposed projects.	The Enbridge Gas representative followed up the following day with an email to provide the slides used during the meeting.	Attachment 5.20
5.21	February 4, 2022	Email	The Enbridge Gas representative sent an email to the WIFN representative to provide the Enbridge Gas response comments to the ER review. The Enbridge Gas representative offered to meet to		Attachment 5.21

			discuss the documents, Project or Enbridge engagement in general.		

Attachment 1.1

From: Lauren Whitwham
To: Sharilyn Johnston
Cc: Aamjiwnaang Environment
Subject: Proposed project: Dawn Corunna Project
Date: Wednesday, January 20, 2021 10:14:00 AM
Attachments: Dawn to Corunna Study Area.pdf

Good morning,

I hope this finds you safe and healthy as we are staying at home again.

I wanted to provide you with a heads up to a proposed project that is coming up. Enbridge is currently conducting a review of its gas storage and transmission system and has identified the potential need to replace some assets to maintain safe and reliable operations and to continue to meet the firm demands of Enbridge Gas customers.

This proposed project would take place in the area surrounding the Dawn Operations Centre in the Township of Dawn-Euphemia and the Corunna Compressor Station in St. Clair Township.

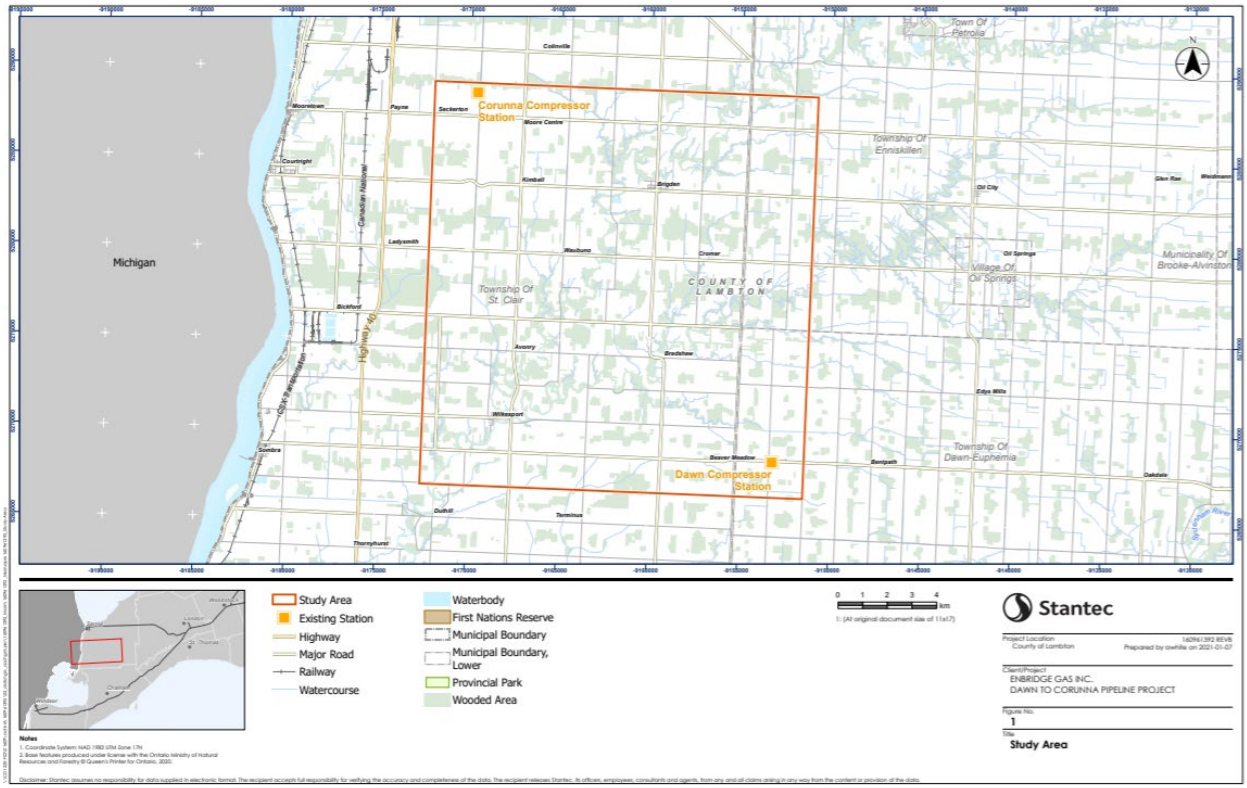
At this time, the project is in the preliminary stages and various options are being examined based on costs, environmental impact and construction timelines.

I sent the preliminary Project notification to the Ministry of Energy, Northern Development and Mines (MENDM) yesterday (January 19, 2021), seeking them to assign us with the duty to consult. In the spirit of openness and transparency we wanted to inform you of this preliminary Project notification and begin the process of engaging your community early on the Project planning. Once we receive the formal delegation letter and have some additional preliminary details on project proposals, we will reach out with our preliminary plans for the Project and begin the process to discuss and obtain your community's feedback, including any suggestions or proposals on mitigating, avoiding or accommodating any potential impacts to Aboriginal or treaty rights.

I've attached the study area map for your review.

I'd like to set up a call with you to touch base on our Sarnia Reinforcement Project as well as getting some cedar trees to replace on another project site. I'll be in touch to set up a time to discuss.

Many thanks,
Lauren


Corunna Compressor Station
Dawn Compressor Station
Michigan
Township Of St. Clair
COUNTY OF LAMBTON
Township Of Enniskillen
Township Of Dawn-Euphemia
Village Of Oil Springs
Municipality Of Brooke-Alvinston
Town Of Petrolia
Study Area
Existing Station
Highway
Major Road
Railway
Watercourse
Waterbody
First Nations Reserve
Municipal Boundary
Municipal Boundary, Lower
Provincial Park
Wooded Area
Stantec
ENBRIDGE GAS INC.
DAWN TO CORUNNA PIPELINE PROJECT
Study Area

Attachment 1.2

From: Lauren Whitwham
To: Sharilyn Johnston; Aamjiwnaang Environment; chief.plain@aamjiwnaang.ca
Subject: Enbridge Gas: Dawn Corunna Project
Date: Tuesday, April 13, 2021 10:04:00 AM
Attachments: Aamjiwnaang DC Notification.pdf
Dawn to Corunna Study Area.pdf

Good morning,

Hope this finds you well and keeping safe.

If you might recall, I sent an email back on January 20, 2021 letting you know of a potential proposed project in the area between the Enbridge Gas Dawn Operations Centre in the Township of Dawn-Euphemia and the Enbridge Gas Corunna Compressor Station in St. Clair Township. Enbridge has decided to proceed with the proposed project to replace some assets in order to maintain the safe and reliable operation of Enbridge Gas's systems and continue to meet the firm demands of Enbridge Gas customers.

Please find attached a map of the study area as well as a letter containing on initial information on the Project. Next week you will receive information on the first Virtual Open House and we hope that you will take a look at that presentation and provide Stantec with feedback on the potential routes. We are interested in your community's feedback, including any suggestions or proposals on mitigating, avoiding or accommodating any potential impacts the Project may have on your Aboriginal or treaty rights.

Enbridge acknowledges that capacity support may be required to enable you to engage in timely technical reviews of documents, participation in field work associated with proposed projects, and to engage in meaningful consultation. As is our approach on all projects, we are prepared to provide capacity funding to support your team's work.

I'll reach out to you in June to set up a meeting to discuss the project once we have a preferred route chosen. In the meantime, please feel free to reach out with any questions, concerns and comments.

Many thanks,
Lauren

Enbridge Inc
109 Commissioners Road West,
London, ON
N6A4P1

Chief Christopher Plain
Aamjiwnaang First Nation
978 Tashmoo Avenue
Sarnia, Ontario
N7T 7H5

April 13, 2021

Re: Dawn-Corunna Pipeline Project

Dear Chief Plain,

Enbridge Gas Inc. (Enbridge Gas) is currently conducting a review of its gas storage and transmission system and has identified the potential need to replace some assets in order to maintain the safe and reliable operation of Enbridge Gas's systems and continue to meet the firm demands of Enbridge Gas customers.

The proposed Dawn-Corunna Project (the Project) may include all or some of the following:

- The decommissioning of up to seven (7) reciprocating compressors located at the Corunna Compressor Station, which were installed between 1964 and 1974 and are approaching the end of their lifecycle.
- Meeting existing firm demand through the construction of a new steel pipeline, up to 42-inch diameter, between the Dawn Operations Centre in the Township of Dawn-Euphemia and the Corunna Compressor Station in St. Clair Township. The length of the proposed pipeline will be determined upon the selection of a preferred route.
- The projected in-service date of the Project is November 2023.

The area in which the Project is to be constructed is rural. It is expected that the majority of adverse environmental and/or socio-economic effects will be construction related. These effects are expected to be temporary and transitory. The Project will also be located underground once construction is complete, further limiting the potential for any long-term effects.

As part of the planning process, Enbridge Gas has retained Stantec Consulting Ltd. (Stantec) to undertake an Environmental Study of the construction and operation of the Project. The Environmental Study as required by the Ontario Energy Board's (OEB) *"Environmental Guidelines for the Location, Construction, and Operation of Hydrocarbon Pipelines and Facilities in Ontario, 7th Edition (2016)"*.

Enbridge Gas' preliminary work on the Project has identified the following potential authorizations:

<u>Federal Approvals</u>

- Fisheries and Ocean Canada

Provincial approvals:

- Ontario Energy Board
- Ministry of Environment, Conservation and Parks
- Ministry of Heritage, Sport, Tourism and Culture Industries
- Ministry of Transportation

Municipal approvals:

- Lambton County
- St. Clair Township
- Township of Dawn-Euphemia
- St. Clair Region Conservation Authority

Other authorizations, notifications, permits and/or approvals may be required in addition to those identified above.

We would like to consult with your community on this proposed Project. We are interested in your community's feedback, including any suggestions or proposals on mitigating, avoiding or accommodating any potential impacts the Project may have on your Aboriginal or treaty rights.

Enbridge acknowledges that capacity support may be required to enable you to engage in timely technical reviews of documents, participation in field work associated with proposed projects, and to engage in meaningful consultation. As is our approach on all projects, we are prepared to provide capacity funding to support your team's work.

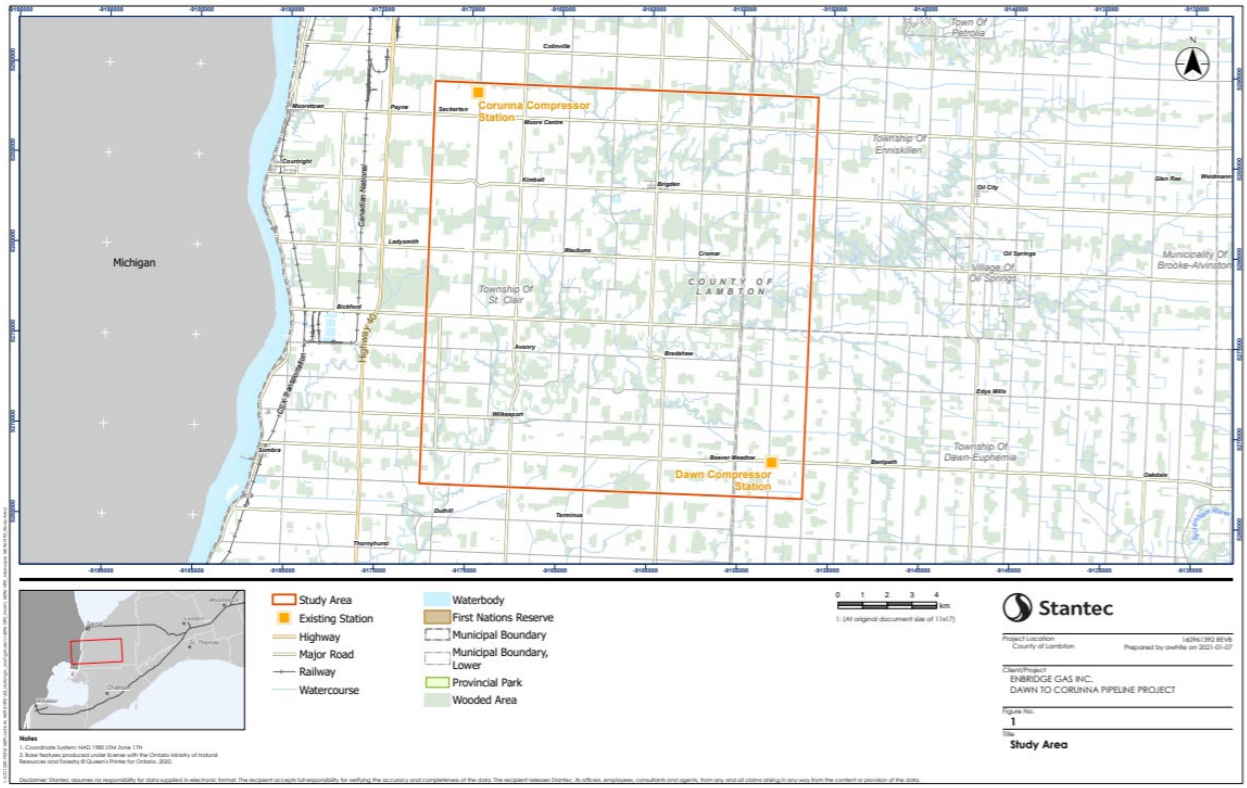
Enbridge Gas has been delegated the procedural aspects for consultation by the Ministry of Energy on behalf of Ontario. Ministry officials are also available should you wish to contact them directly with any questions or concerns. Please contact:

Jonathon Wilkinson, Senior Advisor
Indigenous Energy Policy, Ministry of Energy, Northern Development and Mines
705-313-3658
jonathon.wilkinson@ontario.ca

We would like to set up a meeting to discuss the Project with you and provide you with an opportunity to express any questions or concerns you have. Please feel free to contact me at lauren.whitwham@enbridge.com or 519-852-3474 so we can set up a time to meet.

Many thanks,

Lauren Whitwham
Senior Advisor, Indigenous Engagement
Enbridge Inc.
519-852-3474


Corunna Compressor Station
Dawn Compressor Station
Michigan
Township Of St. Clair
COUNTY OF LAMBTON
Township Of Enniskillen
Township Of Dawn-Euphemia
Village Of Oil Springs
Municipality Of Brooke-Alvinston
Town Of Petrolia
Study Area
Existing Station
Highway
Major Road
Railway
Watercourse
Waterbody
First Nations Reserve
Municipal Boundary
Municipal Boundary, Lower
Provincial Park
Wooded Area
Stantec
ENBRIDGE GAS INC.
DAWN TO CORUNNA PIPELINE PROJECT
Study Area

From: Aamjiwnaang Environment
To: Lauren Whitwham
Subject: [External] RE: Enbridge Gas: Dawn Corunna Project
Date: Friday, April 16, 2021 11:43:52 AM

EXTERNAL: PLEASE PROCEED WITH CAUTION.
This e-mail has originated from outside of the organization. Do not respond, click on links or open attachments unless you recognize the sender or know the content is safe.

Good morning Lauren,

The Environment Committee would like to invite you to provide a presentation on this project and the Dawn to Cuthbert project? The meeting will be taking place on Tuesday May 4, 2021, virtually at 5:30 P.M.

Let me know if you can make it?

Thank you,

Norman Joseph
Environment Worker
Aamjiwnaang First Nation
978 Tashmoo Ave.
Sarnia, On N7T 7Y2
519-336-8410
environment@aamjiwnaang.ca

From: Lauren Whitwham <Lauren.Whitwham@enbridge.com>
Sent: Monday, April 19, 2021 3:43 PM
To: Aamjiwnaang Environment <environment@aamjiwnaang.ca>
Subject: RE: Enbridge Gas: Dawn Corunna Project

Hi Norm,

Thanks for your note.

I'm happy to present at any of the listed meetings however, I won't have much information on the Dawn Corunna project as we won't have a determined route until mid-June and therefore won't have enviro and species at risk info until then.

I was thinking that if the committee wanted an update on the projects on the go (Sarnia Industrial Reinforcement, Storage Enhancement, London Lines, Dawn Cuthbert, Windsor Line and Wilkesport), I could provide an update on the status of those and seek out any early input on the Dawn Corunna project.

Would that work for the committee? I jump at any chance to provide updates and seek input.

May 18 would work better for me.

Thanks,
Lauren

From: Aamjiwnaang Environment
To: Lauren Whitwham
Subject: [External] RE: Enbridge Gas: Dawn Corunna Project
Date: Tuesday, April 20, 2021 10:09:35 AM

EXTERNAL: PLEASE PROCEED WITH CAUTION.
This e-mail has originated from outside of the organization. Do not respond, click on links or open attachments unless you recognize the sender or know the content is safe.

Good morning Lauren,

An update on those projects would be great! Thank you for following up.

May 18th is good, looking forward to your presentation.
Can you provide me your presentation no later than Wednesday May 12, 2021?

Thank you,

Norm

From: Lauren Whitwham <Lauren.Whitwham@enbridge.com>
Sent: Tuesday, April 20, 2021 10:18 AM
To: Aamjiwnaang Environment <environment@aamjiwnaang.ca>
Subject: RE: Enbridge Gas: Dawn Corunna Project

I have put both dates into my calendar.

Will get that presentation to you on or before Wednesday April 12.

Thanks Norm. Stay safe.
Lauren

Attachment 1.3

From: Hartwig, Emily
To: sjohnston@aamjiwnaang.ca
Cc: Ryan Park; dawncorunna; Lauren Whitwham
Subject: [External] 2023 Dawn-Corunna Project - Notice of Commencement and Virtual Open House
Date: Tuesday, April 20, 2021 12:41:29 PM
Attachments: ltr SJohnston 160961392 20210419.pdf

EXTERNAL: PLEASE PROCEED WITH CAUTION.
This e-mail has originated from outside of the organization. Do not respond, click on links or open attachments unless you recognize the sender or know the content is safe.

Good afternoon,

Please find attached a Notice of Commencement and Virtual Open House for the Enbridge Gas Inc. 2023 Dawn-Corunna Project.

Regards,

Emily Hartwig B.Sc., EP.
Environmental Consultant, Assessment and Permitting

ENBRIDGE
Life Takes Energy™

April 19, 2021

Attention: Ms. Sharilyn Johnston, Environment Coordinator
Aamjiwnaang First Nation
978 Tashmoo Avenue
Sarnia, ON N7T 7H5

Dear Ms. Johnston,

Reference: Enbridge Gas – 2023 Dawn-Corunna Project, Notice of Commencement and Virtual Open House

Enbridge Gas Inc. (Enbridge Gas) is currently conducting a review of its natural gas storage and transmission system and has identified the need to replace assets in order to maintain the safe and reliable operation of Enbridge Gas's systems and continue to meet the firm natural gas demands of Enbridge Gas customers.

The proposed 2023 Dawn-Corunna Project (the Project) may include all or some of the following:

- The decommissioning of up to seven (7) reciprocating compressors located at the Corunna Compressor Station in St. Clair Township, which were installed between 1964 and 1974 and are approaching the end of their lifecycle.
- Meeting existing firm demand through the construction of a new steel natural gas pipeline, 36-inch diameter, between the Dawn Operations Centre in the Township of Dawn-Euphemia and the Corunna Compressor Station in St. Clair Township. The length of the proposed pipeline will be determined upon the selection of a preferred route.

For further details, please refer to the map in the attached document.

As part of the planning process, Enbridge Gas has retained Stantec Consulting Ltd. (Stantec) to undertake an Environmental Study of the construction and operation of the Project. The Environmental Study will fulfill the requirements of the Ontario Energy Board's (OEB) "*Environmental Guidelines for the Location, Construction, and Operation of Hydrocarbon Pipelines and Facilities in Ontario, 7th Edition (2016)*".

An Environmental Report, summarizing the results of the Environmental Study, will accompany Enbridge Gas' application to the OEB as part of their Leave to Construct application. It is anticipated that the Environmental Report for the study will be completed in Fall 2021. The OEB's review and approval is required before the proposed project can proceed. If approved, construction is currently anticipated to begin in spring/summer 2023 and be complete by the end of 2023.

Stantec is presently compiling an environmental, socio-economic, and archaeological/cultural heritage inventory of the Environmental Study Area. As an Indigenous community with a potential interest in the study area, we are inviting Aamjiwnaang First Nation to provide comments regarding the proposed Project. Specifically, Stantec is seeking information about any adverse impacts that the proposed project may have on constitutionally protected Aboriginal or treaty rights and any measures for mitigating those adverse impacts.

As part of the Environmental Study, Enbridge is also in the process of contacting the following agencies:

- Indigenous and Northern Affairs Canada; and
- Ontario Ministry of Indigenous Relations and Reconciliation.

Reference: Enbridge Gas – 2023 Dawn-Corunna Project, Notice of Commencement and Virtual Open House

As a result of the physical distancing requirements set out by the Province of Ontario due to COVID-19, Virtual Open Houses will be held in place of in-person Open Houses.

The first of two Virtual Open Houses will be available from **May 3, 2021** at 9:00 am EST to **May 17, 2021** at 5:00 pm EST at www.solutions.ca/DawnCorunna.

A questionnaire will be available as part of the Virtual Open House and you will have the ability to submit comments and/or questions about the proposed Project. In addition, a copy of the Virtual Open House story boards will be available on the Enbridge Gas project website at: https://www.Enbridgegas.com/About-Us under "Projects".

Input received during the first Virtual Open House will be used to inform the selection of the Preliminary Preferred Route and to develop site specific environmental protection or mitigation measures for the Project.

If you have questions or comments regarding the 2023 Dawn-Corunna Project, please do not hesitate to contact the undersigned.

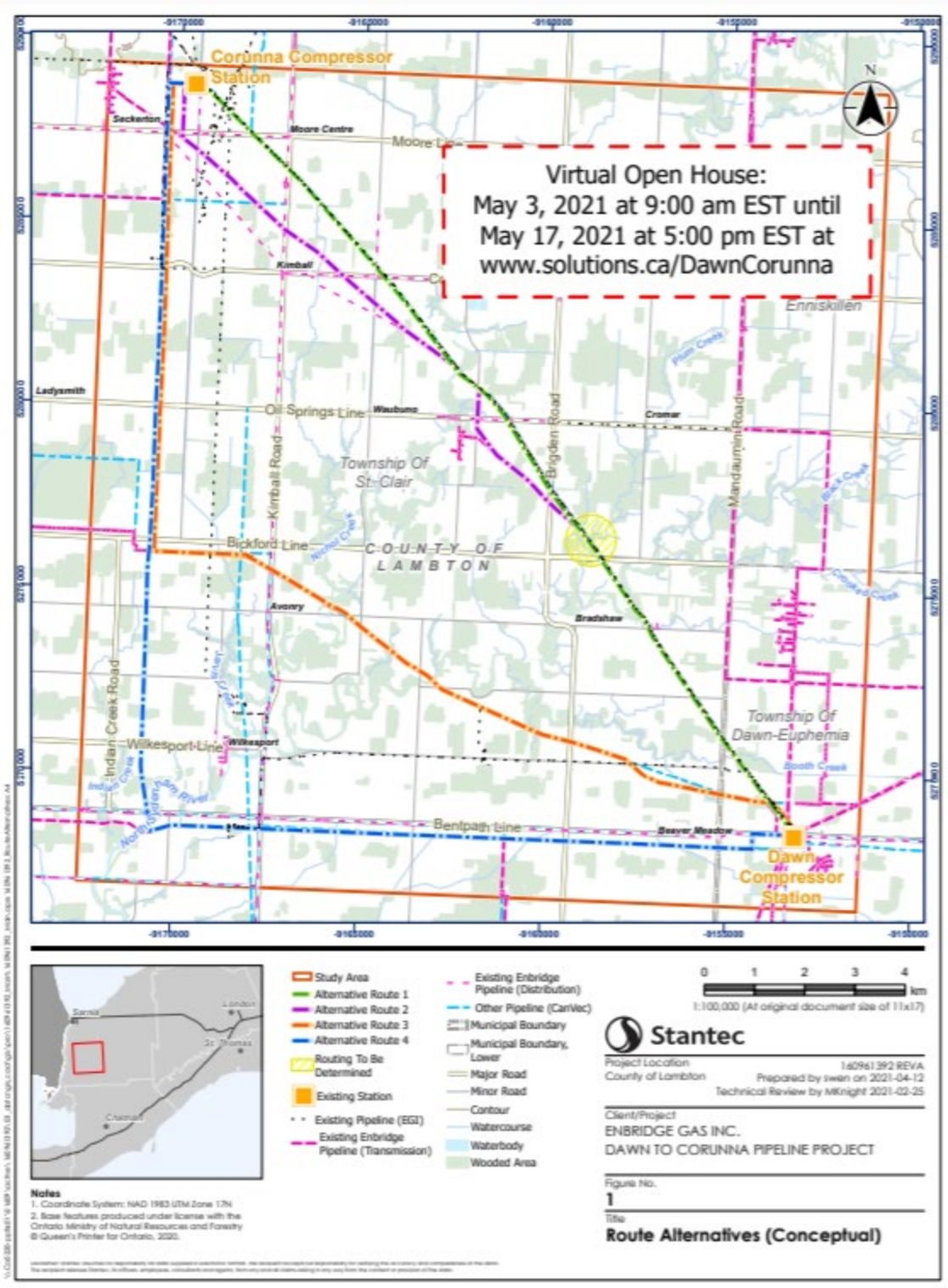
Regards,

ENBRIDGE GAS INC.

Lauren Whitwham
Senior Advisor, Community & Indigenous Engagement, Eastern Region
Enbridge Gas Inc.
Cell: 519-852-3474
lauren.whitwham@enbridge.com

Attachment: Figure 1 – Route Alternatives (Conceptual)

c. Ryan Park, Sr. Advisor, Enbridge Gas Inc.
Emily Hartwig, Environmental Consultant, Stantec Consulting Ltd.


Corunna Compressor Station
Sackerton
Moore Centre
Moore Line
Virtual Open House:
May 3, 2021 at 9:00 am EST until
May 17, 2021 at 5:00 pm EST at
www.solutions.ca/DawnCorunna
Kimball
Enniskillen
Ladysmith
Oil Springs Line
Waubuno
Cromar
Township Of St. Clair
Kimball Road
Brigden Road
Mandaumin Road
Bickford Line
COUNTY OF LAMBTON
Avonry
Bradshaw
Indian Creek Road
Wilkesport Line
Wilkesport
Township Of Dawn-Euphemia
Bentpath Line
Beaver Meadow
Dawn Compressor Station
N
Study Area
Alternative Route 1
Alternative Route 2
Alternative Route 3
Alternative Route 4
Routing To Be Determined
Existing Station
Existing Pipeline (EGI)
Existing Enbridge Pipeline (Transmission)
Existing Enbridge Pipeline (Distribution)
Other Pipeline (CanVec)
Municipal Boundary
Municipal Boundary, Lower
Major Road
Minor Road
Contour
Watercourse
Waterbody
Wooded Area
0 1 2 3 4 km
1:100,000 (At original document size of 11x17)
Stantec
Project Location
County of Lambton
1609613992 REVA
Prepared by swen on 2021-04-12
Technical Review by MKnight 2021-02-25
Client/Project
ENBRIDGE GAS INC.
DAWN TO CORUNNA PIPELINE PROJECT
Figure No.
1
Title
Route Alternatives (Conceptual)
Notes
1. Coordinate System: NAD 1983 UTM Zone 17N
2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © Queen's Printer for Ontario, 2020.

Attachment 1.4

Dawn-Corunna Project

ENBRIDGE

Dawn-Corunna Project (the Project) may include all or some of the following

- The decommissioning of up to seven (7) reciprocating compressors located at the Corunna Compressor Station in St. Clair Township, which were installed between 1964 and 1974 and are approaching the end of their lifecycle

- Meeting existing firm demand through the construction of a new steel natural gas pipeline, 36-inch diameter, between the Dawn Operations Centre in the Township of Dawn-Euphemia and the Corunna Compressor Station in St. Clair Township. The length of the proposed pipeline will be determined upon the selection of a preferred route

16

Dawn-Corunna Project

ENBRIDGE

- The first of two Virtual Open Houses completed
- A second Virtual Open House will be held in July 2021 for proposed route
- Enbridge will reach out in July/August to set up a meeting to discuss the route chosen and seek your community's feedback
- Enbridge invites Aamjiwnaang to send Indigenous monitors for the archaeology work which will commence in spring 2022



17

From: Lauren Whitwham <Lauren.Whitwham@enbridge.com>
Sent: Friday, June 18, 2021 10:04 AM
To: Aamjiwnaang Environment <environment@aamjiwnaang.ca>
Subject: Dawn Corunna and Storage Enhancement Project meeting

Hi Norm,

Hope all is well.

We have determined a preferred route for the Dawn Corunna project and will be hosting a virtual Open house from July 19 to August 2, 2021. We will be able to speak to watercourses, environmental aspects and species at risks now that the preferred route has been chose.

We also would like to speak to the Environmental Committee on the Storage Enhancement projects that we also have going on. I've re-attached the letter to this email.

I recognize that summer is upon us and the Environmental Committee might not be meeting as frequently so I was hoping I could reach out to find out the schedule and set up something.

I look forward to hearing from you. Have a great weekend

Lauren

From: Aamjiwnaang Environment
To: Lauren Whitwham
Subject: [External] RE: Dawn Corunna and Storage Enhancement Project meeting
Date: Friday, June 18, 2021 12:57:58 PM

EXTERNAL: PLEASE PROCEED WITH CAUTION.
This e-mail has originated from outside of the organization. Do not respond, click on links or open attachments unless you recognize the sender or know the content is safe.

Hi Lauren,

We have July 6, 2021 and August 10, 2021 open for presentations. I hope that one of those days work for you?

Thank you,

Norm

From: Lauren Whitwham <Lauren.Whitwham@enbridge.com>
Sent: Friday, June 18, 2021 1:03 PM
To: Aamjiwnaang Environment <environment@aamjiwnaang.ca>

Subject: RE: Dawn Corunna and Storage Enhancement Project meeting

Thanks Norm,

I'll follow up with my environmental planners to see what their vacation schedule are like.

I am away on vacation on August 10 so unfortunately that one is out for me.

I'll be back in touch.

Enjoy the weekend,
Lauren

From: Aamjiwnaang Environment <environment@aamjiwnaang.ca>
Sent: Wednesday, June 23, 2021 3:34 PM
To: Lauren Whitwham <Lauren.Whitwham@enbridge.com>
Subject: [External] RE: Dawn Corunna and Storage Enhancement Project meeting

EXTERNAL: PLEASE PROCEED WITH CAUTION.
This e-mail has originated from outside of the organization. Do not respond, click on links or open attachments unless you recognize the sender or know the content is safe.

Hi Lauren,

Just letting you know that Tuesday July 20, 2021 Environment Committee meeting is open for presentations as well.

Thank you,

Norm

From: Lauren Whitwham <Lauren.Whitwham@enbridge.com>
Sent: Tuesday, June 29, 2021 12:28 PM
To: Aamjiwnaang Environment <environment@aamjiwnaang.ca>
Subject: RE: Dawn Corunna and Storage Enhancement Project meeting

Hi Norm,

Sorry for taking so long. Is July 20 still available? We seem to all be available that day/evening.

Also, would you be able to provide me with the contact information for the band manager at Aamjiwnaang. I know that the previously hired person left in the winter.

Thanks,
Lauren

From: Aamjiwnaang Environment <environment@aamjiwnaang.ca>
Sent: Tuesday, June 29, 2021 1:20 PM
To: Lauren Whitwham <Lauren.Whitwham@enbridge.com>
Subject: [External] RE: Dawn Corunna and Storage Enhancement Project meeting

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Hello Lauren,

No worries. Yes, we have room that evening for your presentation. Can you and your group log into the meeting at approximately 6:20 P.M. and wait in the lobby?
Send me additional email addresses for the meeting.

We have a few other presentations that evening as well.

Also, could you send me your presentation no later than Friday July 2, 2021 at Noon? Just so that I can finalize the agenda.

Thank you,
Norm

From: Lauren Whitwham <Lauren.Whitwham@enbridge.com>
Sent: Tuesday, June 29, 2021 1:25 PM
To: Aamjiwnaang Environment <environment@aamjiwnaang.ca>
Subject: RE: Dawn Corunna and Storage Enhancement Project meeting

Hi there,

I am not able to get a presentation to you by July 2 unfortunately. I apologize but I don't have all the information yet to do so.

Should we delay into September? I want to ensure we have all the information together for the committee.

Do you have a September date?

Sorry about this Norm.
Lauren

From: Aamjiwnaang Environment <environment@aamjiwnaang.ca>
Sent: Tuesday, June 29, 2021 1:30 PM
To: Lauren Whitwham <Lauren.Whitwham@enbridge.com>
Subject: [External] RE: Dawn Corunna and Storage Enhancement Project meeting

EXTERNAL: PLEASE PROCEED WITH CAUTION.
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Hi Lauren,

We can wait until September if that works better.

Here are the September Committee dates: Tuesday September 14, 2021 and Tuesday September 21, 2021.

Hopefully one of these dates work better?

Thank you,
Norm

From: Lauren Whitwham <Lauren.Whitwham@enbridge.com>
Sent: Tuesday, June 29, 2021 1:46 PM
To: Aamjiwnaang Environment <environment@aamjiwnaang.ca>
Subject: RE: Dawn Corunna and Storage Enhancement Project meeting

Thanks for your understanding Norm. I just want to ensure I'm prepared with a proper presentation to provide.

Can we please get onto the agenda for September 14? We can be in touch later on to get a date for the presentation but I'll aim to have it complete by early August.

Thanks for the email address for the Band Manager.

All the best to you and we will talk soon.

Lauren

From: Aamjiwnaang Environment
To: Lauren Whitwham
Subject: [External] RE: Dawn Corunna and Storage Enhancement Project meeting
Date: Tuesday, June 29, 2021 1:51:27 PM

EXTERNAL: PLEASE PROCEED WITH CAUTION.
This e-mail has originated from outside of the organization. Do not respond, click on links or open attachments unless you recognize the sender or know the content is safe.

Hi Lauren,

I will book you in for the September 14 Environment Committee meeting.

If you can send me the presentation, on or before Wednesday September 8, 2021, that would be great!

You're welcome for the information.

Talk soon,
Norm

Attachment 1.6

From: Hartwig, Emily
To: sjohnston@aamjiwnaang.ca
Cc: Ryan Park; dawncorunna; Lauren Whitwham
Subject: [External] Dawn-Corunna Project - Notice of Second Virtual Open House
Date: Thursday, July 8, 2021 12:44:04 PM
Attachments: let_johnston_sharilyn-afn_160961392_Dawn-Corunna-Indigenous-VOH2_fin.pdf

EXTERNAL: PLEASE PROCEED WITH CAUTION.
This e-mail has originated from outside of the organization. Do not respond, click on links or open attachments unless you recognize the sender or know the content is safe.

Good afternoon,

Please find attached a Notice of Second Virtual Open House for the Enbridge Gas Inc. Dawn-Corunna Project.

Regards,

Emily Hartwig B.Sc., EP.
Environmental Consultant, Assessment and Permitting

ENBRIDGE
Life Takes Energy

July 12, 2021

Attention: Ms. Sharilyn Johnston, Environment Coordinator
Aamjiwnaang First Nation
978 Tashmoo Avenue
Sarnia, ON N7T 7H5
Sent via email: sjohnston@aamjiwnaang.ca

Dear Ms. Johnston,

Reference: Enbridge Gas – Dawn-Corunna Project, Notice of Second Virtual Open House

Enbridge Gas Inc. (Enbridge Gas) has conducted a review of its gas storage and transmission system and has identified the need to replace assets in order to maintain the safe and reliable operation of Enbridge Gas's systems and continue to meet the firm demands of Enbridge Gas customers.

The proposed Dawn-Corunna Project will involve the construction of a new steel pipeline, up to 36-inch diameter, between the Dawn Operations Centre in the Township of Dawn-Euphemia and the Corunna Compressor Station in St. Clair Township. A Route Selection Process is being conducted to determine the best location for the proposed pipeline. Four Alternative Routes were presented during the first Virtual Open House held from May 3-17, 2021. No feedback was received at the first Virtual Open House that required adjustments be made to the four proposed Alternative Routes. A qualitative and quantitative evaluation of the Alternative Routes resulted in the selection of a Preliminary Preferred Route, which will be approximately 20 km in length.

A map of the Preliminary Preferred Route can be found in the attached notice.

As part of the planning process, Enbridge Gas has retained Stantec Consulting Ltd. to undertake an Environmental Study of the construction and operation of the project. The Environmental Study will fulfill the requirements of the Ontario Energy Board's (OEB) "*Environmental Guidelines for the Location, Construction, and Operation of Hydrocarbon Pipelines and Facilities in Ontario, 7th Edition (2016)*".

An Environmental Report, summarizing the results of the Environmental Study, will accompany Enbridge's application to the OEB as part of their Leave to Construct application. It is anticipated that the Environmental Report for the study will be completed in Fall 2021. The OEB's review and approval is required before the proposed project can proceed. If approved, construction is currently anticipated to begin in spring/summer 2023.

As a result of the physical distancing requirements set out by the Province of Ontario due to COVID-19, Virtual Open Houses will be held in place of in-person Open Houses.

The second of two Virtual Open Houses will be available for two weeks starting on **July 19, 2021** and finishing on **August 2, 2021** at www.solutions.ca/DawnCorunna.

A questionnaire will be available as part of the Virtual Open House and you will have the ability to submit comments and/or questions about the proposed project. In addition, a copy of the Virtual Open House story boards will be available on the Enbridge Gas project website at:
https://www.enbridgegas.com/about-enbridge-gas/projects/dawn-corunna-project

Reference: Enbridge Gas – Dawn-Corunna Project, Notice of Second Virtual Open House

Input received during the second Virtual Open House will be used to confirm the selection of a Preferred Route and to develop site specific environmental protection or mitigation measures.

If you have questions or comments regarding the project, please do not hesitate to contact the undersigned.

Regards,

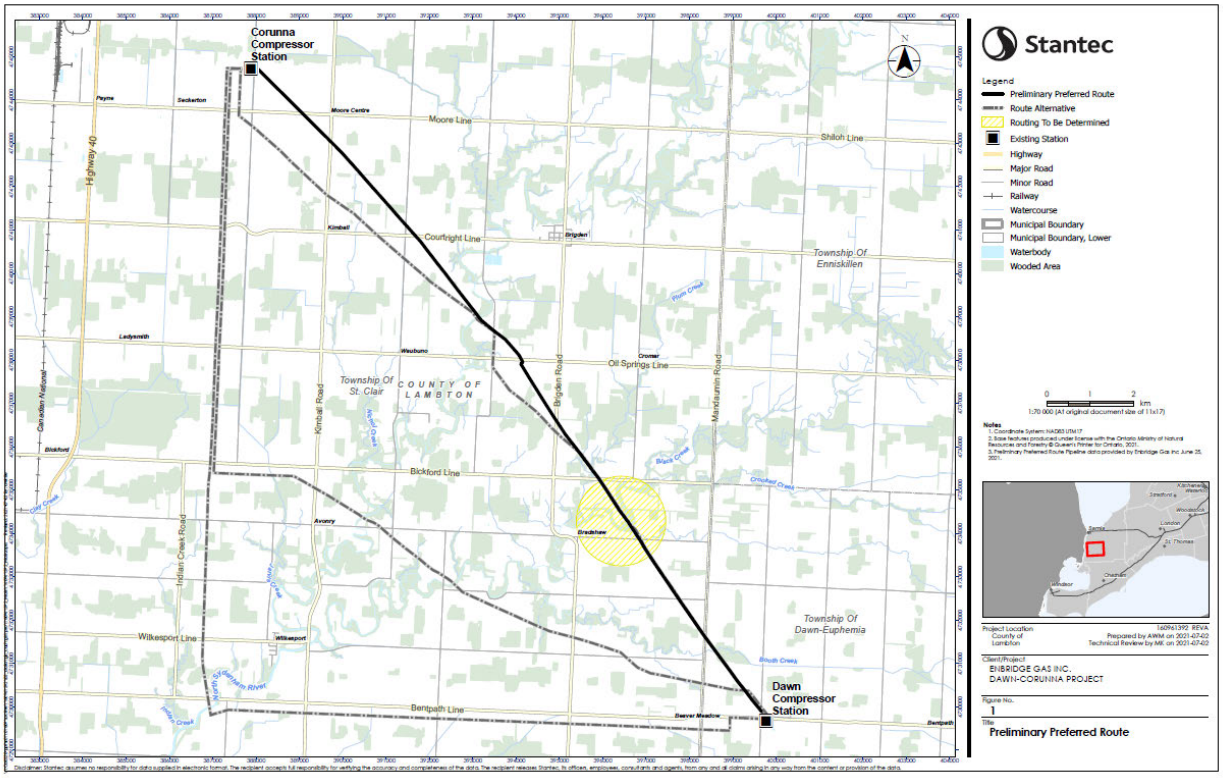
ENBRIDGE GAS INC.



Lauren Whitwham
Analyst, Indigenous, Municipal Affairs and Stakeholder Relations
Enbridge Gas Inc.
109 Commissioners Road West
London, ON N6A 4P1
PH: 519 667-4100 x 5153545
Cell: 519-852-3474
lauren.whitwham@enbridge.com

Attachment: Figure 1 – Alternatives and Preliminary Preferred Route

c. Ryan Park, Sr. Advisor, Enbridge Gas Inc.
Emily Hartwig, Environmental Consultant, Stantec Consulting Ltd.


Corunna Compressor Station
Dawn Compressor Station
Moore Line
Courtright Line
Oil Springs Line
Bickford Line
Wilkesport Line
Bentpath Line
Shiloh Line
Township Of Enniskillen
Township Of St. Clair
COUNTY OF LAMBTON
Township Of Dawn-Euphemia
Highway 40
Kimball Road
Brigden Road
Mandaumin Road
Indian Creek Road
Stantec
Legend
Preliminary Preferred Route
Route Alternative
Routing To Be Determined
Existing Station
Highway
Major Road
Minor Road
Railway
Watercourse
Municipal Boundary
Municipal Boundary, Lower
Waterbody
Wooded Area
Notes
Client/Project
ENBRIDGE GAS INC.
DAWN-CORUNNA PROJECT
Figure No.
1
Title
Preliminary Preferred Route

From: Aamjiwnaang Environment <environment@aamjiwnaang.ca>
Sent: Thursday, July 22, 2021 3:49 PM
To: Lauren Whitwham <Lauren.Whitwham@enbridge.com>
Subject: [External] Dawn to Corunna - Preferred Route

EXTERNAL: PLEASE PROCEED WITH CAUTION.
This e-mail has originated from outside of the organization. Do not respond, click on links or open attachments unless you recognize the sender or know the content is safe.

Good afternoon Lauren,

On Tuesday night at the Environment Committee meeting, the Committee asked if you could provide a presentation on how and why Enbridge came to the decision of the preferred route.

I have an opening on Tuesday August 17, 2021 Committee meeting.

Thank you,
Norman Joseph
Environment Worker

From: Lauren Whitwham <Lauren.Whitwham@enbridge.com>
Sent: Friday, July 23, 2021 9:56 AM
To: Aamjiwnaang Environment <environment@aamjiwnaang.ca>
Subject: RE: Dawn to Corunna - Preferred Route

Hi Norm,

We would be happy to present on August 17 about the route selection on our Dawn Corunna project. I will be speaking to this Project as well during our presentation on September 14.

My environmental planner, Ryan Park, will be in attendance on August 17 for the meeting.

His email is Ryan.park@enbridge.com

Thanks,
Lauren

From: Aamjiwnaang Environment
To: Lauren Whitwham
Subject: [External] RE: Dawn to Corunna - Preferred Route
Date: Friday, July 23, 2021 2:15:31 PM

EXTERNAL: PLEASE PROCEED WITH CAUTION.
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Hi Lauren,

That will be great! The Committee would a presentation on The Dawn-Corunna route selection on its own.

Look forward to seeing you on August 17, 2021.

Thank you,
Norm

Attachment 1.8

Dawn-Corunna Project
Virtual Open House #2

ENBRIDGE

Project Overview

To maintain safe and reliable operations Enbridge Gas Inc. (Enbridge) has identified the need to replace assets in the County of Lambton.

The proposed Dawn-Corunna Project (the Project) will involve the construction of a new steel pipeline, up to 36-inch diameter, between the Dawn Operations Centre in the Township of Dawn-Euphemia and the Corunna Compressor Station in St. Clair Township. Upgrades to the Dawn Operations Centre and the Corunna Compression Station are required to integrate the two stations. Work will include the decommissioning of compressors and construction of additional piping within the existing vicinity of the stations.

If approved by the Ontario Energy Board (OEB), construction of the proposed project is planned to begin in spring/summer 2023 and be complete by the end of 2023.



Stantec

Dawn-Corunna Project
Virtual Open House #2

ENBRIDGE



Environmental Study Process

The environmental study and Environmental Report will be completed as per the OEB's *"Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Pipelines and Facilities in Ontario (2016)."*

The study will:

- Undertake consultation to understand the views of interested and potentially affected parties.
- Engage with Indigenous communities to understand interests and potential impacts.
- Be conducted during the earliest phase of the Project
- Identify and mitigate potential impacts of the Project, where possible.
- Develop environmental mitigation and protective measures to avoid or reduce potential impacts, where possible.
- Develop an appropriate environmental inspection, monitoring and follow-up program.

Stantec

Dawn-Corunna Project
Virtual Open House #2

ENBRIDGE

Route Evaluation – Objectives

The overarching objective in the route selection process is that the selected route presents the least potential for adverse environmental and socio-economic impacts. The following principles support that objective:

- Routes shall follow a reasonably direct path between end-points to reduce length;
- Routes should avoid sensitive environmental and socio-economic features wherever practicable;
- Existing linear infrastructure should be used or paralleled to the greatest extent feasible; and,
- Where new easements are required, existing lot and property lines should be followed to the extent feasible.



Stantec

Dawn-Corunna Project
Virtual Open House #2

ENBRIDGE

Route Evaluation – Quantitative Results

Features	Route 1	Route 2	Route 3	Route 4
Agricultural				
Prime Agricultural Land (ha)				
Systematic Tile Drainage (ha)				
Random Tile Drainage (ha)				
Aquatic				
Conservation Authority Regulated Lands (ha)				
Watercourse / Drain Crossings				
Watercourses with Identified SAR (#)				
Waterwells (#)				
Wetlands – Provincial Evaluation				
Wetlands – Other				
Route Characteristics				
Length (km)				
Slope ≥5° (ha within 100m)				
Socio-Economic				
Archaeological Sites (# within 100m)				
Cultural Heritage Features (# within 100m)				
Road Crossings (#)				
Petroleum Wells (# within 100m)				
Socio-economic features (schools, churches, and community centres [# within 100m])				
Terrestrial				
ANSIs (ha)				
Wooded Areas (ha)				

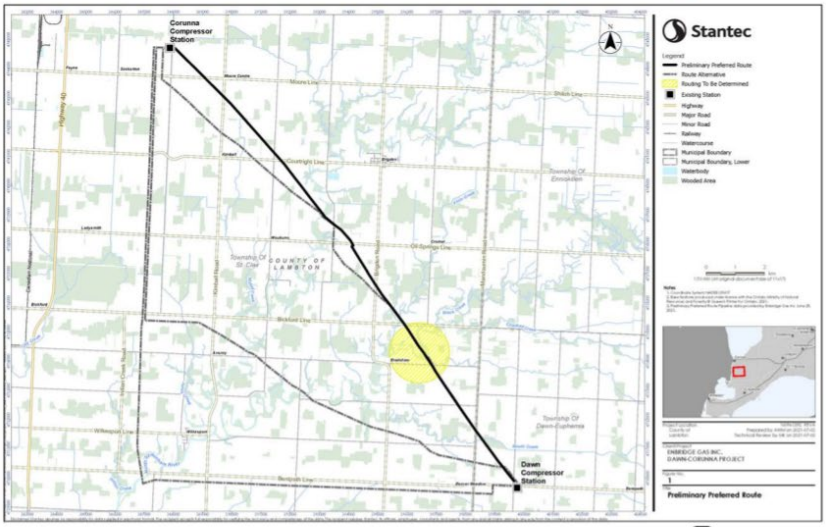
Green	Alternative Route with least impact on feature (multiple green boxes indicates tie in feature value)
Black	Feature not present within any of the Alternative Routes

Stantec

Dawn-Corunna Project
Virtual Open House #2

Route Evaluation – Preliminary Preferred Route

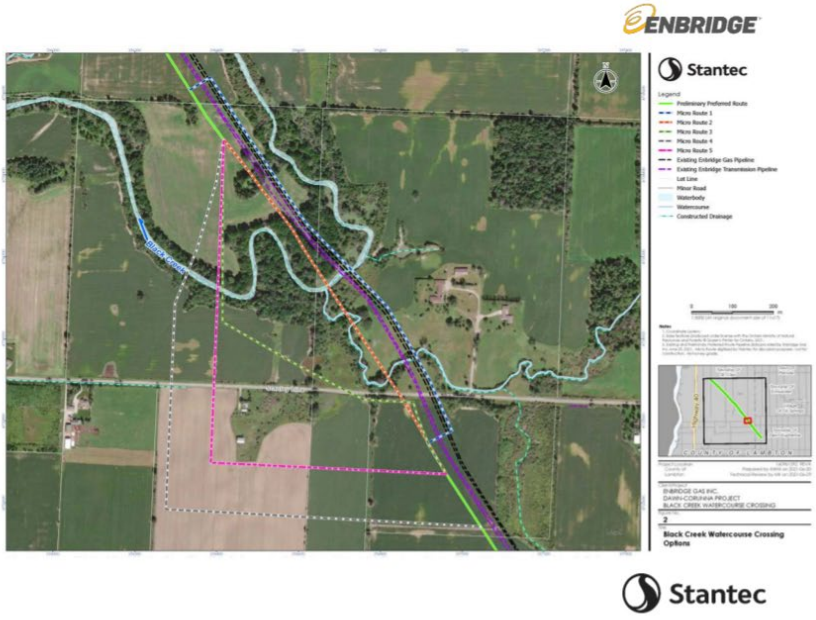
An interactive map that shows the Study Area, the Preliminary Preferred Route and the three Alternative Routes that were not carried forward can be accessed at: www.solutions.ca/DawnCorunna



Dawn-Corunna Project
Virtual Open House #2

Route Evaluation – Stanley Line Area

The Preliminary Preferred Route will involve crossing Black Creek and potentially a tributary to Black Creek and two other intermittent watercourses. Five proposed pipeline route alternatives, Micro Route 1, Micro Route 2, Micro Route 3, Micro Route 4, and Micro Route 5, are currently under review.



Attachment 1.9

From: Lauren Whitwham <Lauren.Whitwham@enbridge.com>
Sent: Tuesday, August 24, 2021 9:14 AM
To: Aamjiwnaang Environment <environment@aamjiwnaang.ca>
Subject: Move our Sept 14 agenda spot

Hi Norm,

Looking forward to meeting you in person this afternoon.

I was looking ahead at our September 14 spot on the Environmental Committee agenda and I was hoping we could move it a couple of weeks. We won't have the environmental report for Dawn Corunna ready until September 20 and would like to speak to parts within it.

Is there a later week in September or early October to attend a meeting?

Thanks,
Lauren

Lauren Whitwham
Senior Advisor, Community & Indigenous Engagement, Eastern Region

---

From: Aamjiwnaang Environment <environment@aamjiwnaang.ca>
Sent: Tuesday, August 24, 2021 9:16 AM
To: Lauren Whitwham
Subject: [External] RE: Move our Sept 14 agenda spot

EXTERNAL: PLEASE PROCEED WITH CAUTION.
This e-mail has originated from outside of the organization. Do not respond, click on links or open attachments unless you recognize the sender or know the content is safe.

There are openings on Tuesday September 21, 2021 or Tuesday October 5, 2021.

Let me know which date works best for you?

Thank you,

Norm

From: Lauren Whitwham <Lauren.Whitwham@enbridge.com>
Sent: Tuesday, August 24, 2021 11:04 AM
To: Aamjiwnaang Environment <environment@aamjiwnaang.ca>
Subject: Re: Move our Sept 14 agenda spot

Thanks so much

October 5 would work best with us and having information on hand to speak about.

Thanks Norm

Get Outlook for iOS

From: Aamjiwnaang Environment
To: Lauren Whitwham
Subject: [External] RE: Move our Sept 14 agenda spot
Date: Tuesday, August 24, 2021 11:07:57 AM

EXTERNAL: PLEASE PROCEED WITH CAUTION.
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You're welcome Lauren,

I will move you to October 5, 2021.

Norm

Attachment 1.10

From: Hartwig, Emily
To: dawncorunna
Cc: Ryan Park; Lauren Whitwham
Subject: [External] Enbridge Gas Inc. Dawn-Corunna Project - Environmental Report
Date: Wednesday, September 22, 2021 1:02:52 PM

EXTERNAL: PLEASE PROCEED WITH CAUTION.
This e-mail has originated from outside of the organization. Do not respond, click on links or open attachments unless you recognize the sender or know the content is safe.

Good afternoon,

Enbridge Gas Inc. ("Enbridge Gas") has conducted a review of its gas storage and transmission system and has identified the need to replace assets in order to maintain the safe and reliable operation of Enbridge Gas' systems and continue to meet the firm demands of Enbridge Gas customers. The proposed Dawn-Corunna Project will involve the construction of a new steel pipeline, up to 36-inch diameter and approximately 20 km in length, between the Dawn Operations Centre in the Township of Dawn-Euphemia and the Corunna Compressor Station in St. Clair Township. Upgrades to the Dawn Operations Centre and the Corunna Compression Station are required to integrate the two stations. Work will include the decommissioning of up to seven compressors and construction of additional piping within the of the existing stations.

Enbridge Gas has retained Stantec Consulting Ltd. ("Stantec") to undertake an environmental study of the construction and operation of the natural gas pipeline that meets the intent of the Ontario Energy Board's (OEB) Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Pipelines and facilities in Ontario, 7th Edition (2016).

An electronic copy of the Environmental Report (ER), summarizing the results of the environmental study, is available for your review by accessing the Projects page on the Enbridge Gas website, or via the temporary File Transfer Protocol (FTP):

FTP link: https://tmpsftp.stantec.com
Login name: s1002095723
Password: 2602460
Expiry Date: 10/16/2021*

*Please note the FTP expiry date of October 16, 2021. Should you require assistance downloading the Environmental Report after this date, please contact the undersigned.

Please forward any comments or questions you have regarding the ER to the undersigned. Your comments would be appreciated by **November 8, 2021.**

Regards,

Emily Hartwig B.Sc., EP.

Attachment 1.11

From: Sharilyn Johnston
To: Lauren Whitwham
Cc: Aamjiwnaang Environment; Courtney Jackson
Subject: [External] FW: Enbridge Gas Inc. Dawn-Corunna Project - Environmental Report
Date: Tuesday, October 5, 2021 3:02:00 PM
Attachments: AAM_LetterProposal_EnbridgeDCTechnicalReview_2021.10.05.pdf

EXTERNAL: PLEASE PROCEED WITH CAUTION.
This e-mail has originated from outside of the organization. Do not respond, click on links or open attachments unless you recognize the sender or know the content is safe.

Hi Lauren,
Please find attached the scope and cost associated to have a peer review of the Dawn Corunna Project Environmental Report. Can you please confirm this cost would be reimbursed by Enbridge as part of the consultation process.
Miigwetch
Sharilyn Johnston

From: Lauren Whitwham
To: Sharilyn Johnston
Cc: Aamjiwnaang Environment; Courtney Jackson
Subject: RE: [External] FW: Enbridge Gas Inc. Dawn-Corunna Project - Environmental Report
Date: Tuesday, October 5, 2021 3:09:59 PM

Hi there,

Thanks for sending this over.

I can confirm Enbridge will reimburse Aamjiwnaang for the quoted costs for the technical review process as part of the consultation process on the Dawn Corunna Project.

I will need to draft up a simple letter agreement and will send it over to you as soon as I can. It just says that Enbridge agrees to pay the quoted amount.

Thanks and looking forward to speaking with you tonight.

Lauren

From: Lauren Whitwham
To: Sharilyn Johnston
Cc: Aamjiwnaang Environment; Courtney Jackson
Subject: Letter agreement for peer review Dawn Corunna
Date: Wednesday, October 6, 2021 2:22:00 PM
Attachments: Capacity Funding Letter Aamjiwnaang .pdf

Hi Sharilyn,

Please find attached a letter agreement for the reimbursement for the peer review on the Dawn Corunna Project.

I did put the invoice payment of 60 days as my AP group can be finicky but I will pay it as soon as I receive it.

If you have any questions or concerns with the letter, please let me know.

Thanks,
Lauren

Enbridge Gas Inc.
109 Commissioners Rd. W
London, ON
N6A4P1

October 6, 2021

Sharilyn Johnston
Aamjiwnaang First Nation
978 Tashmoo Ave
Sarnia, ON
N7T 7H5

Greetings Sharilyn,

Re: Enbridge Gas Proposed Dawn Corunna Project

Thank you for providing Enbridge Gas Inc. ("Enbridge") with a budget and workplan for Aamjiwnaang First Nation's consultant, Shared Value Solutions Ltd. to provide technical review services on Aamjiwnaang First Nation's behalf for the Dawn Corunna Project ("Project").

Enbridge has reviewed the budget and workplan, received on October 5, 2021, and we are pleased to provide Aamjiwnaang First Nation with capacity funding in the amount estimated to complete the review. If additional hours are needed to review the Project information, we ask that Aamjiwnaang First Nation reach out for approval prior to the work being completed.

Enbridge and Aamjiwnaang First Nation acknowledge that the Budget and Workplan is estimated at [redacted] to complete the technical review of the draft Environmental Report for the Project and to provide feedback to assist Enbridge in avoiding and mitigating any impacts the Project may have on Aamjiwnaang First Nation's rights and interests.

Aamjiwnaang First Nation will invoice Enbridge following completion of the work, up to the amount estimated above and Enbridge will provide payment to Aamjiwnaang First Nation within 60 days of receiving the invoice. Please direct the invoice to:

Enbridge Gas Inc.
109 Commissioners Road W
London, ON
N6A 4P1
Attn: Lauren Whitwham
Lauren.whitwham@enbridge.com

We look forward to continuing to build and enhance our relationship and to support meaningful consultation on the Project.

If Aamjiwnaang First Nation agrees to accept the above terms, please return a signed copy of this letter to my attention.

We look forward to hearing from you.

Sincerely,



Lauren Whitwham
Senior Advisor, Community and Indigenous Engagement
Enbridge Inc.

Aamjiwnaang First Nation agrees to accept this offer:

_____
Authorized signatory for Aamjiwnaang First Nation

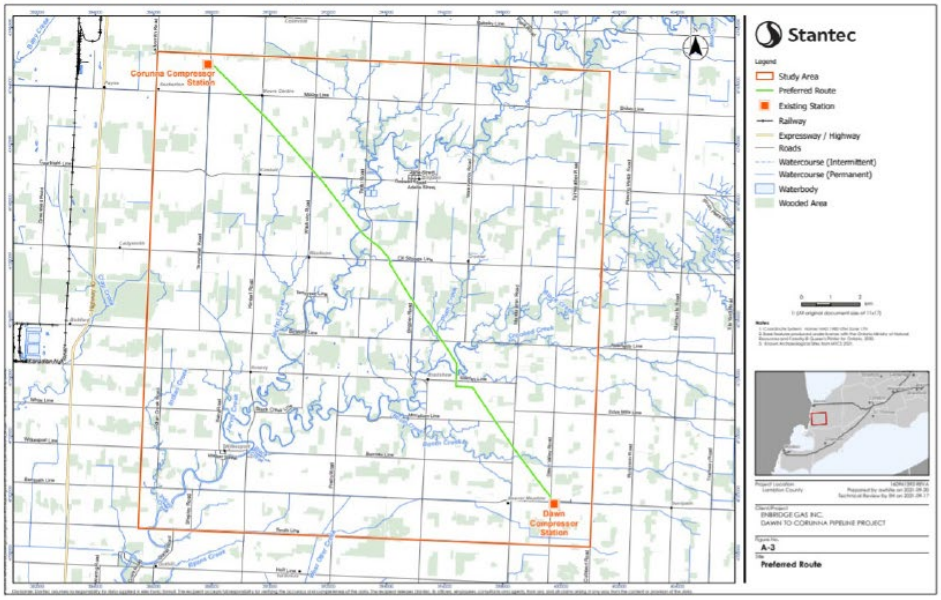
Date: _____

Name (print): _____

Dawn-Corunna Project

- To maintain safe and reliable operations Enbridge Gas Inc. has identified the need to replace assets in the County of Lambton.
- The proposed Dawn-Corunna Project (the Project) may include all or some of the following:
  - The decommissioning of up to seven (7) reciprocating compressors located at the Corunna Compressor Station, which were installed between 1964 and 1974 and are approaching the end of their lifecycle.
  - Meeting existing firm demand through the construction of a new steel pipeline, 42-inch diameter, between the Dawn Operations Centre in the Township of Dawn Euphemia and the Corunna Compressor Station in St. Clair Township. The length of the proposed pipeline will be approximately 20 km in length.
  - The projected in-service date of the Project is November 2023.

Dawn-Corunna Project



Dawn-Corunna Project

ENBRIDGE

Species at Risk Potentially Present in Project Area:

Mammals
- SAR Bats (4 species)

Birds
- Bobolink
- Bank Swallow
- Barn Swallow
- Yellow-Breasted Chat
- Eastern Meadowlark

Herpetofauna
- Blandings Turtle
- Eastern Foxsnake
- Butler's Gartersnake

Fish
- Pugnose Shiner
- Pugnose Minnow

Mussels
- Lilliput
- Fawnsfoot

Plants
- Eastern Flowering Dogwood
- Blue Ash
- Kentucky Coffee-Tree
- Eastern Prairie Fringed-Orchid
- Colicroot
- Butternut
- Dense Blazing-Star

Dawn-Corunna Project

ENBRIDGE

- Environmental Report is complete and was distributed on September 22.
- Initiated discussions with the MECP regarding SARs that could potentially be in the project area.
- We will be conducting surveys for snakes (Eastern Foxsnake and Butler's Garter Snake), Birds (particularly Eastern Meadow Lark, Bobolink and Yellow-breasted Chat), Botanical surveys for several SAR,
- Two watercourse have been identified to contain SAR for fish and mussels (Bear Creek and Black Creek). Mitigations and any required permitting will be completed with the approvals of the MECP and DFO.
- Enbridge invites TTMS - Aamjiwnaang First Nation to send Indigenous monitors for the archaeology and natural heritage surveys work which will commence in fall 2021.

Attachment 1.13

From: Lauren Whitwham <Lauren.Whitwham@enbridge.com>
Sent: Tuesday, November 16, 2021 11:47 AM
To: Sharilyn Johnston <sjohnston@aamjiwnaang.ca>
Cc: Norm Joseph <njoseph@aamjiwnaang.ca>
Subject: Shared Value Solution ER review on Dawn Corunna

Hi there,

Hope this finds you well.

I wanted to touch base as Shared Value Solutions had November 5, 2021 in their quote for the final memorandum that they would be preparing on the Dawn Corunna project following the review of the Environmental Report. We are gathering comments for the filing to the Ontario Energy Board and wanted to see if you had a status update on this report.

Thanks so much,
Lauren

From:	Sharilyn Johnston
To:	Lauren Whitwham
Subject:	[External] RE: Shared Value Solution ER review on Dawn Corunna
Date:	Tuesday, November 16, 2021 5:31:34 PM
Attachments:	Scanned document.pdf

CAUTION: EXTERNAL EMAIL
This email originated from outside Enbridge and could be a phish. Criminals can pretend to be anyone. Do not interact with the email unless you are 100% certain it is legitimate. Report any suspicious emails.

Hi Lauren,
Please find attached a copy of the comments and recommendations table for the ER review from Aamjiwnaang.
Sharilyn

Attachment 1.14

From: Lauren Whitwham
To: Cathleen O"Brien
Subject: ER comments: Dawn Corunna Project
Date: Thursday, January 13, 2022 3:35:14 PM

Hi Cathleen

I just wanted to touch base with you to let you know that I am just working to finalize the Enbridge Gas responses on the Dawn Corunna Environmental Report technical comments we received from Aamjiwnaang. I'm hoping to have them ready for next week.

Once I have it finalized, I will send it over to you and we can set up a meeting to discuss.

Thanks and talk soon,
Lauren

From: Lauren Whitwham <Lauren.Whitwham@enbridge.com>
Sent: Tuesday, January 18, 2022 11:11 AM
To: Cathleen O'Brien <cobrien@aamjiwnaang.ca>
Subject: Enbridge Gas : Dawn Corunna Log and ER response

Good morning Cathleen,

Hope this finds you well.

I wanted to touch base to provide you with a couple of items for the Dawn Corunna Project. Once you have reviewed them, I'd be happy to chat with you to answer any questions, concerns or comments you might have.

First is the Indigenous Consultation log for Aamjiwnaang. I will start to ensure that our log gets to you prior to filing the projects with the OEB.

The second item is the Enbridge Gas response comments to the ER review completed for Aamjiwnaang. We have put our response comments into its own column.

Apologies for not getting a response to you sooner.

Again, please let me know if you would like to set up a meeting to discuss these, the Project or Enbridge engagement in general.

Have a great day,
Lauren

From: Cathleen O"Brien
To: Lauren Whitwham
Subject: [External] RE: Enbridge Gas : Dawn Corunna Log and ER response
Date: Tuesday, January 18, 2022 11:17:22 AM

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Thanks Lauren. Happy to take a look at these.

Regards,
Cathleen

Attachment 1.16

From: Lauren Whitwham
To: Cathleen O"Brien
Subject: Meeting follow up: Enbridge Gas slides
Date: Friday, January 28, 2022 2:49:28 PM
Attachments: Enbridge Proposed Projects update Jan 2022AFN.pdf

Hi there Cathleen,

It was great to virtually meet you yesterday. I look forward to working with you going forward.

I wanted to provide you with the slides that I reviewed yesterday so that you have them as a reference. Please let me know if you have any questions around the projects as I know it was a quick overview. I will forward the Panhandle VOH #2 slides to you once I receive them.

I recognize that there is a lot being thrown your way and anything I can do to help make things easier (acronym list, backgrounder etc), please let me know. Also, if you have any changes to how you would like proponents like Enbridge to engage with you on Projects, please let me know.

Have a great weekend and let me know if you have any questions or concerns.

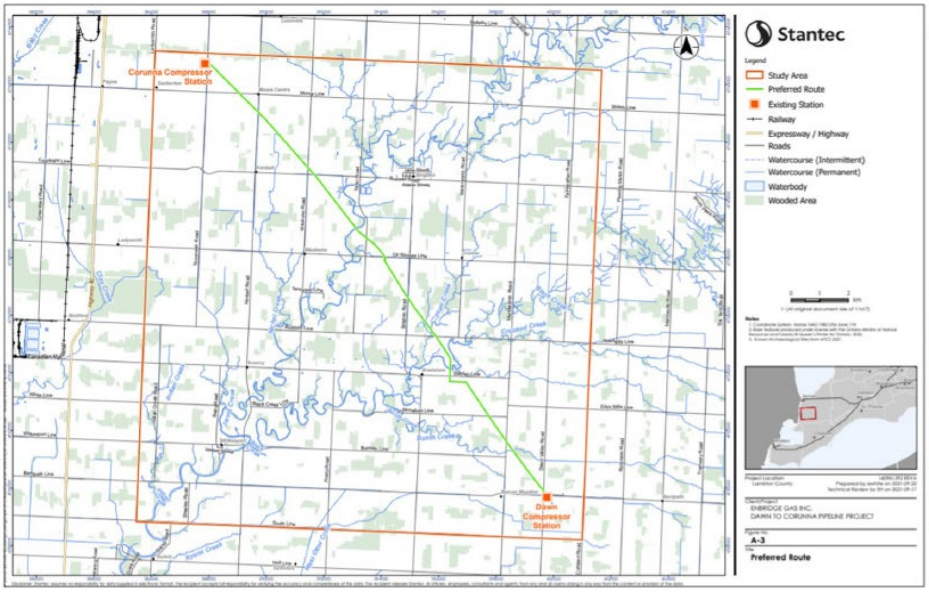
Thanks,
Lauren

Dawn Corunna Project

- To maintain safe and reliable operations Enbridge Gas Inc. has identified the need to replace assets in the County of Lambton.
- The proposed Dawn-Corunna Project (the Project) may include all or some of the following:
  - The decommissioning of up to seven (7) reciprocating compressors located at the Corunna Compressor Station, which were installed between 1964 and 1974 and are approaching the end of their lifecycle.
  - Meeting existing firm demand through the construction of a new steel pipeline, 36-inch diameter, between the Dawn Operations Centre in the Township of Dawn Euphemia and the Corunna Compressor Station in St. Clair Township. The length of the proposed pipeline will be approximately 20 km in length.
  - The projected in-service date of the Project is November 2023.

7

Dawn Corunna Project



8

Dawn Corunna Project

Species at Risk Potentially Present in Project Area:

Mammals
- SAR Bats (4 species)

Birds
- Bobolink
- Bank Swallow
- Barn Swallow
- Yellow-Breasted Chat
- Eastern Meadowlark

Herpetofauna
- Blandings Turtle
- Eastern Foxsnake
- Butler's Gartersnake

Fish
- Pugnose Shiner
- Pugnose Minnow

Mussels
- Lilliput
- Fawnsfoot

Plants
- Eastern Flowering Dogwood
- Blue Ash
- Kentucky Coffee-Tree
- Eastern Prairie Fringed-Orchid
- Colicroot
- Butternut
- Dense Blazzing-Star

Dawn Corunna Project

- Enbridge Gas will be conducting surveys for snakes (Eastern Foxsnake and Butler's Garter Snake), Birds (particularly Eastern Meadow Lark, Bobolink and Yellow-breasted Chat), Botanical surveys for several SAR,
- Two watercourse have been identified to contain SAR for fish and mussels (Bear Creek and Black Creek). Mitigations and any required permitting will be completed with the approvals of the MECP and DFO.
- Field surveys will be undertaken in 2022 to enhance the understanding of terrestrial and aquatic habitat. These studies will include targeted surveys for SAR, including plant SAR. These surveys will be conducted by qualified professionals following accepted protocols and best practices.
- Project will be filed with the OEB early February 2022

Attachment 2.1

From: Lauren Whitwham
To: Valerie George
Subject: Proposed project: Dawn Corunna Project
Date: Wednesday, January 20, 2021 10:15:00 AM
Attachments: Dawn to Corunna Study Area.pdf

Good morning and Happy New Year Valerie,

I hope this finds you safe and healthy as we are staying at home again.

I wanted to provide you with a heads up to a proposed project that is coming up. Enbridge is currently conducting a review of its gas storage and transmission system and has identified the potential need to replace some assets to maintain safe and reliable operations and to continue to meet the firm demands of Enbridge Gas customers.

This proposed project would take place in the area surrounding the Dawn Operations Centre in the Township of Dawn-Euphemia and the Corunna Compressor Station in St. Clair Township.

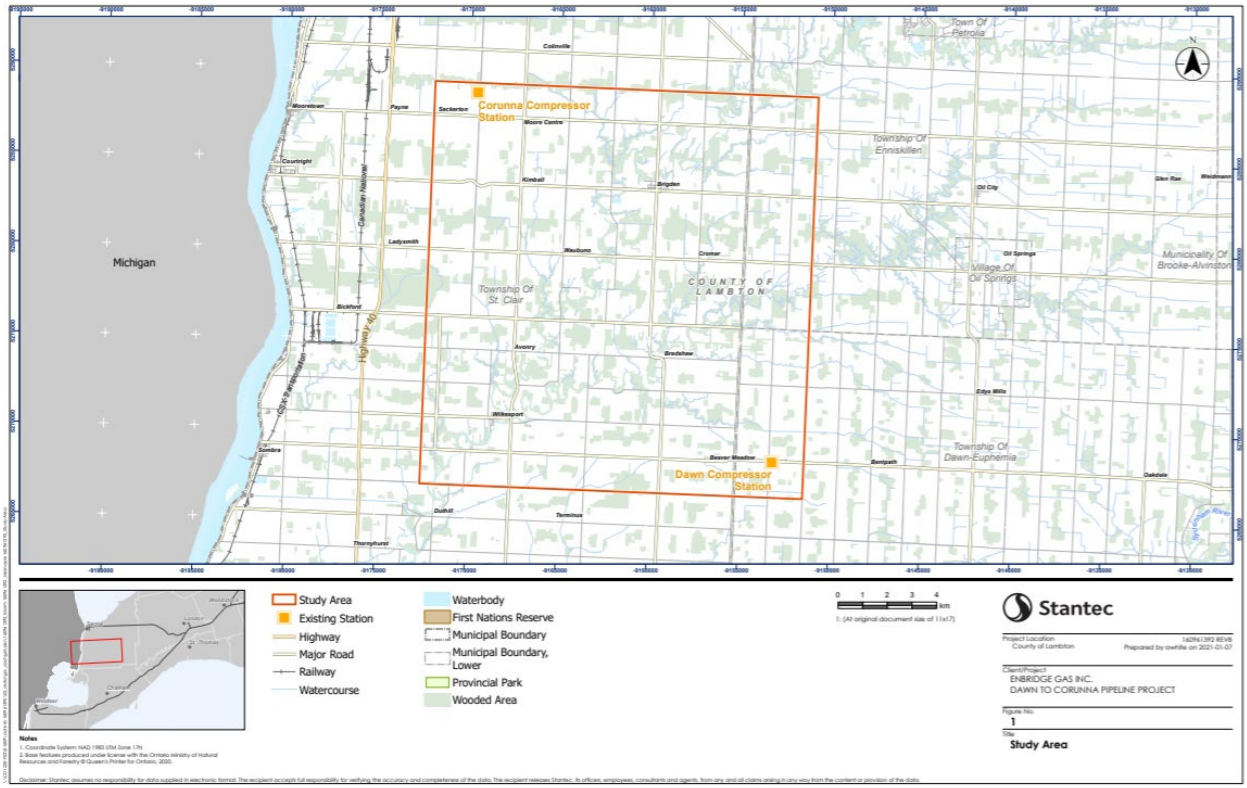
At this time, the project is in the preliminary stages and various options are being examined based on costs, environmental impact and construction timelines.

I sent the preliminary Project notification to the Ministry of Energy, Northern Development and Mines (MENDM) yesterday (January 19, 2021), seeking them to assign us with the duty to consult. In the spirit of openness and transparency we wanted to inform you of this preliminary Project notification and begin the process of engaging your community early on the Project planning. Once we receive the formal delegation letter and have some additional preliminary details on project proposals, we will reach out with our preliminary plans for the Project and begin the process to discuss and obtain your community's feedback, including any suggestions or proposals on mitigating, avoiding or accommodating any potential impacts to Aboriginal or treaty rights.

I've attached the study area map for your review.

I look forward to touching base to see how you are progressing with getting your new consultation committee together.

Many thanks,
Lauren


Corunna Compressor Station
Dawn Compressor Station
Michigan
Township Of St. Clair
COUNTY OF LAMBTON
Township Of Ennniskillen
Township Of Dawn-Euphemia
Village Of Oil Springs
Municipality Of Brooke-Alvinston
Town Of Petrolia
Study Area
Existing Station
Highway
Major Road
Railway
Watercourse
Waterbody
First Nations Reserve
Municipal Boundary
Municipal Boundary, Lower
Provincial Park
Wooded Area
Stantec
ENBRIDGE GAS INC.
DAWN TO CORUNNA PIPELINE PROJECT
Study Area

Attachment 2.2

From:	Lauren Whitwham
To:	Valerie George; Jason.henry@kettlepoint.org; clint.couchie@kettlepoint.org
Subject:	Enbridge Gas: Dawn Corunna Project
Date:	Tuesday, April 13, 2021 10:03:00 AM
Attachments:	Dawn to Corunna Study Area.pdf Kettle and Stony Point DC Notification.pdf

Good morning,

Hope this finds you well and keeping safe.

If you might recall, I sent an email back on January 20, 2021 letting you know of a potential proposed project in the area between the Enbridge Gas Dawn Operations Centre in the Township of Dawn-Euphemia and the Enbridge Gas Corunna Compressor Station in St. Clair Township. Enbridge has decided to proceed with the proposed project to replace some assets in order to maintain the safe and reliable operation of Enbridge Gas's systems and continue to meet the firm demands of Enbridge Gas customers.

Please find attached a map of the study area as well as a letter containing on initial information on the Project. Next week you will receive information on the first Virtual Open House and we hope that you will take a look at that presentation and provide Stantec with feedback on the potential routes. We are interested in your community's feedback, including any suggestions or proposals on mitigating, avoiding or accommodating any potential impacts the Project may have on your Aboriginal or treaty rights.

Enbridge acknowledges that capacity support may be required to enable you to engage in timely technical reviews of documents, participation in field work associated with proposed projects, and to engage in meaningful consultation. As is our approach on all projects, we are prepared to provide capacity funding to support your team's work.

I'll reach out to you in June to set up a meeting to discuss the project once we have a preferred route chosen. In the meantime, please feel free to reach out with any questions, concerns and comments.

Many thanks,
Lauren

Enbridge Inc
109 Commissioners Road West,
London, ON
N6A4P1

Chief Jason Henry
Kettle and Stony Point First Nation
6247 Indian Lane
Kettle and Stony Point First Nation, ON
N0N 1J1

April 13, 2021

Re: Dawn-Corunna Pipeline Project

Dear Chief Henry,

Enbridge Gas Inc. (Enbridge Gas) is currently conducting a review of its gas storage and transmission system and has identified the potential need to replace some assets in order to maintain the safe and reliable operation of Enbridge Gas's systems and continue to meet the firm demands of Enbridge Gas customers.

The proposed Dawn-Corunna Project (the Project) may include all or some of the following:

- The decommissioning of up to seven (7) reciprocating compressors located at the Corunna Compressor Station, which were installed between 1964 and 1974 and are approaching the end of their lifecycle.
- Meeting existing firm demand through the construction of a new steel pipeline, up to 42-inch diameter, between the Dawn Operations Centre in the Township of Dawn-Euphemia and the Corunna Compressor Station in St. Clair Township. The length of the proposed pipeline will be determined upon the selection of a preferred route.
- The projected in-service date of the Project is November 2023.

The area in which the Project is to be constructed is rural. It is expected that the majority of adverse environmental and/or socio-economic effects will be construction related. These effects are expected to be temporary and transitory. The Project will also be located underground once construction is complete, further limiting the potential for any long-term effects.

As part of the planning process, Enbridge Gas has retained Stantec Consulting Ltd. (Stantec) to undertake an Environmental Study of the construction and operation of the Project. The Environmental Study as required by the Ontario Energy Board's (OEB) *"Environmental Guidelines for the Location, Construction, and Operation of Hydrocarbon Pipelines and Facilities in Ontario, 7th Edition (2016)"*.

Enbridge Gas' preliminary work on the Project has identified the following potential authorizations:

Federal Approvals

- Fisheries and Ocean Canada

Provincial approvals:

- Ontario Energy Board
- Ministry of Environment, Conservation and Parks
- Ministry of Heritage, Sport, Tourism and Culture Industries
- Ministry of Transportation

Municipal approvals:

- Lambton County
- St. Clair Township
- Township of Dawn-Euphemia
- St. Clair Region Conservation Authority

Other authorizations, notifications, permits and/or approvals may be required in addition to those identified above.

We would like to consult with your community on this proposed Project. We are interested in your community's feedback, including any suggestions or proposals on mitigating, avoiding or accommodating any potential impacts the Project may have on your Aboriginal or treaty rights.

Enbridge acknowledges that capacity support may be required to enable you to engage in timely technical reviews of documents, participation in field work associated with proposed projects, and to engage in meaningful consultation. As is our approach on all projects, we are prepared to provide capacity funding to support your team's work.

Enbridge Gas has been delegated the procedural aspects for consultation by the Ministry of Energy on behalf of Ontario. Ministry officials are also available should you wish to contact them directly with any questions or concerns. Please contact:

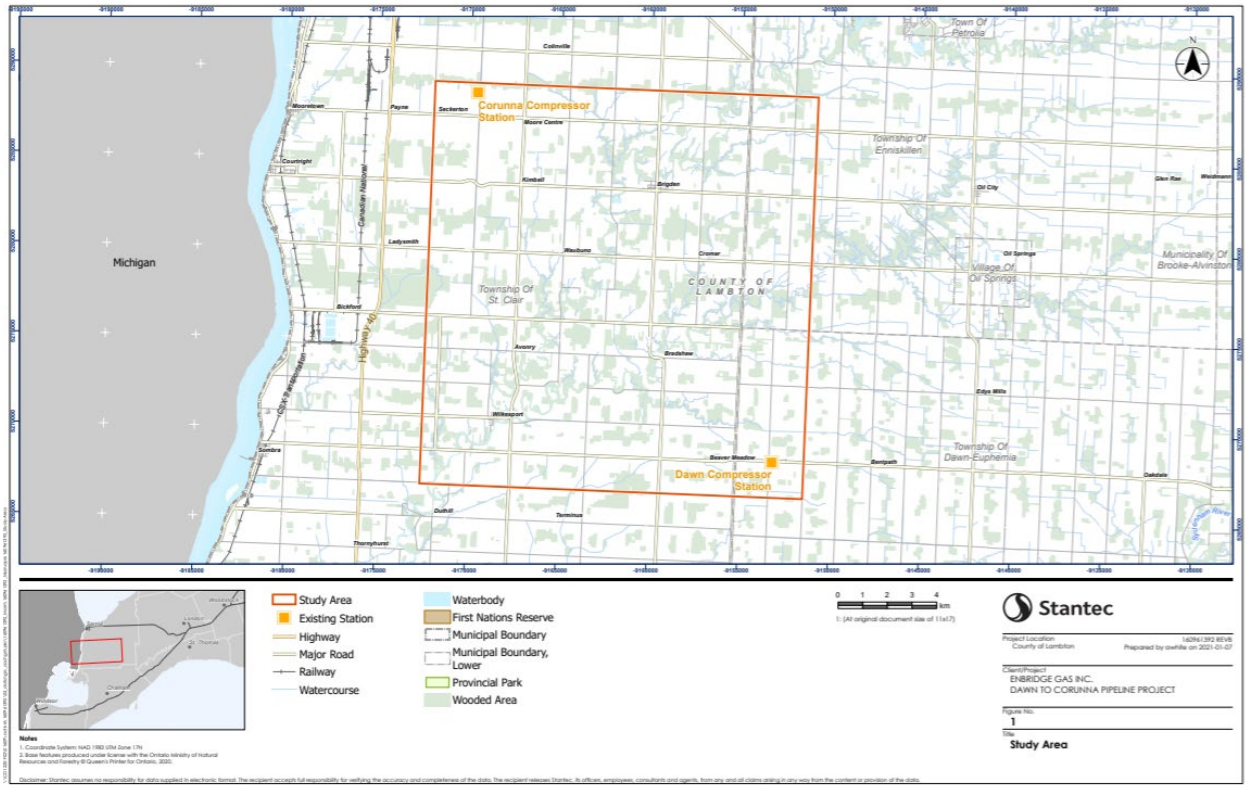
Jonathon Wilkinson, Senior Advisor
Indigenous Energy Policy, Ministry of Energy, Northern Development and Mines
705-313-3658
jonathon.wilkinson@ontario.ca

We would like to set up a meeting to discuss the Project with you and provide you with an opportunity to express any questions or concerns you have. Please feel free to contact me at lauren.whitwham@enbridge.com or 519-852-3474 so we can set up a time to meet.

Many thanks,



Lauren Whitwham
Senior Advisor, Indigenous Engagement
Enbridge Inc.
519-852-3474


Michigan
Corunna Compressor Station
Dawn Compressor Station
Township Of St. Clair
COUNTY OF LAMBTON
Township Of Ennisklillen
Village Of Oil Springs
Municipality Of Brooke-Alvinston
Township Of Dawn-Euphemia
Town Of Petrolia
Study Area
Existing Station
Highway
Major Road
Railway
Watercourse
Waterbody
First Nations Reserve
Municipal Boundary
Municipal Boundary, Lower
Provincial Park
Wooded Area
Stantec
ENBRIDGE GAS INC.
DAWN TO CORUNNA PIPELINE PROJECT
Figure No.
1
Study Area

Attachment 2.3

From: Hartwig, Emily
To: valerie.george@kettlepoint.org
Cc: Ryan Park; dawncorunna; Lauren Whitwham
Subject: [External] 2023 Dawn-Corunna Project - Notice of Commencement and Virtual Open House
Date: Tuesday, April 20, 2021 12:44:53 PM
Attachments: ltr_VGeorge_160961392_20210419.pdf

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This e-mail has originated from outside of the organization. Do not respond, click on links or open attachments unless you recognize the sender or know the content is safe.

Good afternoon,

Please find attached a Notice of Commencement and Virtual Open House for the Enbridge Gas Inc. 2023 Dawn-Corunna Project.

Regards,

Emily Hartwig B.Sc., EP.
Environmental Consultant, Assessment and Permitting

Direct: 519 780-8186
Mobile: 226 979-4457
Emily.Hartwig@stantec.com

ENBRIDGE
Life Takes Energy™

April 19, 2021

Attention: Ms. Valerie George, Environment Coordinator
Chippewas of Kettle and Stony Point First Nation
6248 Indian Lane
Lambton County, ON N0N 1J2

Dear Ms. George,

Reference: Enbridge Gas – 2023 Dawn-Corunna Project, Notice of Commencement and Virtual Open House

Enbridge Gas Inc. (Enbridge Gas) is currently conducting a review of its natural gas storage and transmission system and has identified the need to replace assets in order to maintain the safe and reliable operation of Enbridge Gas's systems and continue to meet the firm natural gas demands of Enbridge Gas customers.

The proposed 2023 Dawn-Corunna Project (the Project) may include all or some of the following:

- The decommissioning of up to seven (7) reciprocating compressors located at the Corunna Compressor Station in St. Clair Township, which were installed between 1964 and 1974 and are approaching the end of their lifecycle.
- Meeting existing firm demand through the construction of a new steel natural gas pipeline, 36-inch diameter, between the Dawn Operations Centre in the Township of Dawn-Euphemia and the Corunna Compressor Station in St. Clair Township. The length of the proposed pipeline will be determined upon the selection of a preferred route.

For further details, please refer to the map in the attached document.

As part of the planning process, Enbridge Gas has retained Stantec Consulting Ltd. (Stantec) to undertake an Environmental Study of the construction and operation of the Project. The Environmental Study will fulfill the requirements of the Ontario Energy Board's (OEB) "*Environmental Guidelines for the Location, Construction, and Operation of Hydrocarbon Pipelines and Facilities in Ontario, 7th Edition (2016)*".

An Environmental Report, summarizing the results of the Environmental Study, will accompany Enbridge Gas' application to the OEB as part of their Leave to Construct application. It is anticipated that the Environmental Report for the study will be completed in Fall 2021. The OEB's review and approval is required before the proposed project can proceed. If approved, construction is currently anticipated to begin in spring/summer 2023 and be complete by the end of 2023.

Stantec is presently compiling an environmental, socio-economic, and archaeological/cultural heritage inventory of the Environmental Study Area. As an Indigenous community with a potential interest in the study area, we are inviting Chippewas of Kettle and Stony Point First Nation to provide comments regarding the proposed Project. Specifically, Stantec is seeking information about any adverse impacts that the proposed project may have on constitutionally protected Aboriginal or treaty rights and any measures for mitigating those adverse impacts.

As part of the Environmental Study, Enbridge is also in the process of contacting the following agencies:

- Indigenous and Northern Affairs Canada; and
- Ontario Ministry of Indigenous Relations and Reconciliation.

Reference: Enbridge Gas – 2023 Dawn-Corunna Project, Notice of Commencement and Virtual Open House

As a result of the physical distancing requirements set out by the Province of Ontario due to COVID-19, Virtual Open Houses will be held in place of in-person Open Houses.

The first of two Virtual Open Houses will be available from **May 3, 2021** at 9:00 am EST to **May 17, 2021** at 5:00 pm EST at www.solutions.ca/DawnCorunna.

A questionnaire will be available as part of the Virtual Open House and you will have the ability to submit comments and/or questions about the proposed Project. In addition, a copy of the Virtual Open House story boards will be available on the Enbridge Gas project website at: https://www.Enbridgegas.com/About-Us under "Projects".

Input received during the first Virtual Open House will be used to inform the selection of the Preliminary Preferred Route and to develop site specific environmental protection or mitigation measures for the Project.

If you have questions or comments regarding the 2023 Dawn-Corunna Project, please do not hesitate to contact the undersigned.

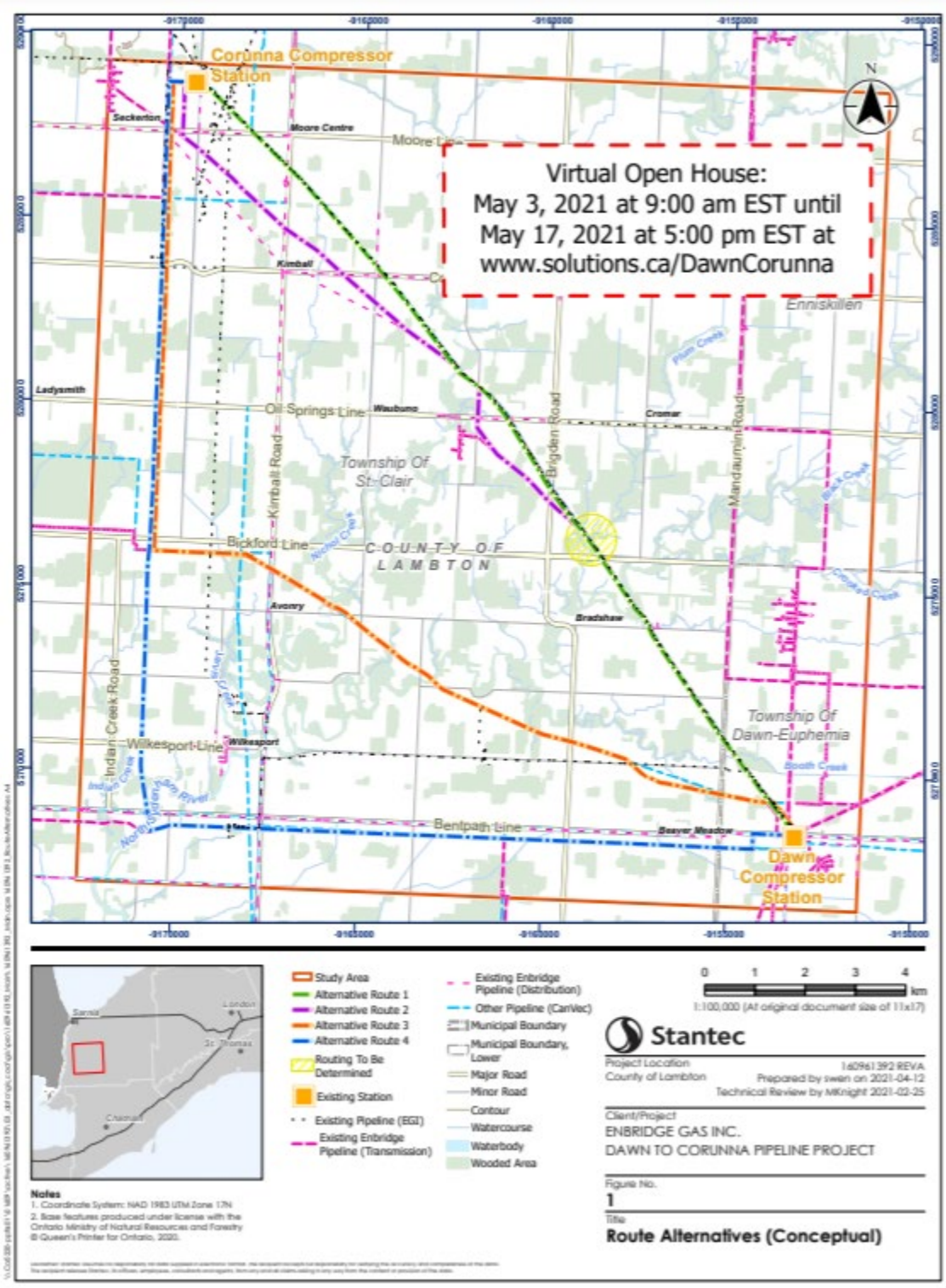
Regards,

ENBRIDGE GAS INC.

Lauren Whitwham
Senior Advisor, Community & Indigenous Engagement, Eastern Region
Enbridge Gas Inc.
Cell: 519-852-3474
lauren.whitwham@enbridge.com

Attachment: Figure 1 – Route Alternatives (Conceptual)

c. Ryan Park, Sr. Advisor, Enbridge Gas Inc.
Emily Hartwig, Environmental Consultant, Stantec Consulting Ltd.


Corunna Compressor Station
Dawn Compressor Station
Virtual Open House:
May 3, 2021 at 9:00 am EST until
May 17, 2021 at 5:00 pm EST at
www.solutions.ca/DawnCorunna
Seckerton
Moore Centre
Moore Line
Kimball
Enniskillen
Ladysmith
Oil Springs Line
Wausuno
Cromar
Township Of St. Clair
Kimball Road
Brigden Road
Mandaumin Road
Bickford Line
COUNTY OF LAMBTON
Avonry
Bradshaw
Township Of Dawn-Euphemia
Indian Creek Road
Wilkesport Line
Wilkesport
Bentpath Line
Beaver Meadow
Study Area
Alternative Route 1
Alternative Route 2
Alternative Route 3
Alternative Route 4
Routing To Be Determined
Existing Station
Existing Pipeline (EGI)
Existing Enbridge Pipeline (Transmission)
Existing Enbridge Pipeline (Distribution)
Other Pipeline (CanVec)
Municipal Boundary
Municipal Boundary, Lower
Major Road
Minor Road
Contour
Watercourse
Waterbody
Wooded Area
0 1 2 3 4 km
1:100,000 (At original document size of 11x17)
Stantec
Project Location
County of Lambton
1d0961392 REVA
Prepared by swan on 2021-04-12
Technical Review by MKnight 2021-02-25
Client/Project
ENBRIDGE GAS INC.
DAWN TO CORUNNA PIPELINE PROJECT
Figure No.
1
Title
Route Alternatives (Conceptual)
Notes
1. Coordinate System: NAD 1983 UTM Zone 17N
2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © Queen's Printer for Ontario, 2020.

Attachment 2.4

From: Lauren Whitwham
To: Valerie George
Subject: Enbridge Projects: Dawn Corunna and Gathering Lines
Date: Monday, July 5, 2021 2:52:00 PM
Attachments: Enbridge Gas Dawn Corunna Project.msg
Project Notification Lateral pipelines.msg

Hi Valerie,

Hope this finds you well.

I would like to touch base with you to set up a time to meet on Enbridge's Dawn Corunna and Storage Gathering Lines projects. We would like to begin the process to discuss and obtain your community's feedback, including any suggestions or proposals on mitigating, avoiding or accommodating any potential impacts to Aboriginal or treaty rights. I know that when we spoke in December, you had mentioned that the consultation committee would be pulled together in the first part of 2021 so I hope to find a time that works for the committee. If you could let me know of some dates/times that would be helpful.

Additionally, I would enjoying coming out to meet you in person now that the lockdown is lifting. I have volunteered at the Senior's Christmas lunch at the school a number of times but I'm not aware of restaurants in the area. I'd be happy to take you out for lunch or coffee if you are comfortable with the meeting. Let me know what works best for you as comfort levels are different for each person. A socially distant coffee would work just great as well.

I look forward to hearing back from you with some dates to discuss the projects (and a potential in person meeting)

All the best,
Lauren

Attachment 2.5

From: Hartwig, Emily
To: valerie.george@kettlepoint.org
Cc: Ryan Park; dawncorunna; Lauren Whitwham
Subject: [External] Dawn-Corunna Project - Notice of Second Virtual Open House
Date: Thursday, July 8, 2021 12:43:45 PM
Attachments: let_george_valerie_kpfn_160961392_Dawn-Corunna-Indigenous-VOH2_fin.pdf

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This e-mail has originated from outside of the organization. Do not respond, click on links or open attachments unless you recognize the sender or know the content is safe.

Good afternoon,

Please find attached a Notice of Second Virtual Open House for the Enbridge Gas Inc. Dawn-Corunna Project.

Regards,

Emily Hartwig B.Sc., EP.
Environmental Consultant, Assessment and Permitting

Direct: 519 780-8186
Mobile: 226 979-4457
Emily.Hartwig@stantec.com

Stantec
1-70 Southgate Drive
Guelph ON N1G 4P5

ENBRIDGE
Life Takes Energy

July 12, 2021

Attention: Ms. Valerie George, Environment Coordinator
Chippewas of Kettle and Stony Point First Nation
6248 Indian Lane
Lambton County, ON N0N 1J2
Sent via email: valerie.george@kettlepoint.org

Dear Ms. George,

Reference: Enbridge Gas – Dawn-Corunna Project, Notice of Second Virtual Open House

Enbridge Gas Inc. (Enbridge Gas) has conducted a review of its gas storage and transmission system and has identified the need to replace assets in order to maintain the safe and reliable operation of Enbridge Gas's systems and continue to meet the firm demands of Enbridge Gas customers.

The proposed Dawn-Corunna Project will involve the construction of a new steel pipeline, up to 36-inch diameter, between the Dawn Operations Centre in the Township of Dawn-Euphemia and the Corunna Compressor Station in St. Clair Township. A Route Selection Process is being conducted to determine the best location for the proposed pipeline. Four Alternative Routes were presented during the first Virtual Open House held from May 3-17, 2021. No feedback was received at the first Virtual Open House that required adjustments be made to the four proposed Alternative Routes. A qualitative and quantitative evaluation of the Alternative Routes resulted in the selection of a Preliminary Preferred Route, which will be approximately 20 km in length.

A map of the Preliminary Preferred Route can be found in the attached notice.

As part of the planning process, Enbridge Gas has retained Stantec Consulting Ltd. to undertake an Environmental Study of the construction and operation of the project. The Environmental Study will fulfill the requirements of the Ontario Energy Board's (OEB) "*Environmental Guidelines for the Location, Construction, and Operation of Hydrocarbon Pipelines and Facilities in Ontario, 7th Edition (2016)*".

An Environmental Report, summarizing the results of the Environmental Study, will accompany Enbridge's application to the OEB as part of their Leave to Construct application. It is anticipated that the Environmental Report for the study will be completed in Fall 2021. The OEB's review and approval is required before the proposed project can proceed. If approved, construction is currently anticipated to begin in spring/summer 2023.

As a result of the physical distancing requirements set out by the Province of Ontario due to COVID-19, Virtual Open Houses will be held in place of in-person Open Houses.

The second of two Virtual Open Houses will be available for two weeks starting on **July 19, 2021** and finishing on **August 2, 2021** at www.solutions.ca/DawnCorunna.

A questionnaire will be available as part of the Virtual Open House and you will have the ability to submit comments and/or questions about the proposed project. In addition, a copy of the Virtual Open House story boards will be available on the Enbridge Gas project website at:
https://www.enbridgegas.com/about-enbridge-gas/projects/dawn-corunna-project

Reference: Enbridge Gas – Dawn-Corunna Project, Notice of Second Virtual Open House

Input received during the second Virtual Open House will be used to confirm the selection of a Preferred Route and to develop site specific environmental protection or mitigation measures.

If you have questions or comments regarding the project, please do not hesitate to contact the undersigned.

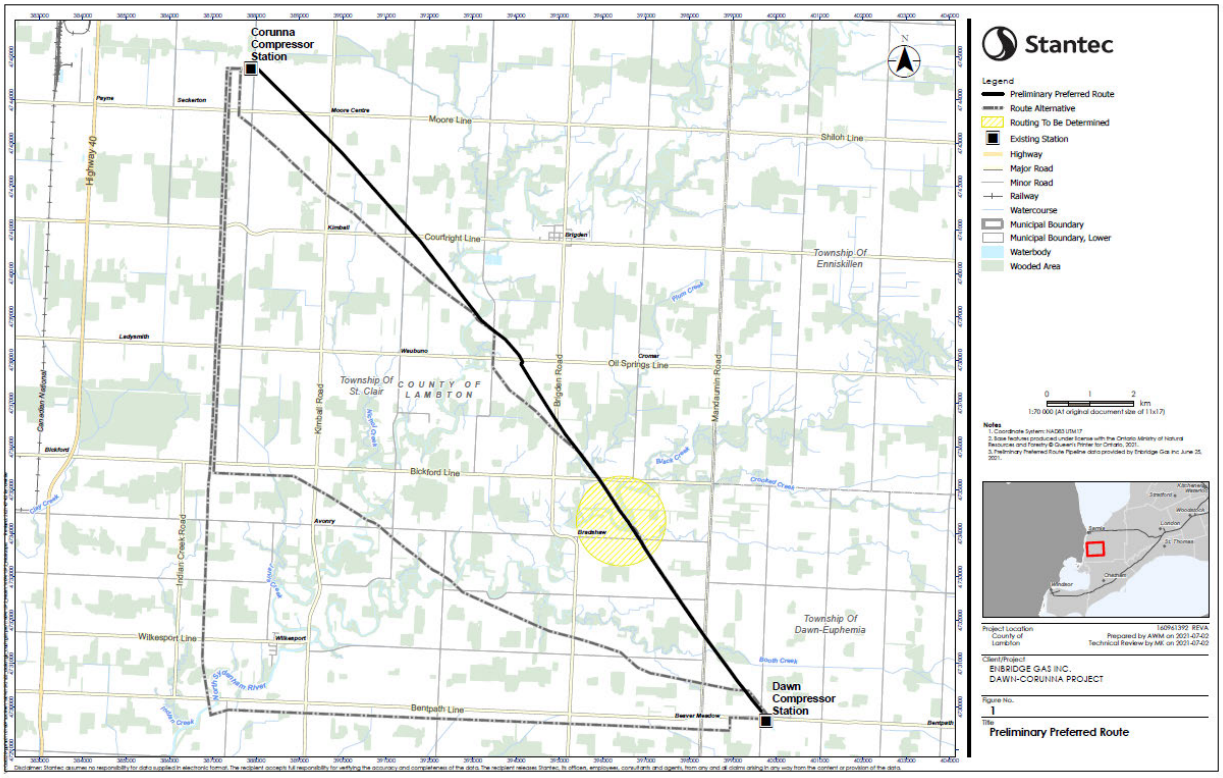
Regards,

ENBRIDGE GAS INC.

Lauren Whitwham
Analyst, Indigenous, Municipal Affairs and Stakeholder Relations
Enbridge Gas Inc.
109 Commissioners Road West
London, ON N6A 4P1
PH: 519 667-4100 x 5153545
Cell: 519-852-3474
lauren.whitwham@enbridge.com

Attachment: Figure 1 – Alternatives and Preliminary Preferred Route

c. Ryan Park, Sr. Advisor, Enbridge Gas Inc.
Emily Hartwig, Environmental Consultant, Stantec Consulting Ltd.


Corunna Compressor Station
Dawn Compressor Station
Moore Line
Courtright Line
Oil Springs Line
Bickford Line
Wilkesport Line
Bentpath Line
Shiloh Line
Township Of Enniskillen
Township Of St. Clair
COUNTY OF LAMBTON
Township Of Dawn-Euphemia
Highway 40
Kimball Road
Brigden Road
Mandaumin Road
Indian Creek Road
Stantec
Legend
Preliminary Preferred Route
Route Alternative
Routing To Be Determined
Existing Station
Highway
Major Road
Minor Road
Railway
Watercourse
Municipal Boundary
Municipal Boundary, Lower
Waterbody
Wooded Area
Client/Project
ENBRIDGE GAS INC.
DAWN-CORUNNA PROJECT
Figure No.
1
Title
Preliminary Preferred Route

Attachment 2.7

From: Valerie George <Valerie.George@kettlepoint.org>
Sent: Monday, August 9, 2021 8:52 AM
To: Lauren Whitwham <Lauren.Whitwham@enbridge.com>
Subject: [External] RE: Notice of Study Commencement- 2022 Storage Enhancement

EXTERNAL: PLEASE PROCEED WITH CAUTION.
This e-mail has originated from outside of the organization. Do not respond, click on links or open attachments unless you recognize the sender or know the content is safe.

Good morning Lauren

I would like to connect with you on the details in your email. For now I will propose September 2, 3 or 9.
Thank you.

Valerie

From: Lauren Whitwham [mailto:Lauren.Whitwham@enbridge.com]
Sent: August-11-21 10:41 AM
To: Valerie George <Valerie.George@kettlepoint.org>
Subject: RE: Notice of Study Commencement- 2022 Storage Enhancement

Hi Valerie,

Thanks for the note and I hope that summer is treating you well.

I'd be happy to connect on September 9th. The kids will be back in school then and it will be quieter here.

I would like to speak with you about the 2022 Storage Enhancement project as well as the Dawn Corunna Project. Both are currently in the Environmental Review portion and will be filed with the OEB in the fall.

What time works best for you? I am available at any point.

Thanks,
Lauren

From: Valerie George <Valerie.George@kettlepoint.org>
Sent: Wednesday, August 11, 2021 11:36 AM
To: Lauren Whitwham <Lauren.Whitwham@enbridge.com>
Subject: [External] RE: Notice of Study Commencement- 2022 Storage Enhancement

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Hello Lauren

September 9 still looks good. Would you be able to accommodate 2:00pm?
Thank you.

Valerie

From: Lauren Whitwham [mailto:Lauren.Whitwham@enbridge.com]
Sent: August-11-21 12:31 PM
To: Valerie George <Valerie.George@kettlepoint.org>
Subject: RE: Notice of Study Commencement- 2022 Storage Enhancement

That works perfectly.

Did you want to do it via phone, in person or virtual. . . so many options now.

From: Valerie George <Valerie.George@kettlepoint.org>
Sent: Wednesday, August 11, 2021 1:21 PM
To: Lauren Whitwham <Lauren.Whitwham@enbridge.com>
Subject: [External] RE: Notice of Study Commencement- 2022 Storage Enhancement

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It would be nice in person. Let's say that, but if things are rougher than now, lets go with phone. My computer doesn't have audio right now, but I'm working on it.
Valerie

From: Lauren Whitwham
To: Valerie George
Subject: RE: Notice of Study Commencement- 2022 Storage Enhancement
Date: Wednesday, August 11, 2021 1:56:00 PM

Perfect. Sounds great.

I'll send a meeting invite to get it into our calendars.

Attachment 2.8

From: Lauren Whitwham [mailto:Lauren.Whitwham@enbridge.com]
Sent: September-07-21 1:44 PM
To: Valerie George <Valerie.George@kettlepoint.org>
Subject: Over abundance of caution - Cancel in person meeting

Hi Valerie,

We had discussed meeting on Thursday to review some of the projects Enbridge has on the go. Due to an over abundance of caution, I won't be able to travel to meet you.

Could we do it via telephone or schedule something for next week?

I'd be happy to talk to you about the projects via the phone as well. If you'd still like to meet via phone and can do so on Thursday as scheduled, I'll email you the presentation tomorrow evening.

If you'd like to meet in person, I could do in person next Thursday September 16 or the Friday September 17.

Let me know what works best for you Valerie. I apologize for not coming out to see you. While I might be overreacting, I would never want to put you or your community at risk.

Thanks so much,
Lauren

From: Valerie George <Valerie.George@kettlepoint.org>
Sent: Tuesday, September 7, 2021 2:18 PM
To: Lauren Whitwham <Lauren.Whitwham@enbridge.com>
Subject: [External] RE: Over abundance of caution - Cancel in person meeting

EXTERNAL: PLEASE PROCEED WITH CAUTION.
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No worries Lauren

Best be safe on both our parts. Was hoping for a more optimistic time but not sure if it'll improve before getting worse. So I'm told anyway.
Next week any day but Friday would work for me via phone. Let me know what works for you.

Valerie

From: Lauren Whitwham [mailto:Lauren.Whitwham@enbridge.com]
Sent: September-09-21 8:48 AM
To: Valerie George <Valerie.George@kettlepoint.org>
Subject: RE: Over abundance of caution - Cancel in person meeting

Thanks for your understanding!

Looking ahead to next week, Wednesday afternoon (except from 3-4) or anytime Thursday afternoon work best for me? If we had an hour, it would be great to review our projects and get some of your input.

I'm just pulling together the presentation for you and will send it next week.

Let me know what works best for you and we can have a call.

Take care and stay safe!
Lauren

From: Valerie George <Valerie.George@kettlepoint.org>
Sent: Thursday, September 9, 2021 8:53 AM
To: Lauren Whitwham <Lauren.Whitwham@enbridge.com>
Subject: [External] RE: Over abundance of caution - Cancel in person meeting

EXTERNAL: PLEASE PROCEED WITH CAUTION.
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Lets go with Wednesday 2:00. Good?

From:	Lauren Whitwham
To:	Valerie George
Subject:	RE: Over abundance of caution - Cancel in person meeting
Date:	Thursday, September 9, 2021 8:55:00 AM

Perfect! Thanks!

Attachment 2.9

From: Lauren Whitwham [mailto:Lauren.Whitwham@enbridge.com]
Sent: September-14-21 3:10 PM
To: Valerie George <Valerie.George@kettlepoint.org>
Subject: Deck for our call tomorrow

Hi Valerie,

Hope this finds you well.

Please find attached a deck for our phone call tomorrow. Talk to you at 2pm. I'll give your office a call unless I hear otherwise.

Thanks,
Lauren

Lauren Whitwham
Senior Advisor, Community & Indigenous Engagement, Eastern Region

Public Affairs, Communications & Sustainability

From: Valerie George <Valerie.George@kettlepoint.org>
Sent: Wednesday, September 15, 2021 9:30 AM

To: Lauren Whitwham <Lauren.Whitwham@enbridge.com>
Subject: [External] RE: Deck for our call tomorrow

EXTERNAL: PLEASE PROCEED WITH CAUTION.
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Good morning Lauren

I'm so sorry. I had a medical appointment for Friday but they needed to move it to today to assist a priority situation patient. I will need to postpone. Can we possibly do this any other day and time later this week?

Again, my apologies.

Valerie

From: Lauren Whitwham [mailto:Lauren.Whitwham@enbridge.com]
Sent: September-15-21 9:51 AM
To: Valerie George <Valerie.George@kettlepoint.org>
Subject: RE: Deck for our call tomorrow

Thanks for the note Valerie. I totally understand and appreciate your note.

Would you be available on Friday? I have the entire day free if you have any time available.

I'm also available until 2pm on Monday September 20 with the exception of 11-12.

Let me know what works best for you.

Thanks,
Lauren

From: Valerie George <Valerie.George@kettlepoint.org>
Sent: Thursday, September 16, 2021 9:01 AM
To: Lauren Whitwham <Lauren.Whitwham@enbridge.com>
Subject: [External] RE: Deck for our call tomorrow

EXTERNAL: PLEASE PROCEED WITH CAUTION.
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Good morning Lauren

Thank you for your understanding. Friday, tomorrow would be fine but Monday is preferable. Could I suggest 10:00 Monday morning?

Valerie

From: Lauren Whitwham
To: Valerie George
Subject: RE: Deck for our call tomorrow
Date: Thursday, September 16, 2021 9:08:00 AM

Sounds great. Have a great weekend and I'll speak with you on Monday.

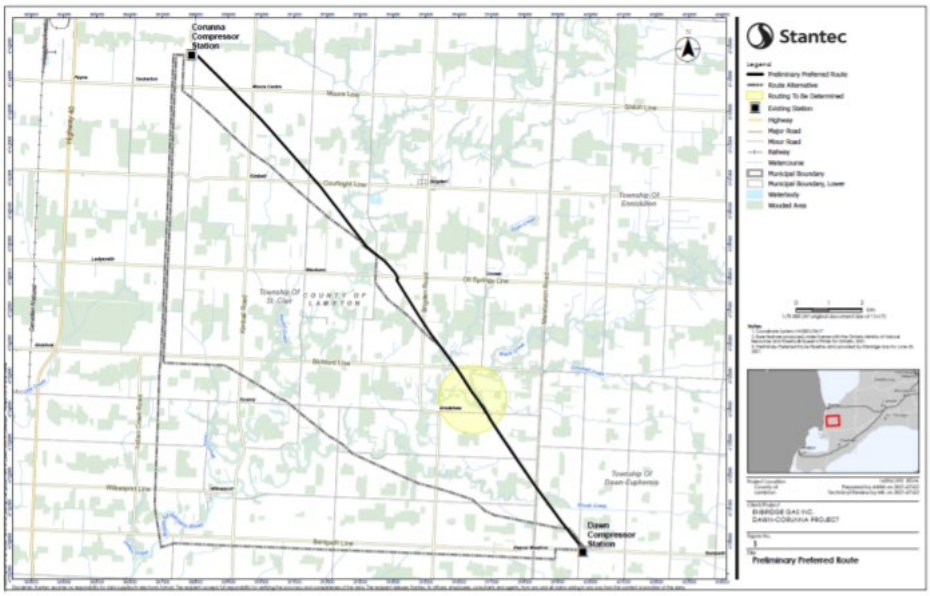
Thanks!

Dawn-Corunna Project

- To maintain safe and reliable operations Enbridge Gas Inc. has identified the need to replace assets in the County of Lambton.
- The proposed Dawn-Corunna Project (the Project) may include all or some of the following:
  - The decommissioning of up to seven (7) reciprocating compressors located at the Corunna Compressor Station, which were installed between 1964 and 1974 and are approaching the end of their lifecycle.
  - Meeting existing firm demand through the construction of a new steel pipeline, up to 42 inch diameter, between the Dawn Operations Centre in the Township of Dawn Euphemia and the Corunna Compressor Station in St. Clair Township. The length of the proposed pipeline will be determined upon the selection of a preferred route.
  - The projected in-service date of the Project is November 2023.

9

Dawn-Corunna Project



10

How the route was chosen:

Features	Route 1	Route 2	Route 3	Route 4
Agricultural				
Prime Agricultural Land (ha)				
Systematic Tile Drainage (ha)				
Random Tile Drainage (ha)				
Aquatic				
Conservation Authority Regulated Lands (ha)				
Watercourse / Drain Crossings				
Watercourses with Identified SAR (#)				
Waterwells (#)				
Wetlands – Provincial Evaluation				
Wetlands – Other				
Route Characteristics				
Length (km)				
Slope ≥5° (ha within 100m)				
Socio-Economic				
Archaeological Sites (# within 100m)				
Cultural Heritage Features (# within 100m)				
Road Crossings (#)				
Petroleum Wells (# within 100m)				
Socio-economic features (schools, churches, and community centres [# within 100m])				
Terrestrial				
ANSIs (ha)				
Wooded Areas (ha)				

Green	Alternative Route with least impact on feature (multiple green boxes indicates tie in feature value)
Black	Feature not present within any of the Alternative Routes

11

Dawn-Corunna Project

- Environmental Report should be complete late September 2021.
- Initiated discussions with the MECP regarding SARs that could potentially be in the project area.
- We will be conducting surveys for snakes (Eastern Foxsnake and Butler's Garter Snake), Birds (particularly Eastern Meadow Lark, Bobolink and Yellow-breasted Chat), Botanical surveys for several SAR,
- Two watercourse have been identified to contain SAR for fish and mussels (Bear Creek and Black Creek). Mitigations and any required permitting will be completed with the approvals of the MECP and DFO.
- Enbridge invites Kettle and Stony Point First Nation to send Indigenous monitors for the archaeology and natural heritage surveys work which will commence in fall 2021.

12

From: Lauren Whitwham
To: Valerie George
Bcc: Lauren Whitwham
Subject: Enbridge Project - Notification Letters
Date: Monday, September 20, 2021 6:21:00 PM
Attachments: UGS Well Work Notification Letter - Kettle and Stony Point First Nation.pdf
Kettle and Stony Point DC Notification.pdf

Hi Valerie,

Thanks so much for meeting with me today. It was great to catch up.

As we talked about, and making it easier to find in emails, please find attached the Project Notifications for the 2022 Storage Enhancement, Coveny Kimball and Dawn Corunna Project.

Please let me know how things go with Wanda and any training proposals for monitors. I think it would be great to offer training to individuals from your community who might be interested. We appreciate your community being represented at archaeological sites and value the input they provide. Having more monitors available would be excellent. If you could obtain a quote, I'd be happy to ensure the costs are covered.

Also, please let me know how to goes with the environmental report review. Again, we are happy to provide capacity funding to have this document reviewed by someone to free up some of your time.

Feel free to email over any questions you have and I'd be happy to set up another call.

Have a great week,
Lauren

Attachment 2.11

From: Hartwig, Emily
To: dawncorunna
Cc: Ryan Park; Lauren Whitwham
Subject: [External] Enbridge Gas Inc. Dawn-Corunna Project - Environmental Report
Date: Wednesday, September 22, 2021 1:02:52 PM

EXTERNAL: PLEASE PROCEED WITH CAUTION.
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Good afternoon,

Enbridge Gas Inc. ("Enbridge Gas") has conducted a review of its gas storage and transmission system and has identified the need to replace assets in order to maintain the safe and reliable operation of Enbridge Gas' systems and continue to meet the firm demands of Enbridge Gas customers. The proposed Dawn-Corunna Project will involve the construction of a new steel pipeline, up to 36-inch diameter and approximately 20 km in length, between the Dawn Operations Centre in the Township of Dawn-Euphemia and the Corunna Compressor Station in St. Clair Township. Upgrades to the Dawn Operations Centre and the Corunna Compression Station are required to integrate the two stations. Work will include the decommissioning of up to seven compressors and construction of additional piping within the of the existing stations.

Enbridge Gas has retained Stantec Consulting Ltd. ("Stantec") to undertake an environmental study of the construction and operation of the natural gas pipeline that meets the intent of the Ontario Energy Board's (OEB) Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Pipelines and facilities in Ontario, 7th Edition (2016).

An electronic copy of the Environmental Report (ER), summarizing the results of the environmental study, is available for your review by accessing the Projects page on the Enbridge Gas website, or via the temporary File Transfer Protocol (FTP):

FTP link: https://tmpsftp.stantec.com
Login name: s1002095723
Password: 2602460
Expiry Date: 10/16/2021*

*Please note the FTP expiry date of October 16, 2021. Should you require assistance downloading the Environmental Report after this date, please contact the undersigned.

Please forward any comments or questions you have regarding the ER to the undersigned. Your comments would be appreciated by **November 8, 2021.**

Regards,

Emily Hartwig B.Sc., EP.

Attachment 2.12

From: Lauren Whitwham [mailto:Lauren.Whitwham@enbridge.com]
Sent: October-25-21 4:41 PM
To: Valerie George <Valerie.George@kettlepoint.org>
Subject: Touch base: Enbridge

Hi Valerie,

Hope this finds you well on this very wet and miserable day.

I wanted to touch base with you on a couple of things so they don't drop off the radar.

1. Environmental Report review and project questions: Over the past two months, I have sent over the Environmental Reports for 2022 Storage Enhancement, Dawn Corunna and Coveny and Kimball-Colinville Well Drilling Project. I recognize that this is a lot of information to review! Just wanted to check in to see if there were any questions or concerns with the Projects and environmental reports or if you would require capacity funding for a third party to review these documents.
2. [redacted]

Let me know if you'd like to chat and I can adjust my calendar to accommodate your schedule.

Thanks and keep well.
Lauren

[External] RE: Touch base: Enbridge

VG

Valerie George <Valerie.George@kettlepoint.org>
To Lauren Whitwham
Retention Policy Workspace (4 years)

CAUTION: EXTERNAL EMAIL
This email originated from outside Enbridge and could be a phish. Criminals can pretend

Good morning

I haven't forgotten. I've just got a few things to run through first. I'll be in touch soon.
Thanks for reaching out.

Valerie

Attachment 2.13

From: Lauren Whitwham
To: Valerie George
Subject: Summary of our call - Enbridge Projects
Date: Wednesday, December 8, 2021 10:59:08 AM
Attachments: Enbridge Projects update Dec 8.pptx
Kettle and Stony Point DC Notification.pdf
UGS Well Work Notification Letter - Kettle and Stony Point First Nation.pdf
Proposed Panhandle Regional Expansion Project KSPFN.pdf

Hi Valerie,

Thanks for taking my call today. It was great to connect.

Just wanted to summarize our call and provide some information for you.

If you wish to be an intervenor on the 2022 Storage Project, please follow the instruction sheet provided in the Nov 22 email. I'm committed to working with you and your new consultation committee to ensure you have all your questions answered about this project and the other projects that Enbridge has on the go right now. Rest assure that if you decide to not intervene, we will continue to work together.

Currently Enbridge is in the planning stages of the following Projects:

1. 2022 Storage Enhancement – Filed with OEB
2. Coveny Kimball Well Drilling Project – To be filed with OEB in December
3. Dawn Corunna – to be filed with the OEB in January
4. Panhandle Regional Expansion project – to be filed with OEB in Q2 or Q3

I've attached the presentation that I provided to you with some updates in it since we chatted in September. I've also attached the Project Notification letters for each of the projects. Hopefully this helps the new committee. If you need the environmental reports, please let me know and I can get those over to you as well.

Also, capacity funding is available for each Project to enable you to engage in meaningful consultation, timely technical reviews of documents, and participation in field work associated with proposed projects. If you could provide us with invoices for your time, separated out by Project, that would be most helpful. If Kettle and Stony has a consultation protocol document, could you send it over to ensure that I am following proper procedure.

Please let me know if you have any questions or concerns. Unfortunately, I think that presenting to you in the new year will likely be virtually due to the COVID outlook but I'm happy to do so however we chose. I look forward to meeting with you committee. Please let me know what date works best for you.

If you don't speak again until the new year, I wish you a very happy holiday and a peaceful winter solstice.

All the best,

Attachment 2.14

From: Lauren Whitwham
To: Valerie George
Subject: Virtual meeting to discuss Enbridge Gas Projects
Date: Tuesday, January 11, 2022 9:49:45 AM

Hi there Valerie,

Happy New Year! Hope this finds you well and that you had a enjoyable break.

I would like to set up a call in the next few weeks so that I can bring your consultation committee up to date on some ongoing Enbridge Gas projects.

If you could provide me with some dates and times that work best for you, I'll work to accommodate my schedule. We understand that capacity funding might be required for this meeting and we are happy to provide it.

I would like to discuss the following projects with your Consultation Committee:

- 2022 Storage Enhancement
- Coveny and Kimball Colinville Well Drilling Project
- Dawn Corunna
- Panhandle Regional Expansion Project

We can also touch base on the projects that have recently been completed or are to be completed in 2022.

Looking forward to hearing from you,
Lauren

Attachment 3.1

From: Kevin Berube
Sent: Wednesday, January 20, 2021 9:52 AM
To: Fallon Burch <fburch@cottfn.com>
Subject: Initial Notification Dawn to Corunna Project

Boozhoo Fallon,

I hope you are doing well and keeping safe.

I have attached an initial notification letter and a map of the area for an upcoming project. It has just been sent to the Ministry, but I wanted to get out in front of this to ensure that there is adequate time for you to review and provide any feedback. Once we have the letter of delegation from the Ministry we can set up a community presentation.

If you have any questions please do not hesitate to contact me.

Meegwetch Fallon,

Kevin

ENBRIDGE

Kevin Berube
Senior Advisor – Community and Indigenous Engagement
416 666 6759 – Cell
kevin.berube@enbridge.com

January 20, 2021

Fallon Burch
Consultation Coordinator
Chippewa of the Thames First Nation
320 Chippewa Rd. Muncey ON N0L 1Y0

Dear Fallon:

I hope this finds you safe and well.

Enbridge Gas Inc. is currently conducting a review of its gas storage and transmission system and has identified the potential need to replace some assets in order to maintain the safe and reliable operation of Enbridge Gas systems and to continue to meet the firm demands of Enbridge Gas customers.

This proposed project (the "Project") would take place in the area surrounding the Dawn Operations Centre in the Township of Dawn-Euphemia and the Corunna Compressor Station in St. Clair Township.

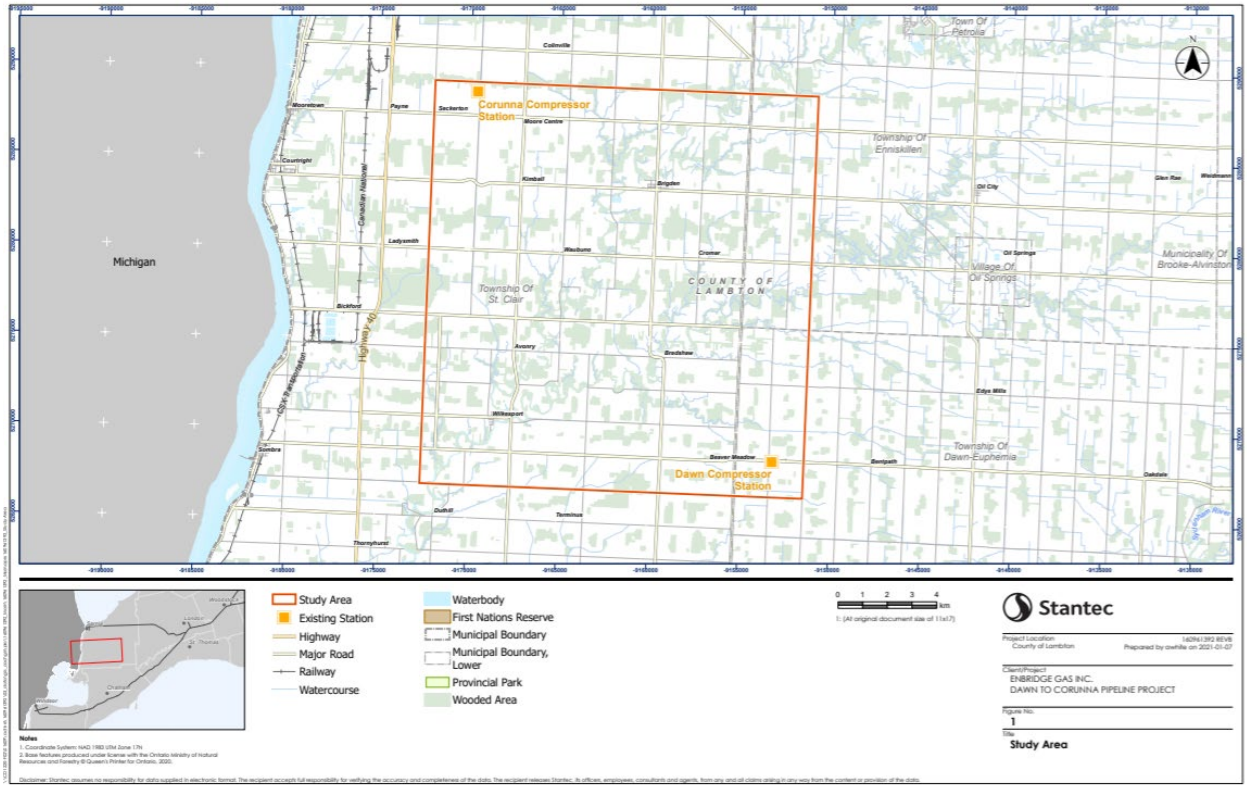
At this time, the project is in the preliminary stages and various options are being examined based on costs, environmental impact and construction timelines.

We sent the preliminary Project notification to the Ministry of Energy, Northern Development and Mines (MENDM) on January 19, 2021, seeking them to assign us with the duty to consult. In the spirit of openness and transparency we wanted to inform you of this preliminary Project notification and begin the process of engaging your community early on the Project planning. Once we receive the formal delegation letter and have some additional preliminary details on project proposals, we will reach out with our preliminary plans for the Project and begin the process to discuss and obtain your community's feedback, including any suggestions or proposals on mitigating, avoiding or accommodating any potential impacts to Aboriginal or treaty rights.

If you have any questions please do not hesitate to contact me.

Sincerely,

Kevin Berube
Senior Advisor – Community and Indigenous Engagement
Enbridge Inc.


Corunna Compressor Station
Dawn Compressor Station
Michigan
Township Of St. Clair
COUNTY OF LAMBTON
Township Of Enniskillen
Township Of Dawn-Euphemia
Village Of Oil Springs
Municipality Of Brooke-Alvinston
Town Of Petrolia
Study Area
Existing Station
Highway
Major Road
Railway
Watercourse
Waterbody
First Nations Reserve
Municipal Boundary
Municipal Boundary, Lower
Provincial Park
Wooded Area
Stantec
ENBRIDGE GAS INC.
DAWN TO CORUNNA PIPELINE PROJECT
Figure No.
1
Study Area

Attachment 3.2

From: Kevin Berube
Sent: Tuesday, April 13, 2021 10:22 AM
To: Fallon Burch <fburch@cottfn.com>
Cc: jonathon.wilkinson@ontario.ca; Matthew Chegahno <matthew.chegahno@enbridge.com>
Subject: Project Notification - Dawn to Corunna

Good morning Fallon,

I want to bring to your attention an upcoming project with Enbridge: The Dawn to Corunna Pipeline Project

I've attached the project notification letter that outlines the project in more detail along with a PDF of the study area.

We'll continue to provide updates on any upcoming consultation sessions, opportunities for monitor participation etc.

Any questions please do not hesitate to contact me.

Meegwetch,
Kevin

Kevin Berube, Senior Advisor – Community and Indigenous Engagement
500 Consumers Road, North York ON M2J 1P8
416 495 6184 tel
416 666 6759 cell
kevin.berube@enbridge.com

April 13, 2021

Fallon Burch, Consultation Coordinator
Chippewa of the Thames First Nation
320 Chippewa Road
Muncey, ON
N0L 1Y0

Dear Fallon:

Re: Dawn-Corunna Pipeline Project

Enbridge Gas Inc. (Enbridge Gas) is currently conducting a review of its gas storage and transmission system and has identified the potential need to replace some assets in order to maintain the safe and reliable operation of Enbridge Gas's systems and continue to meet the firm demands of Enbridge Gas customers.

The proposed Dawn-Corunna Project (the Project) may include all or some of the following:

- The decommissioning of up to seven (7) reciprocating compressors located at the Corunna Compressor Station, which were installed between 1964 and 1974 and are approaching the end of their lifecycle.
- Meeting existing firm demand through the construction of a new steel pipeline, up to 42-inch diameter, between the Dawn Operations Centre in the Township of Dawn-Euphemia and the Corunna Compressor Station in St. Clair Township. The length of the proposed pipeline will be determined upon the selection of a preferred route.
- The projected in-service date of the Project is November 2023.

The area in which the Project is to be constructed is rural. It is expected that the majority of adverse environmental and/or socio-economic effects will be construction related. These effects are expected to be temporary and transitory. The Project will also be located underground once construction is complete, further limiting the potential for any long-term effects.

As part of the planning process, Enbridge Gas has retained Stantec Consulting Ltd. (Stantec) to undertake an Environmental Study of the construction and operation of the Project. The Environmental Study as required by the Ontario Energy Board's (OEB) *"Environmental Guidelines for the Location, Construction, and Operation of Hydrocarbon Pipelines and Facilities in Ontario, 7th Edition (2016)"*.

Enbridge Gas' preliminary work on the Project has identified the following potential authorizations:

Federal Approvals

- Fisheries and Ocean Canada

Provincial approvals:

- Ontario Energy Board
- Ministry of Environment, Conservation and Parks
- Ministry of Heritage, Sport, Tourism and Culture Industries
- Ministry of Transportation

Municipal approvals:

- Lambton County
- St. Clair Township
- Township of Dawn-Euphemia
- St. Clair Region Conservation Authority

Other authorizations, notifications, permits and/or approvals may be required in addition to those identified above.

We would like to consult with your community on this proposed Project. We are interested in your community's feedback, including any suggestions or proposals on mitigating, avoiding or accommodating any potential impacts the Project may have on your Aboriginal or treaty rights.

Enbridge acknowledges that capacity support may be required to enable you to engage in timely technical reviews of documents, participation in field work associated with proposed projects, and to engage in meaningful consultation. As is our approach on all projects, we are prepared to provide capacity funding to support your team's work.

Enbridge Gas has been delegated the procedural aspects for consultation by the Ministry of Energy on behalf of Ontario. Ministry officials are also available should you wish to contact them directly with any questions or concerns. Please contact:

Jonathon Wilkinson, Senior Advisor

Indigenous Energy Policy, Ministry of Energy, Northern Development and Mines

705-313-3658

jonathon.wilkinson@ontario.ca

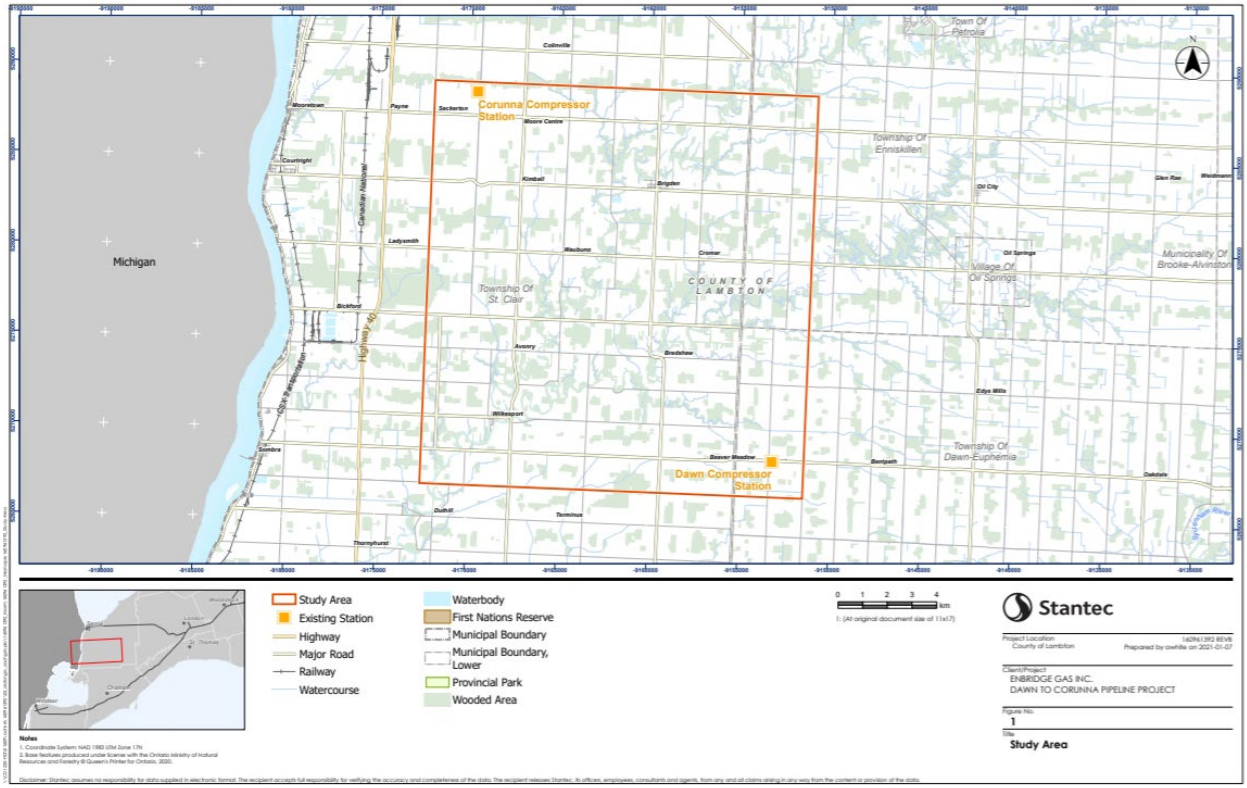
We would like to set up a meeting to discuss the Project with you and provide you with an opportunity to express any questions or concerns you have. Please feel free to contact me at kevin.berube@enbridge.com or 416 666 6759 so we can set up a time to meet.

Many thanks,

Kevin Berube

Senior Advisor, Indigenous Engagement

Enbridge Inc.
416 666 6759



Attachment 3.3

From: Hartwig, Emily <emily.hartwig@stantec.com>
Sent: Tuesday, April 20, 2021 12:40 PM
To: consultation@cottfn.com
Cc: Ryan Park <Ryan.Park@enbridge.com>; dawncorunna <dawncorunna@stantec.com>; Kevin Berube <kevin.berube@enbridge.com>
Subject: [External] 2023 Dawn-Corunna Project - Notice of Commencement and Virtual Open House

EXTERNAL: PLEASE PROCEED WITH CAUTION.
This e-mail has originated from outside of the organization. Do not respond, click on links or open attachments unless you recognize the sender or know the content is safe.

Good afternoon,

Please find attached a Notice of Commencement and Virtual Open House for the Enbridge Gas Inc. 2023 Dawn-Corunna Project.

Regards,

Emily Hartwig B.Sc., EP.
Environmental Consultant, Assessment and Permitting

ENBRIDGE
Life Takes Energy™

April 19, 2021

Attention: Consultation
Chippewas of the Thames
consultation@cottfn.com
sent via email only

To Whom it May Concern,

Reference: Enbridge Gas – 2023 Dawn-Corunna Project, Notice of Commencement and Virtual Open House

Enbridge Gas Inc. (Enbridge Gas) is currently conducting a review of its natural gas storage and transmission system and has identified the need to replace assets in order to maintain the safe and reliable operation of Enbridge Gas's systems and continue to meet the firm natural gas demands of Enbridge Gas customers.

The proposed 2023 Dawn-Corunna Project (the Project) may include all or some of the following:

- The decommissioning of up to seven (7) reciprocating compressors located at the Corunna Compressor Station in St. Clair Township, which were installed between 1964 and 1974 and are approaching the end of their lifecycle.
- Meeting existing firm demand through the construction of a new steel natural gas pipeline, 36-inch diameter, between the Dawn Operations Centre in the Township of Dawn-Euphemia and the Corunna Compressor Station in St. Clair Township. The length of the proposed pipeline will be determined upon the selection of a preferred route.

For further details, please refer to the map in the attached document.

As part of the planning process, Enbridge Gas has retained Stantec Consulting Ltd. (Stantec) to undertake an Environmental Study of the construction and operation of the Project. The Environmental Study will fulfill the requirements of the Ontario Energy Board's (OEB) "*Environmental Guidelines for the Location, Construction, and Operation of Hydrocarbon Pipelines and Facilities in Ontario, 7th Edition (2016)*".

An Environmental Report, summarizing the results of the Environmental Study, will accompany Enbridge Gas' application to the OEB as part of their Leave to Construct application. It is anticipated that the Environmental Report for the study will be completed in Fall 2021. The OEB's review and approval is required before the proposed project can proceed. If approved, construction is currently anticipated to begin in spring/summer 2023 and be complete by the end of 2023.

Stantec is presently compiling an environmental, socio-economic, and archaeological/cultural heritage inventory of the Environmental Study Area. As an Indigenous community with a potential interest in the study area, we are inviting «ORGANIZATION» to provide comments regarding the proposed Project. Specifically, Stantec is seeking information about any adverse impacts that the proposed project may have on constitutionally protected Aboriginal or treaty rights and any measures for mitigating those adverse impacts.

As part of the Environmental Study, Enbridge is also in the process of contacting the following agencies:

- Indigenous and Northern Affairs Canada; and
- Ontario Ministry of Indigenous Relations and Reconciliation.

Reference: Enbridge Gas – 2023 Dawn-Corunna Project, Notice of Commencement and Virtual Open House

As a result of the physical distancing requirements set out by the Province of Ontario due to COVID-19, Virtual Open Houses will be held in place of in-person Open Houses.

The first of two Virtual Open Houses will be available from **May 3, 2021** at 9:00 am EST to **May 17, 2021** at 5:00 pm EST at www.solutions.ca/DawnCorunna.

A questionnaire will be available as part of the Virtual Open House and you will have the ability to submit comments and/or questions about the proposed Project. In addition, a copy of the Virtual Open House story boards will be available on the Enbridge Gas project website at: https://www.Enbridgegas.com/About-Us under "Projects".

Input received during the first Virtual Open House will be used to inform the selection of the Preliminary Preferred Route and to develop site specific environmental protection or mitigation measures for the Project.

If you have questions or comments regarding the 2023 Dawn-Corunna Project, please do not hesitate to contact the undersigned.

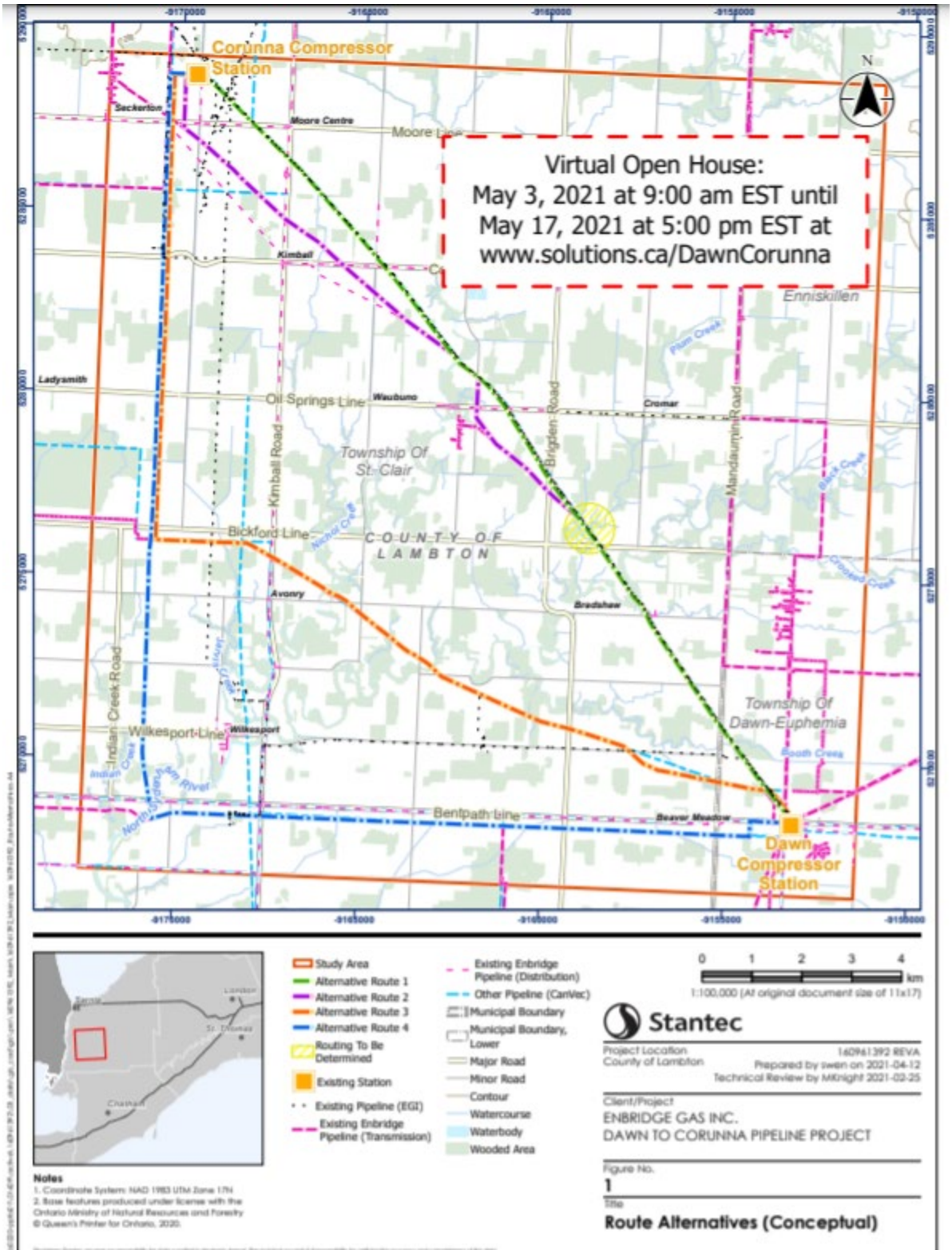
Regards,

ENBRIDGE GAS INC.

Kevin Berube
Senior Advisor, Community & Indigenous Engagement, Eastern Region
Enbridge Gas Inc.
Cell: 416-666-6759
Kevin.Berube@enbridge.com

Attachment: Figure 1 – Route Alternatives (Conceptual)

c. Ryan Park, Sr. Advisor, Enbridge Gas Inc.
Emily Hartwig, Environmental Consultant, Stantec Consulting Ltd.


Corunna Compressor Station
Seckerton
Moore Centre
Moore Line
Virtual Open House:
May 3, 2021 at 9:00 am EST until
May 17, 2021 at 5:00 pm EST at
www.solutions.ca/DawnCorunna
Kimball
Enniskillen
Ladysmith
Oil Springs Line
Wanbuno
Cromar
Township Of St. Clair
Kimball Road
Brigden Road
Mandaumin Road
Bickford Line
COUNTY OF LAMBTON
Avonry
Bradshaw
Township Of Dawn-Euphemia
Wilkesport Line
Wilkesport
Indian Creek Road
Bentpath Line
Beaver Meadow
Dawn Compressor Station
N
Study Area
Alternative Route 1
Alternative Route 2
Alternative Route 3
Alternative Route 4
Routing To Be Determined
Existing Station
Existing Pipeline (EGI)
Existing Enbridge Pipeline (Transmission)
Existing Enbridge Pipeline (Distribution)
Other Pipeline (CanVec)
Municipal Boundary
Municipal Boundary, Lower
Major Road
Minor Road
Contour
Watercourse
Waterbody
Wooded Area
0 1 2 3 4 km
1:100,000 (At original document size of 11x17)
Stantec
Project Location
County of Lambton
160961392 REVA
Prepared by swen on 2021-04-12
Technical Review by MKnight 2021-02-25
Client/Project
ENBRIDGE GAS INC.
DAWN TO CORUNNA PIPELINE PROJECT
Figure No.
1
Title
Route Alternatives (Conceptual)
Notes
1. Coordinate System: NAD 1983 UTM Zone 17N
2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry
© Queen's Printer for Ontario, 2020.

Attachment 3.4

From: Hartwig, Emily <Emily.Hartwig@stantec.com>
Sent: Thursday, July 8, 2021 12:43 PM
To: fburch@cottfn.com
Cc: Ryan Park <Ryan.Park@enbridge.com>; dawncorunna <dawncorunna@stantec.com>; Kevin Berube <kevin.berube@enbridge.com>
Subject: [External] Dawn-Corunna Project - Notice of Second Virtual Open House

EXTERNAL: PLEASE PROCEED WITH CAUTION.
This e-mail has originated from outside of the organization. Do not respond, click on links or open attachments unless you recognize the sender or know the content is safe.

Good afternoon,

Please find attached a Notice of Second Virtual Open House for the Enbridge Gas Inc. Dawn-Corunna Project.

Regards,

Emily Hartwig B.Sc., EP.
Environmental Consultant, Assessment and Permitting

ENBRIDGE
Life Takes Energy™

July 12, 2021

Attention: Ms. Fallon Burch, Consultation Coordinator
Chippewas of the Thames
328 Chippewa Road, R.R. #1
Munsee, ON N0L 1Y0
Sent via email: fburch@cottfn.com

Dear Ms. Burch,

Reference: Enbridge Gas – Dawn-Corunna Project, Notice of Second Virtual Open House

Enbridge Gas Inc. (Enbridge Gas) has conducted a review of its gas storage and transmission system and has identified the need to replace assets in order to maintain the safe and reliable operation of Enbridge Gas's systems and continue to meet the firm demands of Enbridge Gas customers.

The proposed Dawn-Corunna Project will involve the construction of a new steel pipeline, up to 36-inch diameter, between the Dawn Operations Centre in the Township of Dawn-Euphemia and the Corunna Compressor Station in St. Clair Township. A Route Selection Process is being conducted to determine the best location for the proposed pipeline. Four Alternative Routes were presented during the first Virtual Open House held from May 3-17, 2021. No feedback was received at the first Virtual Open House that required adjustments be made to the four proposed Alternative Routes. A qualitative and quantitative evaluation of the Alternative Routes resulted in the selection of a Preliminary Preferred Route, which will be approximately 20 km in length.

A map of the Preliminary Preferred Route can be found in the attached notice.

As part of the planning process, Enbridge Gas has retained Stantec Consulting Ltd. to undertake an Environmental Study of the construction and operation of the project. The Environmental Study will fulfill the requirements of the Ontario Energy Board's (OEB) "*Environmental Guidelines for the Location, Construction, and Operation of Hydrocarbon Pipelines and Facilities in Ontario, 7th Edition (2016)*".

An Environmental Report, summarizing the results of the Environmental Study, will accompany Enbridge's application to the OEB as part of their Leave to Construct application. It is anticipated that the Environmental Report for the study will be completed in Fall 2021. The OEB's review and approval is required before the proposed project can proceed. If approved, construction is currently anticipated to begin in spring/summer 2023.

As a result of the physical distancing requirements set out by the Province of Ontario due to COVID-19, Virtual Open Houses will be held in place of in-person Open Houses.

The second of two Virtual Open Houses will be available for two weeks starting on **July 19, 2021** and finishing on **August 2, 2021** at www.solutions.ca/DawnCorunna.

A questionnaire will be available as part of the Virtual Open House and you will have the ability to submit comments and/or questions about the proposed project. In addition, a copy of the Virtual Open House story boards will be available on the Enbridge Gas project website at:
https://www.enbridgegas.com/about-enbridge-gas/projects/dawn-corunna-project

Reference: Enbridge Gas – Dawn-Corunna Project, Notice of Second Virtual Open House

Input received during the second Virtual Open House will be used to confirm the selection of a Preferred Route and to develop site specific environmental protection or mitigation measures.

If you have questions or comments regarding the project, please do not hesitate to contact the undersigned.

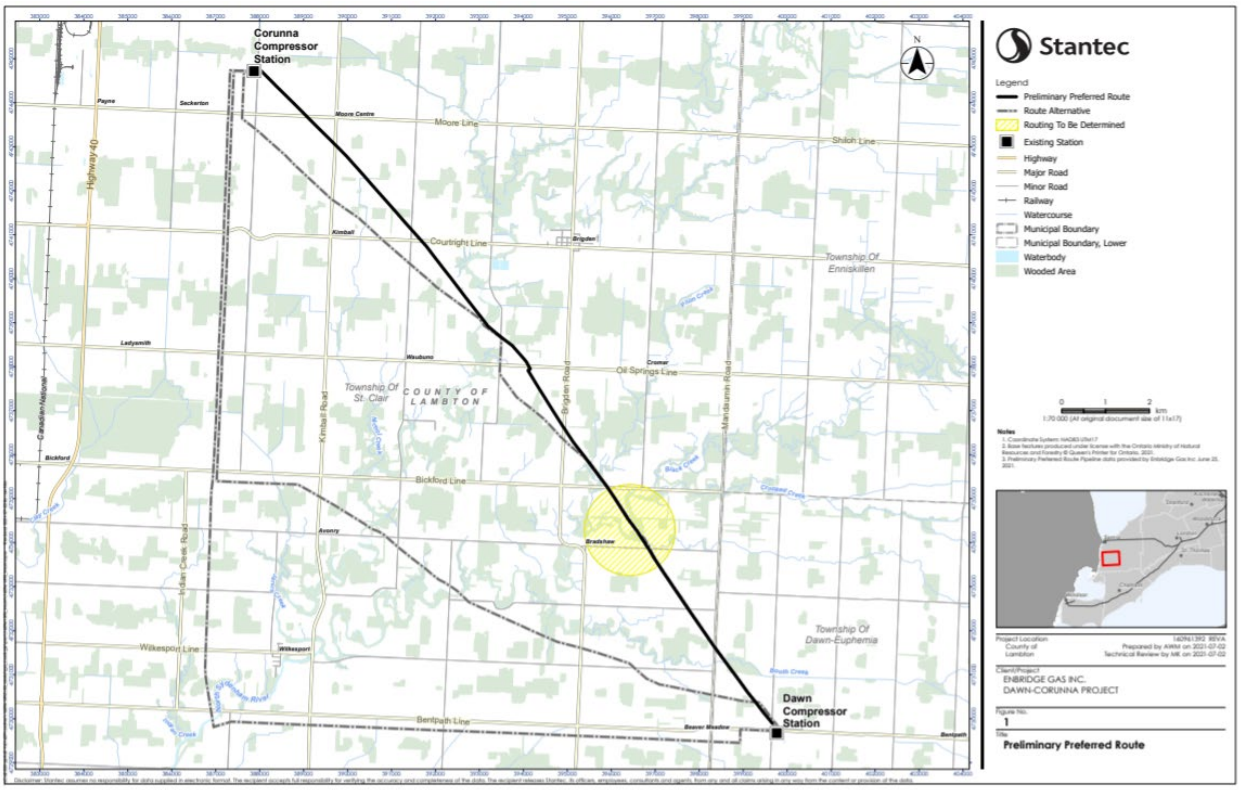
Regards,

ENBRIDGE GAS INC.

Kevin Berube
Senior Advisor, Community & Indigenous Engagement, Eastern Region
Enbridge Gas Inc.
Cell: 416-666-6759
Kevin.Berube@enbridge.com

Attachment: Figure 1 – Alternatives and Preliminary Preferred Route

c. Ryan Park, Sr. Advisor, Enbridge Gas Inc.
Emily Hartwig, Environmental Consultant, Stantec Consulting Ltd.



Attachment 3.5

From: Fallon Burch <fburch@cottfn.com>
Sent: Tuesday, July 20, 2021 10:39 AM
To: Kevin Berube <kevin.berube@enbridge.com>
Cc: Rochelle Smith <rsmith@cottfn.com>; Kelly Riley <kriley@cottfn.com>
Subject: [External] FW: Dawn-Corunna Project - Notice of Second Virtual Open House

EXTERNAL: PLEASE PROCEED WITH CAUTION.
This e-mail has originated from outside of the organization. Do not respond, click on links or open attachments unless you recognize the sender or know the content is safe.

Good morning Kevin,

I hope all is well.

I would like to invite Enbridge to schedule a time with the Consultation Unit to provide a presentation on the Dawn-Corunna project. If you could provide some dates that you are available, I am happy to coordinate on my end. If you have any questions, please feel free to contact me.

Thank you,

Fallon Burch

From: Kevin Berube
Sent: Wednesday, August 4, 2021 10:41 AM
To: Fallon Burch <fburch@cottfn.com>
Cc: Rochelle Smith <rsmith@cottfn.com>; Kelly Riley <kriley@cottfn.com>
Subject: RE: Dawn-Corunna Project - Notice of Second Virtual Open House

Hi Fallon,

I hope this finds you well and are taking some time to enjoy summer.

I spoke with the project manager and environmental lead for this project. We plan to have our environmental assessment completed in early September so we can schedule a meeting later September, which would include the information from the environmental assessment. Let me know if that works for you and the consultation team and we can confirm a date.

Meegwetch,
Kevin

Attachment 3.6

From: Kevin Berube
Sent: Wednesday, September 15, 2021 9:12 AM
To: Fallon Burch <fburch@cottfn.com>
Subject: FW: Please Post Today

Hi Fallon,

I hope this finds you well and hope you had a good summer.

I want to forward this job posting to you to post in your community.

I would like to set up a time to come to your community in early October to update you and Rochelle on our projects coming up.

Meegwetch,
Kevin Berube

Attachment 3.7

From: Hartwig, Emily
To: dawncorunna
Cc: Ryan Park; Lauren Whitwham
Subject: [External] Enbridge Gas Inc. Dawn-Corunna Project - Environmental Report
Date: Wednesday, September 22, 2021 1:02:52 PM

EXTERNAL: PLEASE PROCEED WITH CAUTION.
This e-mail has originated from outside of the organization. Do not respond, click on links or open attachments unless you recognize the sender or know the content is safe.

Good afternoon,

Enbridge Gas Inc. ("Enbridge Gas") has conducted a review of its gas storage and transmission system and has identified the need to replace assets in order to maintain the safe and reliable operation of Enbridge Gas' systems and continue to meet the firm demands of Enbridge Gas customers. The proposed Dawn-Corunna Project will involve the construction of a new steel pipeline, up to 36-inch diameter and approximately 20 km in length, between the Dawn Operations Centre in the Township of Dawn-Euphemia and the Corunna Compressor Station in St. Clair Township. Upgrades to the Dawn Operations Centre and the Corunna Compression Station are required to integrate the two stations. Work will include the decommissioning of up to seven compressors and construction of additional piping within the of the existing stations.

Enbridge Gas has retained Stantec Consulting Ltd. ("Stantec") to undertake an environmental study of the construction and operation of the natural gas pipeline that meets the intent of the Ontario Energy Board's (OEB) Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Pipelines and facilities in Ontario, 7th Edition (2016).

An electronic copy of the Environmental Report (ER), summarizing the results of the environmental study, is available for your review by accessing the Projects page on the Enbridge Gas website, or via the temporary File Transfer Protocol (FTP):

FTP link: https://tmpsftp.stantec.com
Login name: s1002095723
Password: 2602460
Expiry Date: 10/16/2021*

*Please note the FTP expiry date of October 16, 2021. Should you require assistance downloading the Environmental Report after this date, please contact the undersigned.

Please forward any comments or questions you have regarding the ER to the undersigned. Your comments would be appreciated by **November 8, 2021.**

Regards,

Emily Hartwig B.Sc., EP.
Environmental Consultant, Assessment and Permitting

Attachment 3.8

From: Kevin Berube <kevin.berube@enbridge.com>
Sent: October 18, 2021 2:04 PM
To: Fallon Burch <fburch@cottfn.com>
Subject: Community Visit

Hi Fallon,

Are you in the office this Thursday? If so, would it be possible for me to come to your office to meet and provide some project updates? I can update you on the Dawn Corunna and 2022 Storage Enhancement projects. [redacted]

Let me know if Thursday works for you and I'll make arrangements to come out.

Meegwetch,
Kevin

From: Fallon Burch <fburch@cottfn.com>
Sent: Monday, October 18, 2021 2:13 PM
To: Kevin Berube <kevin.berube@enbridge.com>
Subject: [External] RE: Community Visit

CAUTION: EXTERNAL EMAIL
This email originated from outside Enbridge and could be a phish. Criminals can pretend to be anyone. Do not interact with the email unless you are 100% certain it is legitimate. Report any suspicious emails.

Unfortunately, I will not be in the office on Thursday due to the children having an appointment. However, I am free any other day. I would like to meet in person when the time allows. I would really like to set a time to review the relationship agreement. Let me know if you have any other dates in mind.

Thanks,

Fallon

From: Kevin Berube <kevin.berube@enbridge.com>
Sent: October 18, 2021 2:15 PM
To: Fallon Burch <fburch@cottfn.com>
Subject: RE: Community Visit

Hi Fallon,

I can make this Friday work if that works for you?

From: Fallon Burch <fburch@cottfn.com>
Sent: Monday, October 18, 2021 3:44:07 PM
To: Kevin Berube <kevin.berube@enbridge.com>
Subject: [External] RE: Community Visit

CAUTION: EXTERNAL EMAIL
This email originated from outside Enbridge and could be a phish. Criminals can pretend to be anyone. Do not interact with the email unless you are 100% certain it is legitimate. Report any suspicious emails.

Hi Kevin,

Due to covid policy our staff rotate days with that being said **Monday, Tuesday or Thursdays** work for us. On another note just to give you a heads up you will need your proof of vaccination or a negative PCR Test.

Thank you,

Fallon

From: Kevin Berube <kevin.berube@enbridge.com>
Sent: October 18, 2021 5:54 PM
To: Fallon Burch <fburch@cottfn.com>
Subject: Re: Community Visit

I can meet with you next Tuesday if you're available.

Meegwetch Fallon.

Kevin

From: Fallon Burch
Sent: October 19, 2021 11:16 AM
To: Kevin Berube <kevin.berube@enbridge.com>
Subject: RE: Community Visit

Hi Kevin,

We have a schedule conflict on Tuesday, sorry. Does Thursday work for you?

Fallon

From: Fallon Burch <fburch@cottfn.com>
Sent: Tuesday, October 19, 2021 11:18 AM
To: Kevin Berube <kevin.berube@enbridge.com>
Subject: [External] RE: Community Visit

CAUTION: EXTERNAL EMAIL
This email originated from outside Enbridge and could be a phish. Criminals can pretend to be anyone. Do not interact with the email unless you are 100% certain it is legitimate. Report any suspicious emails.

Kevin,

I apologize for all the emails but just looking at our calendars, we were just booked for a meeting on Thursday October 28. Lets see if we can schedule something for week of November 1st.

Fallon

From: Kevin Berube <kevin.berube@enbridge.com>
Sent: October 19, 2021 11:56 AM
To: Fallon Burch <fburch@cottfn.com>
Subject: RE: Community Visit

Hi Fallon,

I'm available to meet on Nov. 1, [redacted]

Thanks,
Kevin

From: Fallon Burch <fburch@cottfn.com>
Sent: Tuesday, October 19, 2021 12:18 PM
To: Kevin Berube <kevin.berube@enbridge.com>
Subject: [External] RE: Community Visit

CAUTION: EXTERNAL EMAIL
This email originated from outside Enbridge and could be a phish. Criminals can pretend to be anyone. Do not interact with the email unless you are 100% certain it is legitimate. Report any suspicious emails.

Hi Kevin,

Let me see what I can do.. I feel that our director should be present at this meeting as well as Rochelle and we do have a new employee that I would like to introduce you to..

Fallon

From: Fallon Burch <fburch@cottfn.com>
Sent: Tuesday, October 19, 2021 2:35 PM
To: Kevin Berube <kevin.berube@enbridge.com>
Subject: [External] RE: Community Visit

CAUTION: EXTERNAL EMAIL
This email originated from outside Enbridge and could be a phish. Criminals can pretend to be anyone. Do not interact with the email unless you are 100% certain it is legitimate. Report any suspicious emails.

Hi Kevin,

The earliest we can meet would be Friday October 21st or Wednesday October 27 after 1 p.m.

Fallon

From: Kevin Berube <kevin.berube@enbridge.com>
Sent: October 20, 2021 10:00 AM
To: Fallon Burch <fburch@cottfn.com>
Subject: RE: Community Visit

Hi Fallon,

Let's shoot for Wednesday October 27 in the afternoon. I can drive out from Toronto in the morning.

See you then,
Kevin

From: Fallon Burch <fburch@cottfn.com>
Sent: Wednesday, October 20, 2021 10:04 AM
To: Kevin Berube <kevin.berube@enbridge.com>
Subject: [External] RE: Community Visit

CAUTION: EXTERNAL EMAIL
This email originated from outside Enbridge and could be a phish. Criminals can pretend to be anyone. Do not interact with the email unless you are 100% certain it is legitimate. Report any suspicious emails.

Hi Kevin,

Great, I will send out a meeting invite just to hold the place in our schedule. Do you know approximately what time? How does 1: 30 p.m. work for you?

Fallon

From: Kevin Berube
Sent: Wednesday, October 20, 2021 10:07 AM
To: Fallon Burch <fburch@cottfn.com>
Subject: RE: Community Visit

1:30pm would work. It'll take me about three hours to get there, road trip!

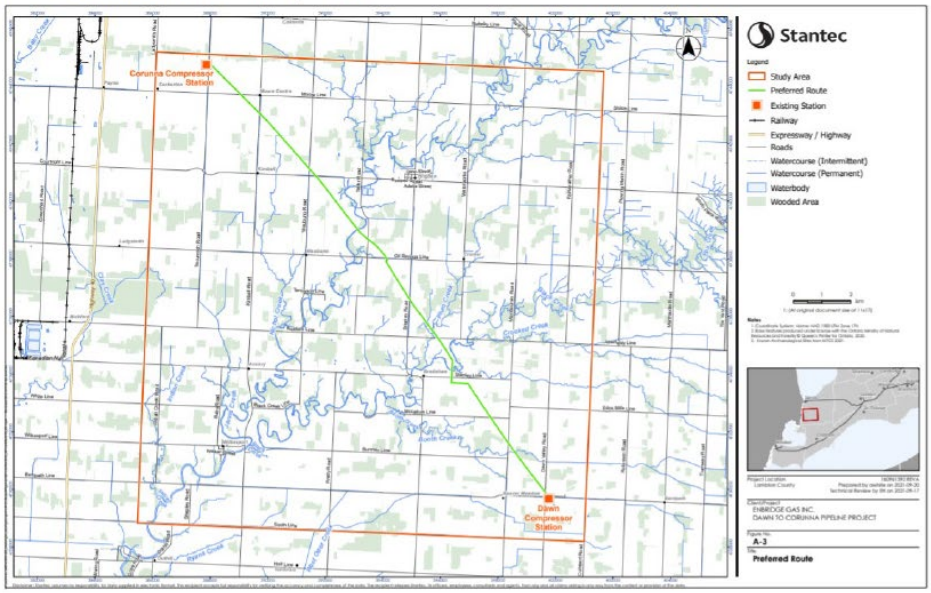
Thanks Fallon.

Attachment 3.9

Dawn-Corunna Project

- To maintain safe and reliable operations Enbridge Gas Inc. has identified the need to replace assets in the County of Lambton.
- The proposed Dawn-Corunna Project (the Project) may include all or some of the following:
  - The decommissioning of up to seven (7) reciprocating compressors located at the Corunna Compressor Station, which were installed between 1964 and 1974 and are approaching the end of their lifecycle.
  - Meeting existing firm demand through the construction of a new steel pipeline, 36-inch diameter, between the Dawn Operations Centre in the Township of Dawn Euphemia and the Corunna Compressor Station in St. Clair Township. The length of the proposed pipeline will be approximately 20 km in length.
  - The projected in-service date of the Project is November 2023.

Dawn-Corunna Project



Dawn-Corunna Project

ENBRIDGE

Species at Risk Potentially Present in Project Area:

Mammals
- SAR Bats (4 species)

Birds
- Bobolink
- Bank Swallow
- Barn Swallow
- Yellow-Breasted Chat
- Eastern Meadowlark

Herpetofauna
- Blandings Turtle
- Eastern Foxsnake
- Butler's Gartersnake

Fish
- Pugnose Shiner
- Pugnose Minnow

Mussels
- Lilliput
- Fawnsfoot

Plants
- Eastern Flowering Dogwood
- Blue Ash
- Kentucky Coffee-Tree
- Eastern Prairie Fringed-Orchid
- Colicroot
- Butternut
- Dense Blazing-Star

4

Dawn-Corunna Project

ENBRIDGE

- Environmental Report is complete and was distributed on September 22.
- Initiated discussions with the MECP regarding SARs that could potentially be in the project area.
- We will be conducting surveys for snakes (Eastern Foxsnake and Butler's Garter Snake), Birds (particularly Eastern Meadow Lark, Bobolink and Yellow-breasted Chat), Botanical surveys for several SAR,
- Two watercourse have been identified to contain SAR for fish and mussels (Bear Creek and Black Creek). Mitigations and any required permitting will be completed with the approvals of the MECP and DFO.
- Enbridge invites Indigenous monitors for the archaeology and natural heritage surveys work which will commence in fall 2021.
- Project will be filed with the OEB middle of December 2021

5

From: Kevin Berube <kevin.berube@enbridge.com>
Sent: Thursday, October 28, 2021 9:13 AM
To: Kelly Riley <kriley@cottfn.com>; Fallon Burch <fburch@cottfn.com>; Jennifer Mills <jmills@cottfn.com>
Subject: Dawn to Corunna and Storage Enhancement Update Meeting

Good morning,

Thank you again for taking the time to meet with me yesterday to provide updates on the Dawn to Corunna and Storage Enhancement Projects. I believe Stantec sent an email to Fallon yesterday regarding the invitation to have a monitor participate in the natural heritage initial work for the Dawn to Corunna project that will be taking place in the very near future (not exactly sure of the dates). Jennifer, I will send you the email that went out and will have Stantec add you to their contact list.

If you have any questions please do not hesitate to reach out to me.

Meegwetch,
Kevin

From: Jennifer Mills <jmills@cottfn.com>
Sent: Friday, October 29, 2021 9:36 AM
To: Kevin Berube <kevin.berube@enbridge.com>
Subject: [External] RE: Dawn to Corunna and Storage Enhancement Update Meeting

CAUTION: EXTERNAL EMAIL
This email originated from outside Enbridge and could be a phish. Criminals can pretend to be anyone. Do not interact with the email unless you are 100% certain it is legitimate. Report any suspicious emails.

Good morning

It was nice to meet you. Thanks for making the trip out.

I'm now in touch with Mark about the surveys.

I'm starting to review the Enbridge files and I'm not seeing shapefiles for some of the projects.

Do you have shapefiles available for the following projects?

- Coveny and Kimball-Colinville
- 2022 storage enhancements
- Panhandle expansion

Miigwech

Jen

Attachment 3.11

From: Jennifer Mills <jmills@cottfn.com>
Sent: Monday, November 8, 2021 4:26 PM
To: Hartwig, Emily <emily.hartwig@stantec.com>
Cc: Kevin Berube <kevin.berube@enbridge.com>
Subject: [External] Dawn Corunna ER

CAUTION: EXTERNAL EMAIL
This email originated from outside Enbridge and could be a phish. Criminals can pretend to be anyone. Do not interact with the email unless you are 100% certain it is legitimate. Report any suspicious emails.

Hi Emily

I recently started working with Consultation at COTTFN as the Energy Sector Consultation Coordinator. I will be the lead contact for energy-related consultation. Please send any notices to myself and consultation@cottfn.com .

Please find attached our acknowledgement letter and comments for the Dawn Corunna ER. I've also attached the corresponding invoice.

If you need any clarification, don't hesitate to contact me.

Sincerely,

CHIPPEWAS OF THE THAMES FIRST NATION

November 8, 2021

VIA EMAIL

Emily Hartwig
Environmental Consultant, Assessment and Permitting, Stantec
100-300 Hagey Blvd.
Waterloo, ON N2L 0A4
Emily.Hartwig@stantec.com

RE: Comments on ER for Dawn-Corunna Pipeline Project

Dear Emily,

We have received the Environmental Report for the Dawn-Corunna Project. The proposed project is located within COTTFN's traditional territory, the Big Bear Creek Additions to Reserve (ATR) land selection area, and the Treaty territories of the Longwoods Treaty (#25), Sombra Treaty (#7), and Huron Tract Treaty (#29).

We have reviewed the Environmental Report dated Sept. 21, 2021. Please find our specific comments in the letter attached. If there are any changes to the project that are of a substantive nature, we request that you keep us informed by sending an electronic notification to consultation@cottfn.com.

COTTFN also requests that we be notified and invited to actively participate in any archaeological assessments by sending an Archaeology Field Liaison on behalf of this First Nation. COTTFN is also interested in sending monitors to participate in natural heritage assessments, as our capacity allows.

We look forward to continuing this open line of communication and look forward to your response. To implement meaningful consultation, COTTFN has developed its own protocol — a document and a process that will guide positive working relationships. As per Appendix 'D' of the Wiindmaagewin, please find attached invoice #0182. Please do not hesitate to contact me if you need further clarification of this letter.

Sincerely,

Jennifer Mills
Energy Sector Consultation Coordinator
Chippewas of the Thames First Nation
(519) 289-5555 ext. 236
consultation@cottfn.com

cc: Kevin Berube, Senior Advisor, Indigenous Engagement, Enbridge

CHIPPEWAS OF THE THAMES FIRST NATION

Environmental Report for the proposed Dawn-Corunna Pipeline Project
Enbridge / Stantec
Comments provided November 8, 2021

Environmental Impacts

COTTFN is concerned about potential impacts to species of concern and species at risk in the study area. The proposed pipeline route crosses 19 watercourses in the North Sydenham watershed. According to the St. Clair Region Conservation Authority, the Sydenham watershed is the only major watershed located entirely in the Carolinian Life Zone and an ecosystem that is home to abundant biodiversity.[1] Fish species at risk and freshwater mussel species at risk have been identified by the DFO in watercourses crossed by the proposed pipeline.

We understand that fieldwork is required in 2022 to further identify which species are present along the preferred pipeline route.

COTTFN expects that Enbridge and its contractors will follow the recommended mitigation measures identified in the Environmental Report.

In addition, COTTFN requests to be engaged in the natural heritage fieldwork through reports and the active involvement of monitors from the First Nation, as our capacity allows. We expect that the cost of monitors will be covered by the proponent, similar to our Archaeological Field Liaison contract. A revised or new contract with Stantec may be required to reflect this.

COTTFN requests updates on environmental restoration plans and work on the non-agricultural lands in the post-construction phase.

Archaeological Assessments

The Environmental Report contained a draft Stage 1 archaeological assessment. According to that report, a Stage 2 archaeological assessment is required.

COTTFN requests an update on the Indigenous engagement plans for Stage 2. COTTFN requests advanced notice of archaeological work and participation of the Nation's Archaeological Field Liaisons as our capacity allows. If monitors are not available, we request copies of reports.

[1] http://www.sydenhamriver.on.ca/

320 Chippewa Road, Muncey, ON, N0L 1Y0
Ph. 519-289-5555 Fax. 519-289-2230
info@cottfn.ca www.cottfn.com

Attachment 3.12

From: Kevin Berube
Sent: Wednesday, January 19, 2022 8:22 AM
To: Jennifer Mills <jmills@cottfn.com>
Subject: Slide Decks for Presentation

Boozhoo Jennifer:

Attached are the slide decks for the presentation on Monday.

I'll begin with a brief overview and maps of the Dawn Corunna and Storage Enhancement Projects. We had reviewed these projects late last year; this will be the first slide deck we present. We can then go into the Panhandle presentation, this one is more comprehensive and I'll have our project team talk through these slides. After the presentations we can have the Q and A with the leadership.

If you can send the Zoom invite to the following that would be great:

Kevin Berube: kevin.berube@enbridge.com
Jesse Ho: jesse.ho@enbridge.com
Evan Tomek: evan.tomek@enbridge.com
Tammy Mungan: tammy.mungan@enbridge.com
Matt Thomas: matt.thomas@enbridge.com
Richard Brant: richard.brant@enbridge.com

If you need anything else please do not hesitate to contact me.

Meegwetch Jennifer.

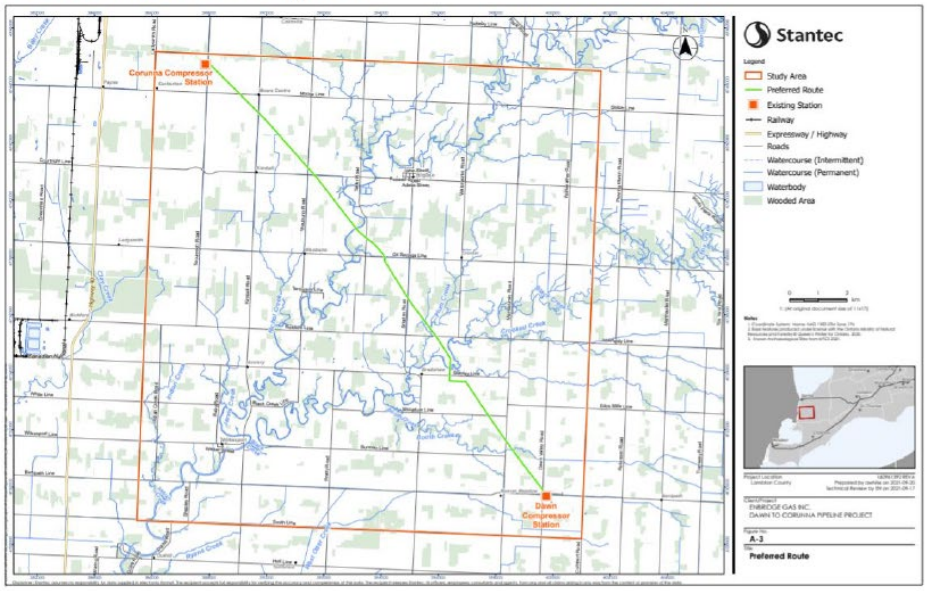
Kevin

Dawn-Corunna Project

- To maintain safe and reliable operations Enbridge Gas Inc. has identified the need to replace assets in the County of Lambton.
- The proposed Dawn-Corunna Project (the Project) may include all or some of the following:
  - The decommissioning of up to seven (7) reciprocating compressors located at the Corunna Compressor Station, which were installed between 1964 and 1974 and are approaching the end of their lifecycle.
  - Meeting existing firm demand through the construction of a new steel pipeline, 36-inch diameter, between the Dawn Operations Centre in the Township of Dawn Euphemia and the Corunna Compressor Station in St. Clair Township. The length of the proposed pipeline will be approximately 20 km in length.
  - The projected in-service date of the Project is November 2023.

2

Dawn-Corunna Project



3

From: Kevin Berube
Sent: Wednesday, January 20, 2021 9:55 AM
To: Brandon Doxtator (environment@oneida.on.ca) <environment@oneida.on.ca>
Subject: Initial Notification - Dawn to Corunna Project

Boozhoo Brandon,

I hope you are doing well and keeping safe.

I have attached an initial notification letter and a map of the area for an upcoming project. It has just been sent to the Ministry, but I wanted to get out in front of this to ensure that there is adequate time for you to review and provide any feedback. Once we have the letter of delegation from the Ministry we can set up a community presentation.

If you have any questions please do not hesitate to contact me.

Meegwetch Brandon,

Kevin

ENBRIDGE

Enbridge
Kevin Berube
Senior Advisor – Community and Indigenous Engagement
416 666 6759 – Cell
kevin.berube@enbridge.com

January 20, 2021

Brandon Doxtator
Environment and Consultation Coordinator
Oneida Nation of the Thames
Oneida Public Works Office
2706 Nicholas Rd, Oneida ON

Dear Brandon:

I hope this finds you safe and well.

Enbridge Gas Inc. is currently conducting a review of its gas storage and transmission system and has identified the potential need to replace some assets in order to maintain the safe and reliable operation of Enbridge Gas systems and to continue to meet the firm demands of Enbridge Gas customers.

This proposed project (the "Project") would take place in the area surrounding the Dawn Operations Centre in the Township of Dawn-Euphemia and the Corunna Compressor Station in St. Clair Township.

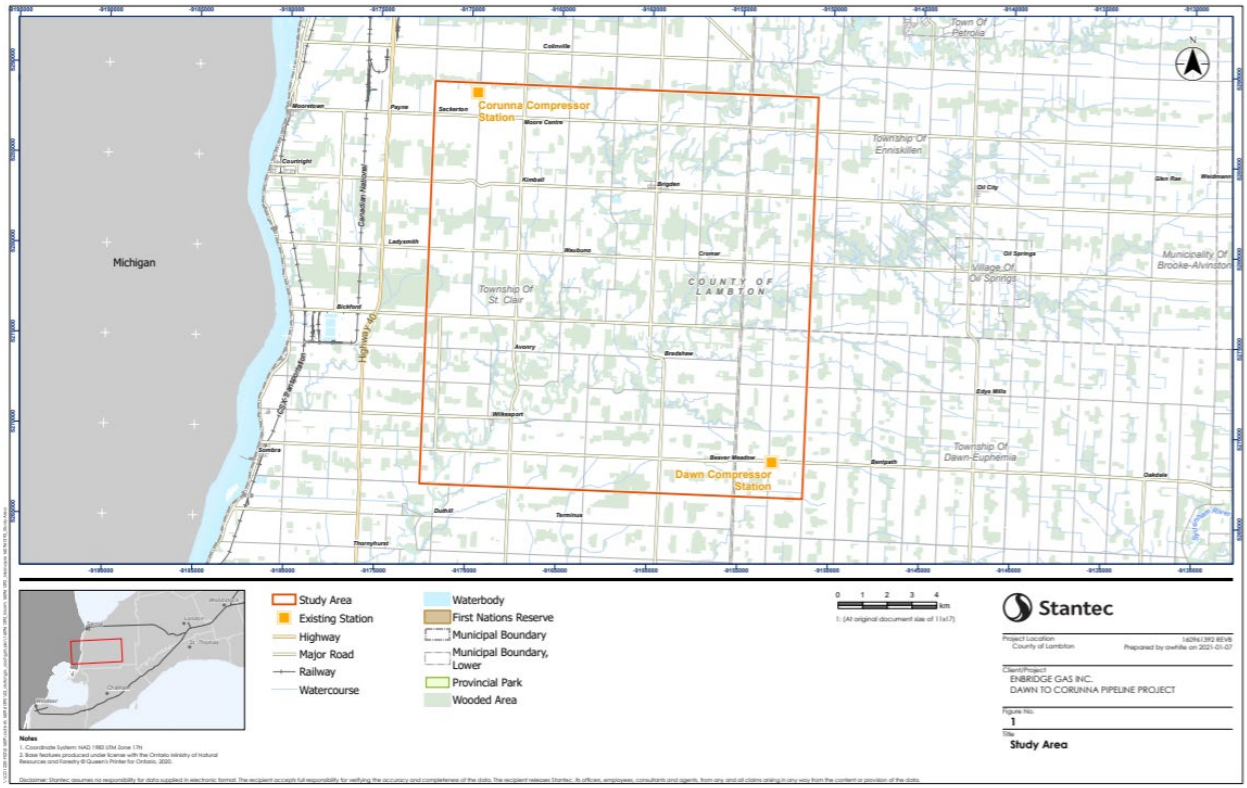
At this time, the project is in the preliminary stages and various options are being examined based on costs, environmental impact and construction timelines.

We sent the preliminary Project notification to the Ministry of Energy, Northern Development and Mines (MENDM) on January 19, 2021, seeking them to assign us with the duty to consult. In the spirit of openness and transparency we wanted to inform you of this preliminary Project notification and begin the process of engaging your community early on the Project planning. Once we receive the formal delegation letter and have some additional preliminary details on project proposals, we will reach out with our preliminary plans for the Project and begin the process to discuss and obtain your community's feedback, including any suggestions or proposals on mitigating, avoiding or accommodating any potential impacts to Aboriginal or treaty rights.

If you have any questions please do not hesitate to contact me.

Sincerely,

Kevin Berube
Senior Advisor – Community and Indigenous Engagement
Enbridge Inc.


Corunna Compressor Station
Dawn Compressor Station
Michigan
Township Of St. Clair
COUNTY OF LAMBTON
Township Of Ennisklillen
Township Of Dawn-Euphemia
Village Of Oil Springs
Municipality Of Brooke-Alvinston
Town Of Petrolia
Study Area
Existing Station
Highway
Major Road
Railway
Watercourse
Waterbody
First Nations Reserve
Municipal Boundary
Municipal Boundary, Lower
Provincial Park
Wooded Area
Stantec
ENBRIDGE GAS INC.
DAWN TO CORUNNA PIPELINE PROJECT
Study Area

Attachment 4.2

From: Kevin Berube
Sent: Tuesday, April 13, 2021 10:24 AM
To: Brandon Doxtator <environment@oneida.on.ca>
Cc: jonathon.wilkinson@ontario.ca; Matthew Chegahno <matthew.chegahno@enbridge.com>
Subject: Project Notification - Dawn to Corunna

Good morning Brandon,

I want to bring to your attention an upcoming project with Enbridge: The Dawn to Corunna Pipeline Project

I've attached the project notification letter that outlines the project in more detail along with a PDF of the study area.

We'll continue to provide updates on any upcoming consultation sessions, opportunities for monitor participation etc.

Any questions please do not hesitate to contact me.

Meegwetch,
Kevin

Kevin Berube, Senior Advisor – Community and Indigenous Engagement
500 Consumers Road, North York ON M2J 1P8
416 495 6184 tel
416 666 6759 cell
kevin.berube@enbridge.com

April 13, 2021

Brandon Doxtator, Consultation Coordinator
Oneida Nation of the Thames
2212 Elm Avenue
Southwold, ON
N0L 2G0

Dear Brandon:

Re: Dawn-Corunna Pipeline Project

Enbridge Gas Inc. (Enbridge Gas) is currently conducting a review of its gas storage and transmission system and has identified the potential need to replace some assets in order to maintain the safe and reliable operation of Enbridge Gas's systems and continue to meet the firm demands of Enbridge Gas customers.

The proposed Dawn-Corunna Project (the Project) may include all or some of the following:

- The decommissioning of up to seven (7) reciprocating compressors located at the Corunna Compressor Station, which were installed between 1964 and 1974 and are approaching the end of their lifecycle.
- Meeting existing firm demand through the construction of a new steel pipeline, up to 42-inch diameter, between the Dawn Operations Centre in the Township of Dawn-Euphemia and the Corunna Compressor Station in St. Clair Township. The length of the proposed pipeline will be determined upon the selection of a preferred route.
- The projected in-service date of the Project is November 2023.

The area in which the Project is to be constructed is rural. It is expected that the majority of adverse environmental and/or socio-economic effects will be construction related. These effects are expected to be temporary and transitory. The Project will also be located underground once construction is complete, further limiting the potential for any long-term effects.

As part of the planning process, Enbridge Gas has retained Stantec Consulting Ltd. (Stantec) to undertake an Environmental Study of the construction and operation of the Project. The Environmental Study as required by the Ontario Energy Board's (OEB) *"Environmental Guidelines for the Location, Construction, and Operation of Hydrocarbon Pipelines and Facilities in Ontario, 7th Edition (2016)"*.

Enbridge Gas' preliminary work on the Project has identified the following potential authorizations:

Federal Approvals

- Fisheries and Ocean Canada

Provincial approvals:

- Ontario Energy Board
- Ministry of Environment, Conservation and Parks
- Ministry of Heritage, Sport, Tourism and Culture Industries
- Ministry of Transportation

Municipal approvals:

- Lambton County
- St. Clair Township
- Township of Dawn-Euphemia
- St. Clair Region Conservation Authority

Other authorizations, notifications, permits and/or approvals may be required in addition to those identified above.

We would like to consult with your community on this proposed Project. We are interested in your community's feedback, including any suggestions or proposals on mitigating, avoiding or accommodating any potential impacts the Project may have on your Aboriginal or treaty rights.

Enbridge acknowledges that capacity support may be required to enable you to engage in timely technical reviews of documents, participation in field work associated with proposed projects, and to engage in meaningful consultation. As is our approach on all projects, we are prepared to provide capacity funding to support your team's work.

Enbridge Gas has been delegated the procedural aspects for consultation by the Ministry of Energy on behalf of Ontario. Ministry officials are also available should you wish to contact them directly with any questions or concerns. Please contact:

Jonathon Wilkinson, Senior Advisor
Indigenous Energy Policy, Ministry of Energy, Northern Development and Mines
705-313-3658
jonathon.wilkinson@ontario.ca

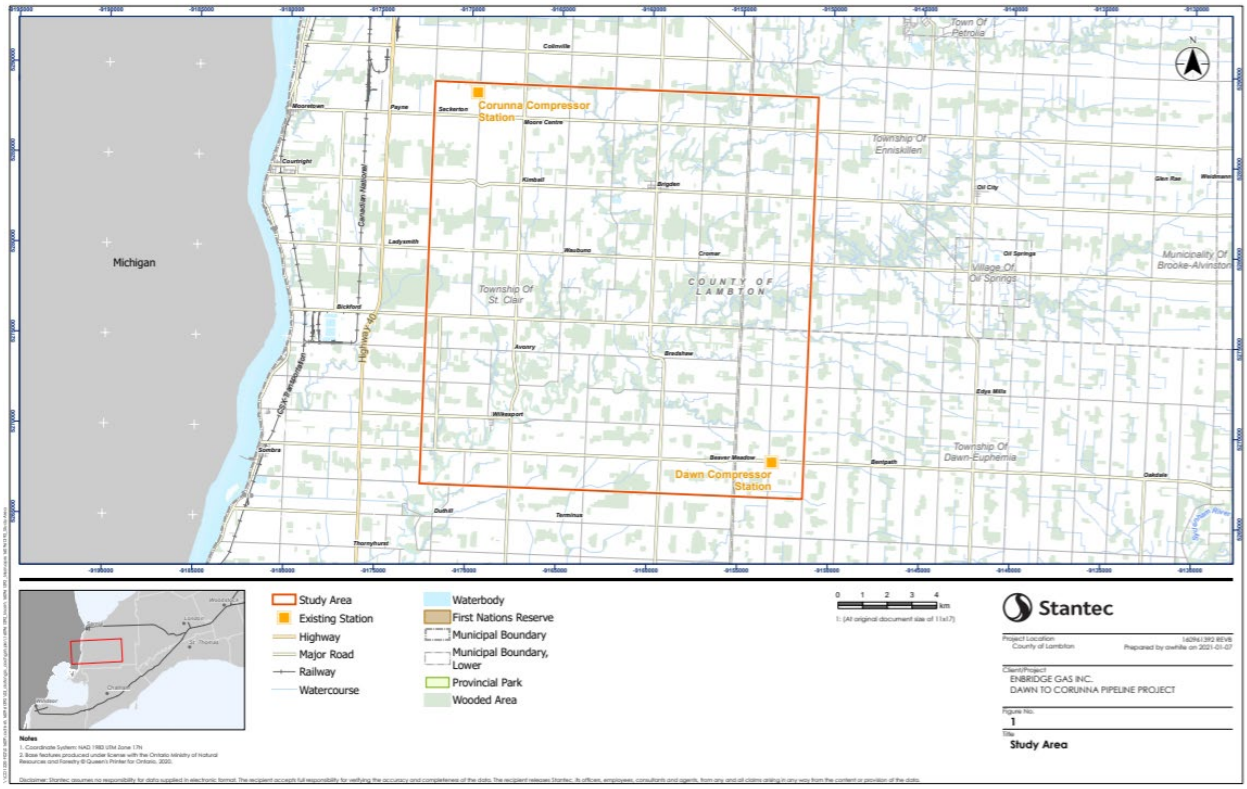
We would like to set up a meeting to discuss the Project with you and provide you with an opportunity to express any questions or concerns you have. Please feel free to contact me at kevin.berube@enbridge.com or 416 666 6759 so we can set up a time to meet.

Many thanks,

Kevin Berube

Senior Advisor, Indigenous Engagement

Enbridge Inc.
416 666 6759



Attachment 4.3

From: Hartwig, Emily <emily.hartwig@stantec.com>
Sent: Tuesday, April 20, 2021 12:42 PM
To: environment@oneida.on.ca
Cc: Ryan Park <Ryan.Park@enbridge.com>; dawncorunna <dawncorunna@stantec.com>; Kevin Berube <kevin.berube@enbridge.com>
Subject: [External] 2023 Dawn-Corunna Project - Notice of Commencement and Virtual Open House

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This e-mail has originated from outside of the organization. Do not respond, click on links or open attachments unless you recognize the sender or know the content is safe.

Good afternoon,

Please find attached a Notice of Commencement and Virtual Open House for the Enbridge Gas Inc. 2023 Dawn-Corunna Project.

Regards,

Emily Hartwig B.Sc., EP.
Environmental Consultant, Assessment and Permitting

Direct: 519 780-8186
Mobile: 226 979-4457
Emily.Hartwig@stantec.com

Stantec
1-70 Southgate Drive
Guelph ON N1G 4P5

ENBRIDGE
Life Takes Energy™

April 19, 2021

Attention: Mr. Brandon Doxtator, Environmental Coordinator
Oneida Nation of the Thames
RR2
Southworld, ON NoL 2G0

Dear Mr. Doxtator,

Reference: Enbridge Gas – 2023 Dawn-Corunna Project, Notice of Commencement and Virtual Open House

Enbridge Gas Inc. (Enbridge Gas) is currently conducting a review of its natural gas storage and transmission system and has identified the need to replace assets in order to maintain the safe and reliable operation of Enbridge Gas's systems and continue to meet the firm natural gas demands of Enbridge Gas customers.

The proposed 2023 Dawn-Corunna Project (the Project) may include all or some of the following:

- The decommissioning of up to seven (7) reciprocating compressors located at the Corunna Compressor Station in St. Clair Township, which were installed between 1964 and 1974 and are approaching the end of their lifecycle.
- Meeting existing firm demand through the construction of a new steel natural gas pipeline, 36-inch diameter, between the Dawn Operations Centre in the Township of Dawn-Euphemia and the Corunna Compressor Station in St. Clair Township. The length of the proposed pipeline will be determined upon the selection of a preferred route.

For further details, please refer to the map in the attached document.

As part of the planning process, Enbridge Gas has retained Stantec Consulting Ltd. (Stantec) to undertake an Environmental Study of the construction and operation of the Project. The Environmental Study will fulfill the requirements of the Ontario Energy Board's (OEB) "*Environmental Guidelines for the Location, Construction, and Operation of Hydrocarbon Pipelines and Facilities in Ontario, 7th Edition (2016)*".

An Environmental Report, summarizing the results of the Environmental Study, will accompany Enbridge Gas' application to the OEB as part of their Leave to Construct application. It is anticipated that the Environmental Report for the study will be completed in Fall 2021. The OEB's review and approval is required before the proposed project can proceed. If approved, construction is currently anticipated to begin in spring/summer 2023 and be complete by the end of 2023.

Stantec is presently compiling an environmental, socio-economic, and archaeological/cultural heritage inventory of the Environmental Study Area. As an Indigenous community with a potential interest in the study area, we are inviting Oneida Nation of the Thames to provide comments regarding the proposed Project. Specifically, Stantec is seeking information about any adverse impacts that the proposed project may have on constitutionally protected Aboriginal or treaty rights and any measures for mitigating those adverse impacts.

As part of the Environmental Study, Enbridge is also in the process of contacting the following agencies:

- Indigenous and Northern Affairs Canada; and
- Ontario Ministry of Indigenous Relations and Reconciliation.

Reference: Enbridge Gas – 2023 Dawn-Corunna Project, Notice of Commencement and Virtual Open House

As a result of the physical distancing requirements set out by the Province of Ontario due to COVID-19, Virtual Open Houses will be held in place of in-person Open Houses.

The first of two Virtual Open Houses will be available from **May 3, 2021** at 9:00 am EST to **May 17, 2021** at 5:00 pm EST at www.solutions.ca/DawnCorunna.

A questionnaire will be available as part of the Virtual Open House and you will have the ability to submit comments and/or questions about the proposed Project. In addition, a copy of the Virtual Open House story boards will be available on the Enbridge Gas project website at: https://www.Enbridgegas.com/About-Us under "Projects".

Input received during the first Virtual Open House will be used to inform the selection of the Preliminary Preferred Route and to develop site specific environmental protection or mitigation measures for the Project.

If you have questions or comments regarding the 2023 Dawn-Corunna Project, please do not hesitate to contact the undersigned.

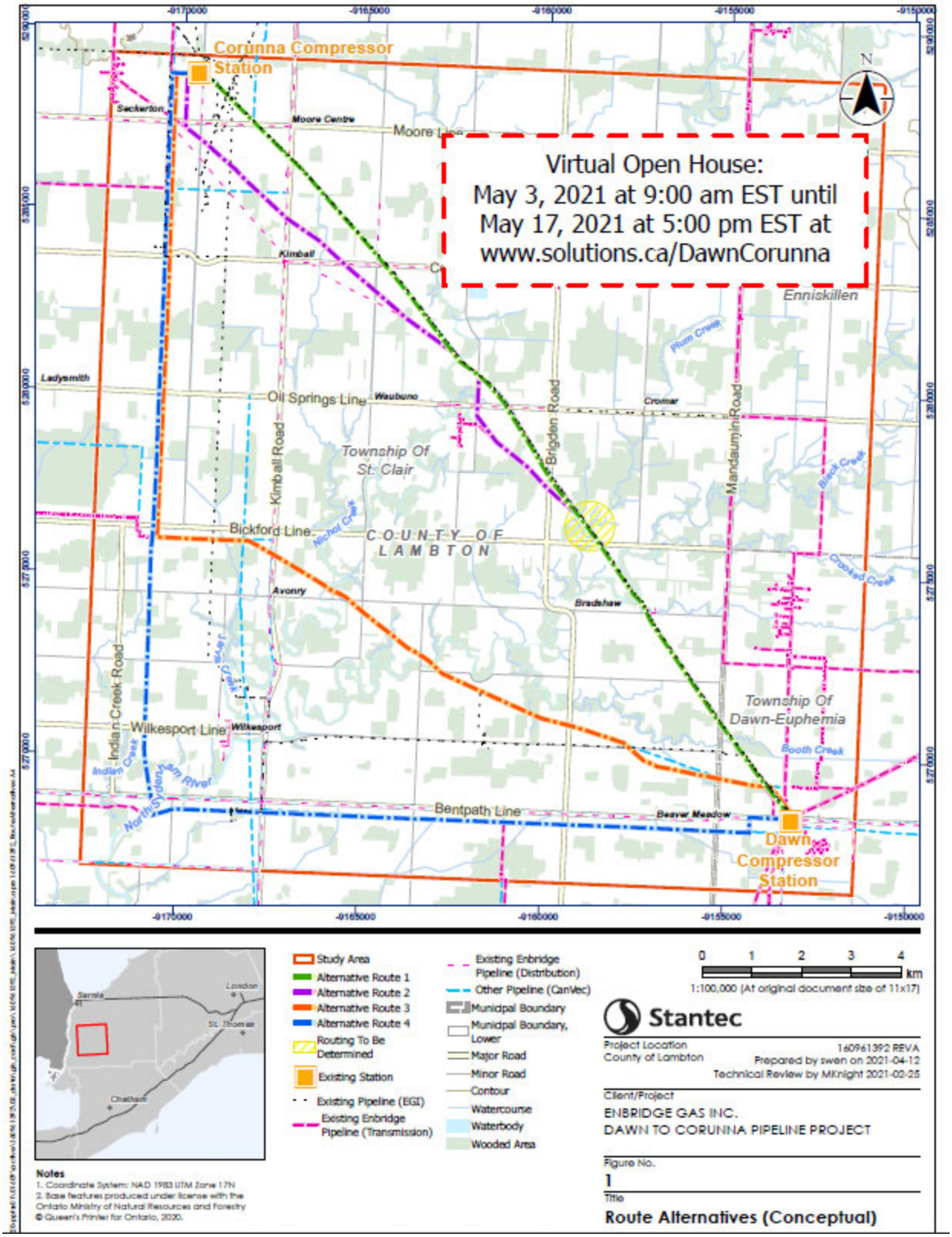
Regards,

ENBRIDGE GAS INC.

Kevin Berube
Senior Advisor, Community & Indigenous Engagement, Eastern Region
Enbridge Gas Inc.
Cell: 416-666-6759
Kevin.Berube@enbridge.com

Attachment: Figure 1 – Route Alternatives (Conceptual)

c. Ryan Park, Sr. Advisor, Enbridge Gas Inc.
Emily Hartwig, Environmental Consultant, Stantec Consulting Ltd.


Corunna Compressor Station
Virtual Open House:
May 3, 2021 at 9:00 am EST until
May 17, 2021 at 5:00 pm EST at
www.solutions.ca/DawnCorunna
Dawn Compressor Station
Seckerton
Moore Centre
Moore Line
Kimball
Enniskillen
Ladysmith
Oil Springs Line
Waubuno
Cromar
Township Of St. Clair
Kimball Road
Brigden Road
Mandaumin Road
Plum Creek
Black Creek
Crooked Creek
Booth Creek
Nicholl Creek
Bickford Line
COUNTY OF LAMBTON
Avonry
Bradshaw
Township Of Dawn-Euphemia
Indian Creek Road
Wilkesport Line
Wilkesport
Indian Creek
North Sydenham River
Bentpath Line
Beaver Meadow
Study Area
Alternative Route 1
Alternative Route 2
Alternative Route 3
Alternative Route 4
Routing To Be Determined
Existing Station
Existing Pipeline (EGI)
Existing Enbridge Pipeline (Transmission)
Existing Enbridge Pipeline (Distribution)
Other Pipeline (CanVec)
Municipal Boundary
Municipal Boundary, Lower
Major Road
Minor Road
Contour
Watercourse
Waterbody
Wooded Area
0 1 2 3 4 km
1:100,000 (At original document size of 11x17)
Stantec
Project Location
County of Lambton
160961392 REVA
Prepared by swen on 2021-04-12
Technical Review by MKnight 2021-02-25
Client/Project
ENBRIDGE GAS INC.
DAWN TO CORUNNA PIPELINE PROJECT
Figure No.
1
Title
Route Alternatives (Conceptual)
Notes
1. Coordinate System: NAD 1983 UTM Zone 17N
2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry
© Queen's Printer for Ontario, 2020.

Attachment 4.4

From: Kevin Berube
Sent: Tuesday, June 22, 2021 9:50 AM
To: Brandon Doxtator <environment@oneida.on.ca>
Subject: 2021-22 Storage Enhancement Project

Boozhoo Brandon,

I hope this find you well. Looks like we're getting to a place where things can begin to look more normal. Once travel opens up I would like to get an opportunity to visit your community.

I wanted to follow up regarding a plan to connect with your leadership on upcoming projects. I'm thinking, as we're getting closer to opening up travel, would it make more sense to schedule a face to face visit with leadership once travel reopens? I can also bring informational flyers for community members who are interested in learning about what we're working on.

Let me know if this works and we'll keep in touch to confirm a date once travel does open up.

Meegwetch Brandon.

Kevin

Attachment 4.5

From: Hartwig, Emily <Emily.Hartwig@stantec.com>
Sent: Thursday, July 8, 2021 12:43 PM
To: environment@oneida.on.ca
Cc: Ryan Park <Ryan.Park@enbridge.com>; dawncorunna <dawncorunna@stantec.com>; Kevin Berube <kevin.berube@enbridge.com>
Subject: [External] Dawn-Corunna Project - Notice of Second Virtual Open House

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Good afternoon,

Please find attached a Notice of Second Virtual Open House for the Enbridge Gas Inc. Dawn-Corunna Project.

Regards,

Emily Hartwig B.Sc., EP.
Environmental Consultant, Assessment and Permitting

ENBRIDGE
Life Takes Energy™

July 12, 2021

Attention: Mr. Brandon Doxtator, Environmental Coordinator
Oneida Nation of the Thames
RR2
Southworld, ON NoL 2G0
Sent via email: environment@oneida.on.ca

Dear Mr. Doxtator,

Reference: Enbridge Gas – Dawn-Corunna Project, Notice of Second Virtual Open House

Enbridge Gas Inc. (Enbridge Gas) has conducted a review of its gas storage and transmission system and has identified the need to replace assets in order to maintain the safe and reliable operation of Enbridge Gas's systems and continue to meet the firm demands of Enbridge Gas customers.

The proposed Dawn-Corunna Project will involve the construction of a new steel pipeline, up to 36-inch diameter, between the Dawn Operations Centre in the Township of Dawn-Euphemia and the Corunna Compressor Station in St. Clair Township. A Route Selection Process is being conducted to determine the best location for the proposed pipeline. Four Alternative Routes were presented during the first Virtual Open House held from May 3-17, 2021. No feedback was received at the first Virtual Open House that required adjustments be made to the four proposed Alternative Routes. A qualitative and quantitative evaluation of the Alternative Routes resulted in the selection of a Preliminary Preferred Route, which will be approximately 20 km in length.

A map of the Preliminary Preferred Route can be found in the attached notice.

As part of the planning process, Enbridge Gas has retained Stantec Consulting Ltd. to undertake an Environmental Study of the construction and operation of the project. The Environmental Study will fulfill the requirements of the Ontario Energy Board's (OEB) "*Environmental Guidelines for the Location, Construction, and Operation of Hydrocarbon Pipelines and Facilities in Ontario, 7th Edition (2016)*".

An Environmental Report, summarizing the results of the Environmental Study, will accompany Enbridge's application to the OEB as part of their Leave to Construct application. It is anticipated that the Environmental Report for the study will be completed in Fall 2021. The OEB's review and approval is required before the proposed project can proceed. If approved, construction is currently anticipated to begin in spring/summer 2023.

As a result of the physical distancing requirements set out by the Province of Ontario due to COVID-19, Virtual Open Houses will be held in place of in-person Open Houses.

The second of two Virtual Open Houses will be available for two weeks starting on **July 19, 2021** and finishing on **August 2, 2021** at www.solutions.ca/DawnCorunna.

A questionnaire will be available as part of the Virtual Open House and you will have the ability to submit comments and/or questions about the proposed project. In addition, a copy of the Virtual Open House story boards will be available on the Enbridge Gas project website at:
https://www.enbridgegas.com/about-enbridge-gas/projects/dawn-corunna-project

Reference: Enbridge Gas – Dawn-Corunna Project, Notice of Second Virtual Open House

Input received during the second Virtual Open House will be used to confirm the selection of a Preferred Route and to develop site specific environmental protection or mitigation measures.

If you have questions or comments regarding the project, please do not hesitate to contact the undersigned.

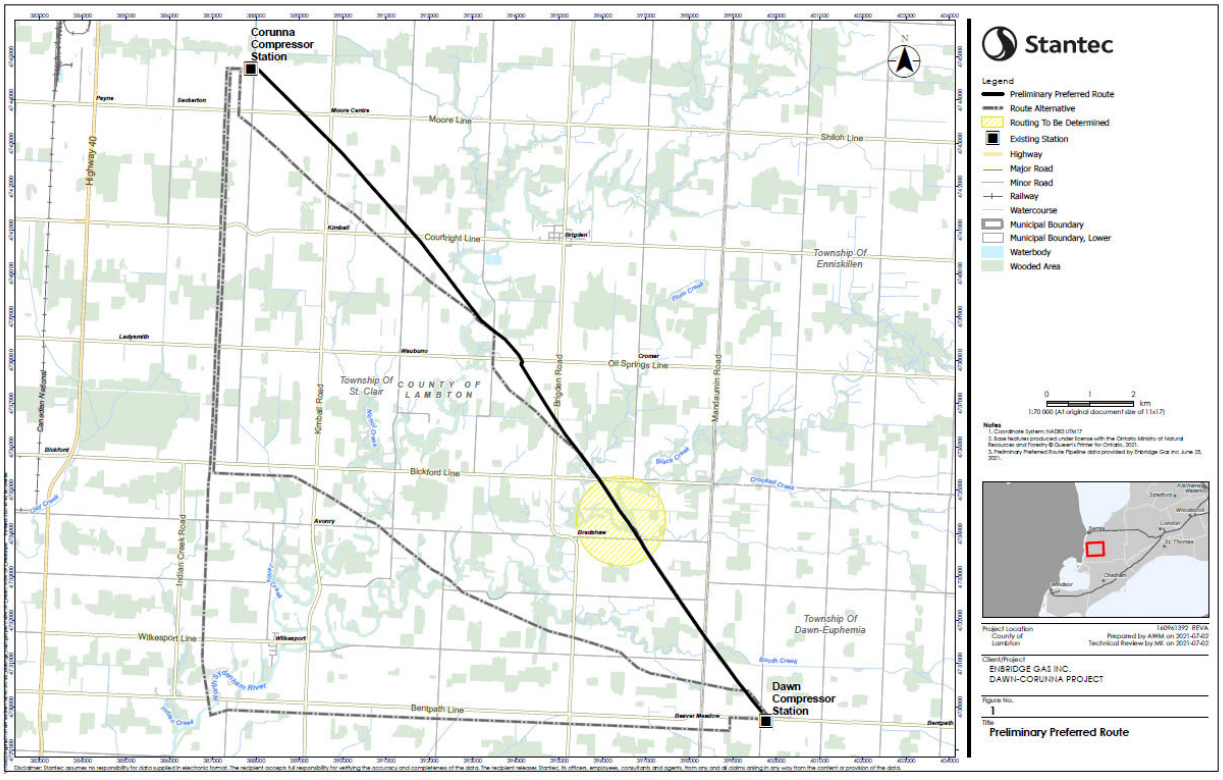
Regards,

ENBRIDGE GAS INC.

Kevin Berube
Senior Advisor, Community & Indigenous Engagement, Eastern Region
Enbridge Gas Inc.
Cell: 416-666-6759
Kevin.Berube@enbridge.com

Attachment: Figure 1 – Alternatives and Preliminary Preferred Route

c. Ryan Park, Sr. Advisor, Enbridge Gas Inc.
Emily Hartwig, Environmental Consultant, Stantec Consulting Ltd.



Attachment 4.6

From: Hartwig, Emily
To: dawncorunna
Cc: Ryan Park; Lauren Whitwham
Subject: [External] Enbridge Gas Inc. Dawn-Corunna Project - Environmental Report
Date: Wednesday, September 22, 2021 1:02:52 PM

EXTERNAL: PLEASE PROCEED WITH CAUTION.
This e-mail has originated from outside of the organization. Do not respond, click on links or open attachments unless you recognize the sender or know the content is safe.

Good afternoon,

Enbridge Gas Inc. ("Enbridge Gas") has conducted a review of its gas storage and transmission system and has identified the need to replace assets in order to maintain the safe and reliable operation of Enbridge Gas' systems and continue to meet the firm demands of Enbridge Gas customers. The proposed Dawn-Corunna Project will involve the construction of a new steel pipeline, up to 36-inch diameter and approximately 20 km in length, between the Dawn Operations Centre in the Township of Dawn-Euphemia and the Corunna Compressor Station in St. Clair Township. Upgrades to the Dawn Operations Centre and the Corunna Compression Station are required to integrate the two stations. Work will include the decommissioning of up to seven compressors and construction of additional piping within the of the existing stations.

Enbridge Gas has retained Stantec Consulting Ltd. ("Stantec") to undertake an environmental study of the construction and operation of the natural gas pipeline that meets the intent of the Ontario Energy Board's (OEB) Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Pipelines and facilities in Ontario, 7th Edition (2016).

An electronic copy of the Environmental Report (ER), summarizing the results of the environmental study, is available for your review by accessing the Projects page on the Enbridge Gas website, or via the temporary File Transfer Protocol (FTP):

FTP link: https://tmpsftp.stantec.com
Login name: s1002095723
Password: 2602460
Expiry Date: 10/16/2021*

*Please note the FTP expiry date of October 16, 2021. Should you require assistance downloading the Environmental Report after this date, please contact the undersigned.

Please forward any comments or questions you have regarding the ER to the undersigned. Your comments would be appreciated by **November 8, 2021.**

Regards,

Emily Hartwig B.Sc., EP.
Environmental Consultant, Assessment and Permitting

Attachment 4.7

From: Kevin Berube
To: Brandon Doxtator
Subject: Project Updates
Date: Friday, October 15, 2021 12:56:31 PM

Boozhoo Brandon,

I was able to go to Oneida yesterday. Sorry I missed you as you were out of the office. I dropped off project information on the Dawn Corunna project, the 2022 Storage Enhancement project and the Coveny and Kimball-Colinville Well Drilling project. If you have any questions about any of these projects please do not hesitate to contact me.

[redacted]

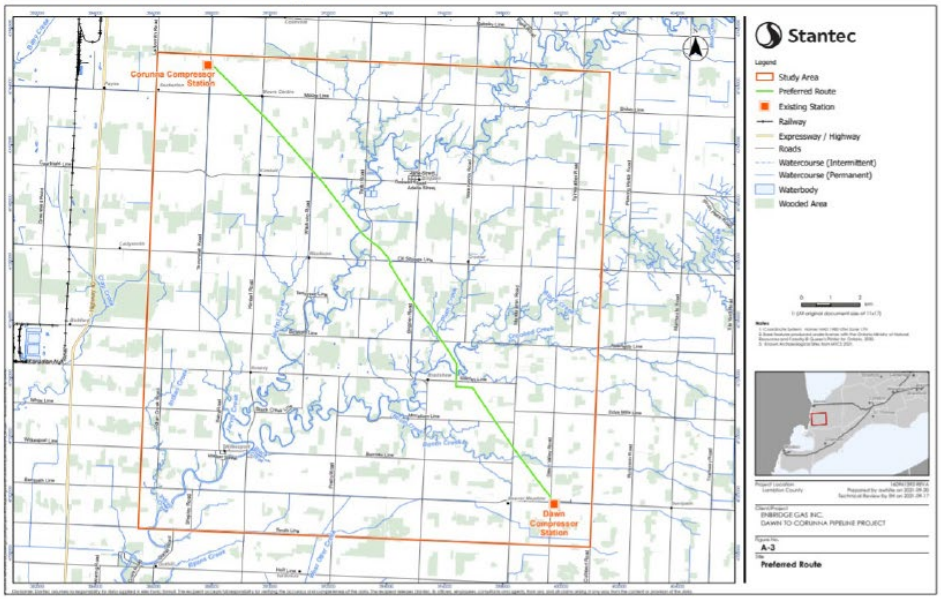
Meegwetch Brandon.

Kevin

Dawn-Corunna Project

- To maintain safe and reliable operations Enbridge Gas Inc. has identified the need to replace assets in the County of Lambton.
- The proposed Dawn-Corunna Project (the Project) may include all or some of the following:
  - The decommissioning of up to seven (7) reciprocating compressors located at the Corunna Compressor Station, which were installed between 1964 and 1974 and are approaching the end of their lifecycle.
  - Meeting existing firm demand through the construction of a new steel pipeline, 42-inch diameter, between the Dawn Operations Centre in the Township of Dawn Euphemia and the Corunna Compressor Station in St. Clair Township. The length of the proposed pipeline will be approximately 20 km in length.
  - The projected in-service date of the Project is November 2023.

Dawn-Corunna Project



Dawn-Corunna Project

ENBRIDGE

Species at Risk Potentially Present in Project Area:

Mammals
- SAR Bats (4 species)

Birds
- Bobolink
- Bank Swallow
- Barn Swallow
- Yellow-Breasted Chat
- Eastern Meadowlark

Herpetofauna
- Blandings Turtle
- Eastern Foxsnake
- Butler's Gartersnake

Fish
- Pugnose Shiner
- Pugnose Minnow

Mussels
- Lilliput
- Fawnsfoot

Plants
- Eastern Flowering Dogwood
- Blue Ash
- Kentucky Coffee-Tree
- Eastern Prairie Fringed-Orchid
- Colicroot
- Butternut
- Dense Blazing-Star

Dawn-Corunna Project

ENBRIDGE

- Environmental Report is complete and was distributed on September 22.
- Initiated discussions with the MECP regarding SARs that could potentially be in the project area.
- We will be conducting surveys for snakes (Eastern Foxsnake and Butler's Garter Snake), Birds (particularly Eastern Meadow Lark, Bobolink and Yellow-breasted Chat), Botanical surveys for several SAR,
- Two watercourse have been identified to contain SAR for fish and mussels (Bear Creek and Black Creek). Mitigations and any required permitting will be completed with the approvals of the MECP and DFO.
- Enbridge invites TTMS - Aamjiwnaang First Nation to send Indigenous monitors for the archaeology and natural heritage surveys work which will commence in fall 2021.

Attachment 5.1

From: Lauren Whitwham
To: Janet Macbeth; Dean Jacobs
Subject: Proposed project: Dawn Corunna Project
Date: Wednesday, January 20, 2021 10:12:00 AM
Attachments: Dawn to Corunna Study Area.pdf

Good morning and Happy New Year,

I hope that this finds you safe and healthy as we are staying at home again.

I wanted to provide you with a heads up to a proposed project that is coming up. Enbridge is currently conducting a review of its gas storage and transmission system and has identified the potential need to replace some assets to maintain safe and reliable operations and to continue to meet the firm demands of Enbridge Gas customers.

This proposed project would take place in the area surrounding the Dawn Operations Centre in the Township of Dawn-Euphemia and the Corunna Compressor Station in St. Clair Township.

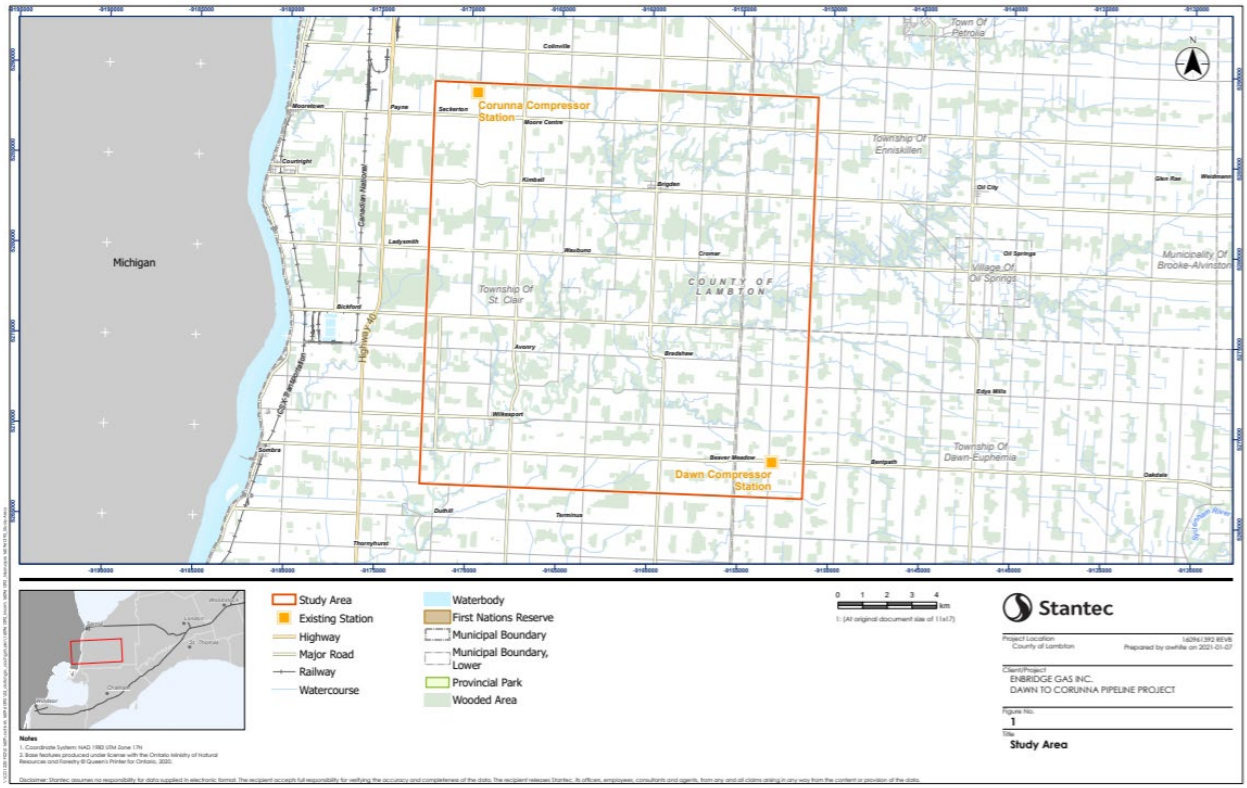
At this time, the project is in the preliminary stages and various options are being examined based on costs, environmental impact and construction timelines.

I sent the preliminary Project notification to the Ministry of Energy, Northern Development and Mines (MENDM) yesterday (January 19, 2021), seeking them to assign us with the duty to consult. In the spirit of openness and transparency we wanted to inform you of this preliminary Project notification and begin the process of engaging your community early on the Project planning. Once we receive the formal delegation letter and have some additional preliminary details on project proposals, we will reach out with our preliminary plans for the Project and begin the process to discuss and obtain your community's feedback, including any suggestions or proposals on mitigating, avoiding or accommodating any potential impacts to Aboriginal or treaty rights.

I've attached the study area map for your review. The project does take place within your asserted traditional territory of the Chenail Ecarte Reserve.

I'd like to set up a call with you both to touch base for the year ahead and provide some updates on some take away that I have been working on. I'll reach out separately to set this up.

Many thanks,
Lauren


Corunna Compressor Station
Dawn Compressor Station
Michigan
Township Of St. Clair
COUNTY OF LAMBTON
Township Of Ennniskillen
Township Of Dawn-Euphemia
Village Of Oil Springs
Municipality Of Brooke-Alvinston
Town Of Petrolia
Study Area
Existing Station
Highway
Major Road
Railway
Watercourse
Waterbody
First Nations Reserve
Municipal Boundary
Municipal Boundary, Lower
Provincial Park
Wooded Area
Stantec
ENBRIDGE GAS INC.
DAWN TO CORUNNA PIPELINE PROJECT
Study Area

Attachment 5.2

From: Lauren Whitwham
To: Dean Jacobs; Janet Macbeth
Cc: charles.sampson@wlfn.org
Subject: Enbridge Gas: Dawn Corunna Project
Date: Tuesday, April 13, 2021 10:03:00 AM
Attachments: Dawn to Corunna Study Area.pdf
Walpole Island DC Notification.pdf

Good morning,

Hope this finds you well and keeping safe.

If you might recall, I sent an email back on January 20, 2021 letting you know of a potential proposed project in the area between the Enbridge Gas Dawn Operations Centre in the Township of Dawn-Euphemia and the Enbridge Gas Corunna Compressor Station in St. Clair Township. Enbridge has decided to proceed with the proposed project to replace some assets in order to maintain the safe and reliable operation of Enbridge Gas's systems and continue to meet the firm demands of Enbridge Gas customers.

Please find attached a map of the study area as well as a letter containing on initial information on the Project. Next week you will receive information on the first Virtual Open House and we hope that you will take a look at that presentation and provide Stantec with feedback on the potential routes. We are interested in your community's feedback, including any suggestions or proposals on mitigating, avoiding or accommodating any potential impacts the Project may have on your Aboriginal or treaty rights.

Enbridge acknowledges that capacity support may be required to enable you to engage in timely technical reviews of documents, participation in field work associated with proposed projects, and to engage in meaningful consultation. As is our approach on all projects, we are prepared to provide capacity funding to support your team's work.

I'll reach out to you in June to set up a meeting to discuss the project once we have a preferred route chosen. In the meantime, please feel free to reach out with any questions, concerns and comments.

Many thanks,
Lauren

Enbridge Inc
109 Commissioners Road West,
London, ON
N6A4P1

Walpole Island First Nation
117 Tahgahoning, R.R. 3
Wallaceburg, ON
N8A 4K9

April 13, 2021

Re: Dawn-Corunna Pipeline Project

Dear Dr. Dean Jacobs,

Enbridge Gas Inc. (Enbridge Gas) is currently conducting a review of its gas storage and transmission system and has identified the potential need to replace some assets in order to maintain the safe and reliable operation of Enbridge Gas's systems and continue to meet the firm demands of Enbridge Gas customers.

The proposed Dawn-Corunna Project (the Project) may include all or some of the following:

- The decommissioning of up to seven (7) reciprocating compressors located at the Corunna Compressor Station, which were installed between 1964 and 1974 and are approaching the end of their lifecycle.
- Meeting existing firm demand through the construction of a new steel pipeline, up to 42-inch diameter, between the Dawn Operations Centre in the Township of Dawn-Euphemia and the Corunna Compressor Station in St. Clair Township. The length of the proposed pipeline will be determined upon the selection of a preferred route.
- The projected in-service date of the Project is November 2023.

The area in which the Project is to be constructed is rural. It is expected that the majority of adverse environmental and/or socio-economic effects will be construction related. These effects are expected to be temporary and transitory. The Project will also be located underground once construction is complete, further limiting the potential for any long-term effects.

As part of the planning process, Enbridge Gas has retained Stantec Consulting Ltd. (Stantec) to undertake an Environmental Study of the construction and operation of the Project. The Environmental Study as required by the Ontario Energy Board's (OEB) *"Environmental Guidelines for the Location, Construction, and Operation of Hydrocarbon Pipelines and Facilities in Ontario, 7th Edition (2016)"*.

Enbridge Gas' preliminary work on the Project has identified the following potential authorizations:

<u>Federal Approvals</u>

- Fisheries and Ocean Canada

Provincial approvals:

- Ontario Energy Board
- Ministry of Environment, Conservation and Parks
- Ministry of Heritage, Sport, Tourism and Culture Industries
- Ministry of Transportation

Municipal approvals:

- Lambton County
- St. Clair Township
- Township of Dawn-Euphemia
- St. Clair Region Conservation Authority

Other authorizations, notifications, permits and/or approvals may be required in addition to those identified above.

We would like to consult with your community on this proposed Project. We are interested in your community's feedback, including any suggestions or proposals on mitigating, avoiding or accommodating any potential impacts the Project may have on your Aboriginal or treaty rights.

Enbridge acknowledges that capacity support may be required to enable you to engage in timely technical reviews of documents, participation in field work associated with proposed projects, and to engage in meaningful consultation. As is our approach on all projects, we are prepared to provide capacity funding to support your team's work.

Enbridge Gas has been delegated the procedural aspects for consultation by the Ministry of Energy on behalf of Ontario. Ministry officials are also available should you wish to contact them directly with any questions or concerns. Please contact:

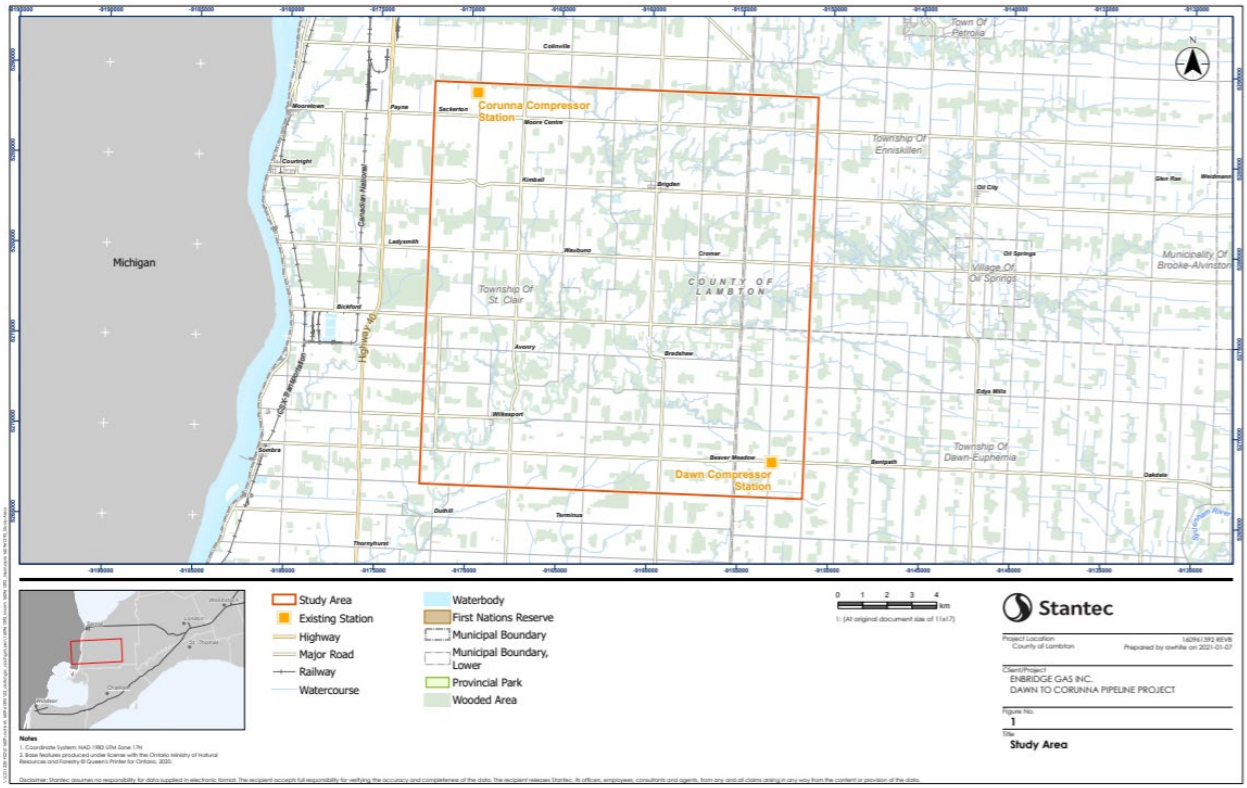
Jonathon Wilkinson, Senior Advisor
Indigenous Energy Policy, Ministry of Energy, Northern Development and Mines
705-313-3658
jonathon.wilkinson@ontario.ca

We would like to set up a meeting to discuss the Project with you and provide you with an opportunity to express any questions or concerns you have. Please feel free to contact me at lauren.whitwham@enbridge.com or 519-852-3474 so we can set up a time to meet.

Many thanks,



Lauren Whitwham
Senior Advisor, Indigenous Engagement
Enbridge Inc.
519-852-3474


Corunna Compressor Station
Dawn Compressor Station
Michigan
Township Of St. Clair
COUNTY OF LAMBTON
Township Of Ennniskillen
Township Of Dawn-Euphemia
Village Of Oil Springs
Municipality Of Brooke-Alvinston
Town Of Petrolia
Study Area
Existing Station
Highway
Major Road
Railway
Watercourse
Waterbody
First Nations Reserve
Municipal Boundary
Municipal Boundary, Lower
Provincial Park
Wooded Area
Stantec
ENBRIDGE GAS INC.
DAWN TO CORUNNA PIPELINE PROJECT
Study Area

Attachment 5.3

From: Hartwig, Emily
To: janet.macbeth@wifn.org
Cc: Ryan Park; dawncorunna; Lauren Whitwham
Subject: [External] 2023 Dawn-Corunna Project - Notice of Commencement and Virtual Open House
Date: Tuesday, April 20, 2021 12:41:20 PM
Attachments: ltr_JMacbeth_160961392_20210419.pdf

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This e-mail has originated from outside of the organization. Do not respond, click on links or open attachments unless you recognize the sender or know the content is safe.

Good afternoon,

Please find attached a Notice of Commencement and Virtual Open House for the Enbridge Gas Inc. 2023 Dawn-Corunna Project.

Regards,

Emily Hartwig B.Sc., EP.
Environmental Consultant, Assessment and Permitting

Direct: 519 780-8186
Mobile: 226 979-4457
Emily.Hartwig@stantec.com

Stantec
1-70 Southgate Drive
Guelph ON N1G 4P5

ENBRIDGE
Life Takes Energy™

April 19, 2021

Attention: Ms. Janet Macbeth, Project Review Coordinator
Walpole Island First Nation
117 Tahgahoning, R.R. 3
Wallaceburg, ON N8A 4K9

Dear Ms. Macbeth,

Reference: Enbridge Gas – 2023 Dawn-Corunna Project, Notice of Commencement and Virtual Open House

Enbridge Gas Inc. (Enbridge Gas) is currently conducting a review of its natural gas storage and transmission system and has identified the need to replace assets in order to maintain the safe and reliable operation of Enbridge Gas's systems and continue to meet the firm natural gas demands of Enbridge Gas customers.

The proposed 2023 Dawn-Corunna Project (the Project) may include all or some of the following:

- The decommissioning of up to seven (7) reciprocating compressors located at the Corunna Compressor Station in St. Clair Township, which were installed between 1964 and 1974 and are approaching the end of their lifecycle.
- Meeting existing firm demand through the construction of a new steel natural gas pipeline, 36-inch diameter, between the Dawn Operations Centre in the Township of Dawn-Euphemia and the Corunna Compressor Station in St. Clair Township. The length of the proposed pipeline will be determined upon the selection of a preferred route.

For further details, please refer to the map in the attached document.

As part of the planning process, Enbridge Gas has retained Stantec Consulting Ltd. (Stantec) to undertake an Environmental Study of the construction and operation of the Project. The Environmental Study will fulfill the requirements of the Ontario Energy Board's (OEB) "*Environmental Guidelines for the Location, Construction, and Operation of Hydrocarbon Pipelines and Facilities in Ontario, 7th Edition (2016)*".

An Environmental Report, summarizing the results of the Environmental Study, will accompany Enbridge Gas' application to the OEB as part of their Leave to Construct application. It is anticipated that the Environmental Report for the study will be completed in Fall 2021. The OEB's review and approval is required before the proposed project can proceed. If approved, construction is currently anticipated to begin in spring/summer 2023 and be complete by the end of 2023.

Stantec is presently compiling an environmental, socio-economic, and archaeological/cultural heritage inventory of the Environmental Study Area. As an Indigenous community with a potential interest in the study area, we are inviting Walpole Island First Nation to provide comments regarding the proposed Project. Specifically, Stantec is seeking information about any adverse impacts that the proposed project may have on constitutionally protected Aboriginal or treaty rights and any measures for mitigating those adverse impacts.

As part of the Environmental Study, Enbridge is also in the process of contacting the following agencies:

- Indigenous and Northern Affairs Canada; and
- Ontario Ministry of Indigenous Relations and Reconciliation.

Reference: Enbridge Gas – 2023 Dawn-Corunna Project, Notice of Commencement and Virtual Open House

As a result of the physical distancing requirements set out by the Province of Ontario due to COVID-19, Virtual Open Houses will be held in place of in-person Open Houses.

The first of two Virtual Open Houses will be available from **May 3, 2021** at 9:00 am EST to **May 17, 2021** at 5:00 pm EST at www.solutions.ca/DawnCorunna.

A questionnaire will be available as part of the Virtual Open House and you will have the ability to submit comments and/or questions about the proposed Project. In addition, a copy of the Virtual Open House story boards will be available on the Enbridge Gas project website at: https://www.Enbridgegas.com/About-Us under "Projects".

Input received during the first Virtual Open House will be used to inform the selection of the Preliminary Preferred Route and to develop site specific environmental protection or mitigation measures for the Project.

If you have questions or comments regarding the 2023 Dawn-Corunna Project, please do not hesitate to contact the undersigned.

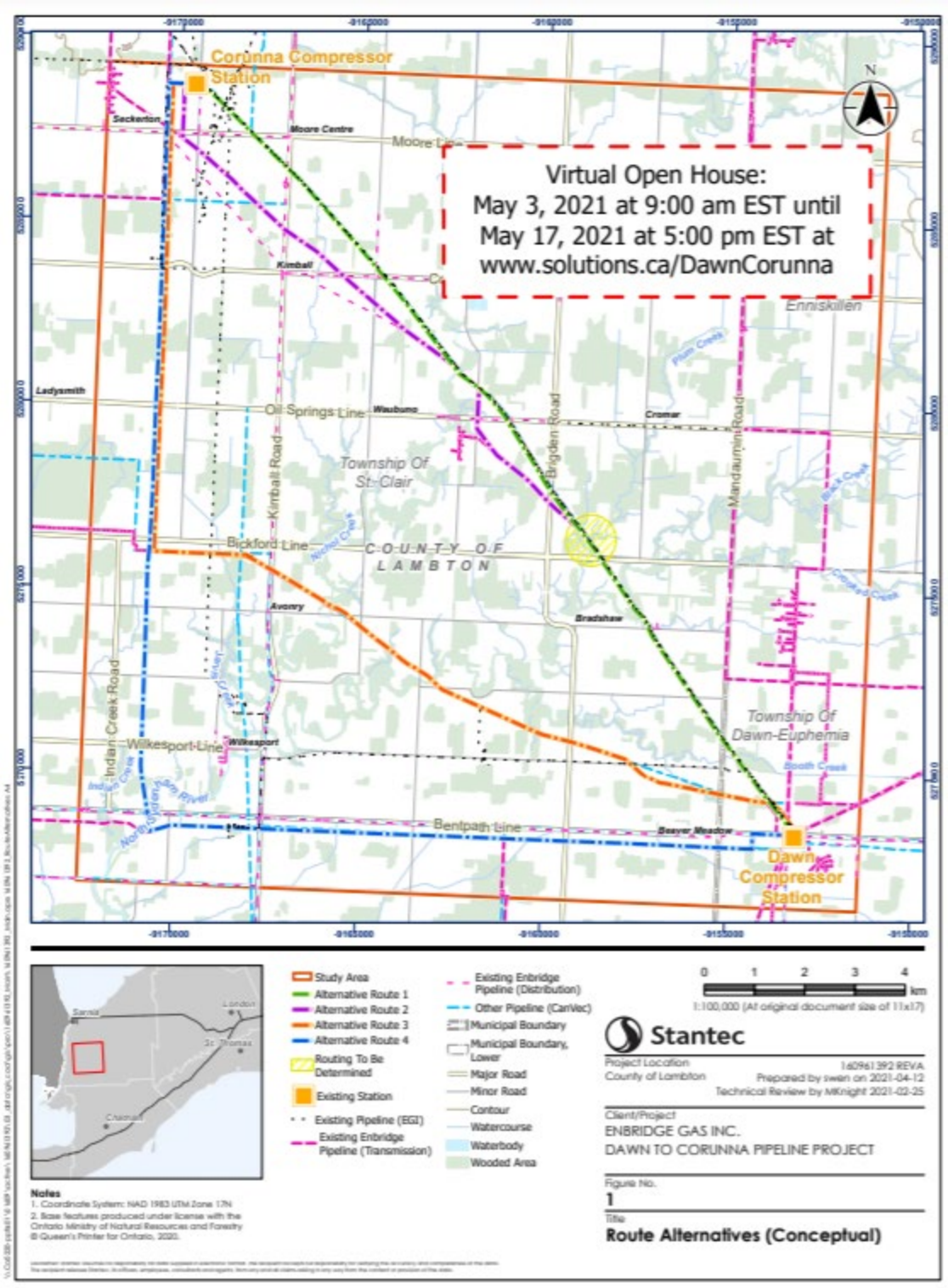
Regards,

ENBRIDGE GAS INC.

Lauren Whitwham
Senior Advisor, Community & Indigenous Engagement, Eastern Region
Enbridge Gas Inc.
Cell: 519-852-3474
lauren.whitwham@enbridge.com

Attachment: Figure 1 – Route Alternatives (Conceptual)

c. Ryan Park, Sr. Advisor, Enbridge Gas Inc.
Emily Hartwig, Environmental Consultant, Stantec Consulting Ltd.


Corunna Compressor Station
Virtual Open House:
May 3, 2021 at 9:00 am EST until
May 17, 2021 at 5:00 pm EST at
www.solutions.ca/DawnCorunna
Dawn Compressor Station
Seckerton
Moore Centre
Moore Line
Kimball
Enniskillen
Ladysmith
Oil Springs Line
Waubuno
Cromar
Township Of St. Clair
Kimball Road
Brigden Road
Mandaumin Road
Bickford Line
COUNTY OF LAMBTON
Avonry
Bradshaw
Township Of Dawn-Euphemia
Indian Creek Road
Wilkesport Line
Wilkesport
Bentpath Line
Beaver Meadow
Study Area
Alternative Route 1
Alternative Route 2
Alternative Route 3
Alternative Route 4
Routing To Be Determined
Existing Station
Existing Pipeline (EGI)
Existing Enbridge Pipeline (Transmission)
Existing Enbridge Pipeline (Distribution)
Other Pipeline (CanVec)
Municipal Boundary
Municipal Boundary, Lower
Major Road
Minor Road
Contour
Watercourse
Waterbody
Wooded Area
0 1 2 3 4 km
1:100,000 (At original document size of 11x17)
Stantec
Project Location
County of Lambton
1609613912 REVA
Prepared by swen on 2021-04-12
Technical Review by MKnight 2021-02-25
Client/Project
ENBRIDGE GAS INC.
DAWN TO CORUNNA PIPELINE PROJECT
Figure No.
1
Title
Route Alternatives (Conceptual)
Notes
1. Coordinate System: NAD 1983 UTM Zone 17N
2. Base features produced under license with the Ontario Ministry of Natural Resources and Forestry © Queen's Printer for Ontario, 2020.

Attachment 5.4

From: Lauren Whitwham <Lauren.Whitwham@enbridge.com>
Sent: July 8, 2021 9:39 AM
To: James Jenkins <James.Jenkins@wifn.org>
Subject: Enbridge Project Notifications

Good morning James,

I hope that this finds you well and enjoying the warm summer weather. Right now we are getting a good thunder storm in London and my vegetable garden is happy.

I wanted to touch base with you as I noticed that Janet Macbeth's out of office has been extended to August. I have a couple of Enbridge project notifications to send and I was wondering if there is someone backfilling her role in her absence? If so, would you be able to provide me with the contact?

If I should hold off until Janet's return in August, I'm happy to do so.

I appreciate your assistance.

Thanks and take care,

Lauren

From:	James Jenkins
To:	Lauren Whitwham
Cc:	Dean Jacobs; Norma Altiman
Subject:	[External] RE: Enbridge Project Notifications
Date:	Thursday, July 8, 2021 3:31:25 PM

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Yes, please send the notifications to Dean Jacobs and Norma Altiman. I have copied them on this message.

Miigwech,
James

James Jenkins
Chief Executive Officer
Walpole Island First Nation
519-627-1481, ext 255
c. 226-626-7686
james.jenkins@wifn.org

Attachment 5.5

From: Hartwig, Emily
To: Dean.Jacobs@wifn.org
Cc: Ryan Park; dawncorunna; Lauren Whitwham
Subject: [External] Dawn-Corunna Project - Notice of Second Virtual Open House
Date: Thursday, July 8, 2021 12:44:36 PM
Attachments: let_jacobs_dean-wifn_160961392_Dawn-Corunna-Indigenous-VOH2_fin.pdf

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Good afternoon,

Please find attached a Notice of Second Virtual Open House for the Enbridge Gas Inc. Dawn-Corunna Project.

Regards,

Emily Hartwig B.Sc., EP.
Environmental Consultant, Assessment and Permitting

ENBRIDGE
Life Takes Energy

July 12, 2021

Attention: Dr Dean Jacobs, Consultation Manager
Walpole Island First Nation
117 Tahgahoning, R.R. 3
Wallaceburg, ON N8A 4K9
Sent via email: Dean.Jacobs@wifn.org

Dear Dr Jacobs,

Reference: Enbridge Gas – Dawn-Corunna Project, Notice of Second Virtual Open House

Enbridge Gas Inc. (Enbridge Gas) has conducted a review of its gas storage and transmission system and has identified the need to replace assets in order to maintain the safe and reliable operation of Enbridge Gas's systems and continue to meet the firm demands of Enbridge Gas customers.

The proposed Dawn-Corunna Project will involve the construction of a new steel pipeline, up to 36-inch diameter, between the Dawn Operations Centre in the Township of Dawn-Euphemia and the Corunna Compressor Station in St. Clair Township. A Route Selection Process is being conducted to determine the best location for the proposed pipeline. Four Alternative Routes were presented during the first Virtual Open House held from May 3-17, 2021. No feedback was received at the first Virtual Open House that required adjustments be made to the four proposed Alternative Routes. A qualitative and quantitative evaluation of the Alternative Routes resulted in the selection of a Preliminary Preferred Route, which will be approximately 20 km in length.

A map of the Preliminary Preferred Route can be found in the attached notice.

As part of the planning process, Enbridge Gas has retained Stantec Consulting Ltd. to undertake an Environmental Study of the construction and operation of the project. The Environmental Study will fulfill the requirements of the Ontario Energy Board's (OEB) "*Environmental Guidelines for the Location, Construction, and Operation of Hydrocarbon Pipelines and Facilities in Ontario, 7th Edition (2016)*".

An Environmental Report, summarizing the results of the Environmental Study, will accompany Enbridge's application to the OEB as part of their Leave to Construct application. It is anticipated that the Environmental Report for the study will be completed in Fall 2021. The OEB's review and approval is required before the proposed project can proceed. If approved, construction is currently anticipated to begin in spring/summer 2023.

As a result of the physical distancing requirements set out by the Province of Ontario due to COVID-19, Virtual Open Houses will be held in place of in-person Open Houses.

The second of two Virtual Open Houses will be available for two weeks starting on **July 19, 2021** and finishing on **August 2, 2021** at www.solutions.ca/DawnCorunna.

A questionnaire will be available as part of the Virtual Open House and you will have the ability to submit comments and/or questions about the proposed project. In addition, a copy of the Virtual Open House story boards will be available on the Enbridge Gas project website at: https://www.enbridgegas.com/about-enbridge-gas/projects/dawn-corunna-project

Reference: Enbridge Gas – Dawn-Corunna Project, Notice of Second Virtual Open House

Input received during the second Virtual Open House will be used to confirm the selection of a Preferred Route and to develop site specific environmental protection or mitigation measures.

If you have questions or comments regarding the project, please do not hesitate to contact the undersigned.

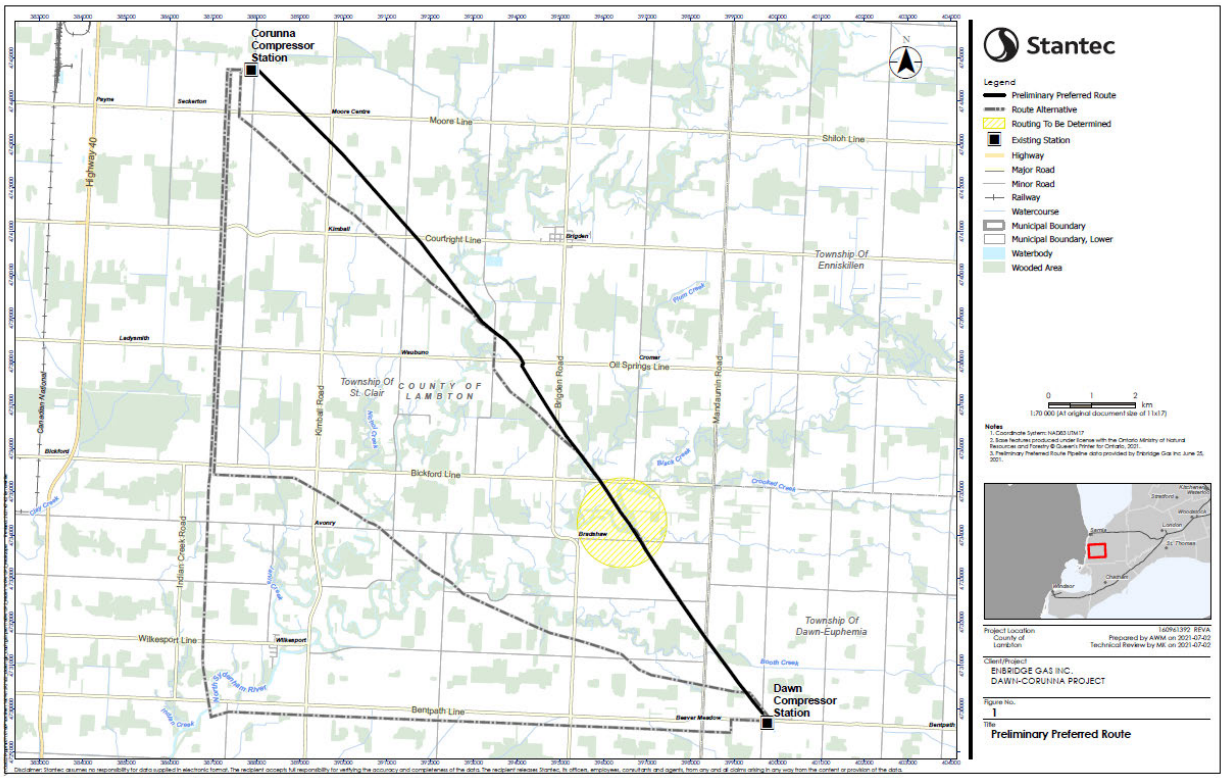
Regards,

ENBRIDGE GAS INC.

Lauren Whitwham
Analyst, Indigenous, Municipal Affairs and Stakeholder Relations
Enbridge Gas Inc.
109 Commissioners Road West
London, ON N6A 4P1
PH: 519 667-4100 x 5153545
Cell: 519-852-3474
lauren.whitwham@enbridge.com

Attachment: Figure 1 – Alternatives and Preliminary Preferred Route

c. Ryan Park, Sr. Advisor, Enbridge Gas Inc.
Emily Hartwig, Environmental Consultant, Stantec Consulting Ltd.


Corunna Compressor Station
Dawn Compressor Station
Moore Line
Courtright Line
Shiloh Line
Oil Springs Line
Bickford Line
Wilkesport Line
Benpath Line
Township Of St. Clair
COUNTY OF LAMBTON
Township Of Enniskillen
Township Of Dawn-Euphemia
Highway 40
Indian Creek Road
Kimball Road
Brigden Road
Mandaumin Road
Stantec
Legend
Preliminary Preferred Route
Route Alternative
Routing To Be Determined
Existing Station
Highway
Major Road
Minor Road
Railway
Watercourse
Municipal Boundary
Municipal Boundary, Lower
Waterbody
Wooded Area
Notes
Project Location
County of Lambton
Client/Project
ENBRIDGE GAS INC.
DAWN-CORUNNA PROJECT
Figure No.
1
Title
Preliminary Preferred Route

From: Lauren Whitwham <Lauren.Whitwham@enbridge.com>
Sent: Tuesday, July 13, 2021 10:35 AM
To: Dean Jacobs <Dean.Jacobs@wifn.org>; Norma Altiman <Norma.Altiman@wifn.org>
Cc: Matthew Chegahno <matthew.chegahno@enbridge.com>; Janet Macbeth <Janet.Macbeth@wifn.org>
Subject: RE: Enbridge proposed project: Panhandle Transmission System

Hi Dean,

I'm off this week however, would be happy to meet next week to provide some project updates.

Would Thursday after 12 or anytime on Friday work for you? It would allow me a chance to get some slides pulled together with information on the current and proposed projects and their status.

I could send out the Teams invite once we set a date.

Thanks

Lauren

From: Dean Jacobs
To: Lauren Whitwham
Subject: [External] Re: Enbridge proposed project: Panhandle Transmission System
Date: Tuesday, July 13, 2021 10:40:31 AM
Attachments: image006.png

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Friday July 23rd works for me.

Dean M. Jacobs
Nin.da.waab.jig
Walpole Island First Nation
d: 519.627.1389
g: 519.627.1475 ext 101
c: 519.784.4499
f:519.627.1530
location: 2185 River Rd, Walpole Island

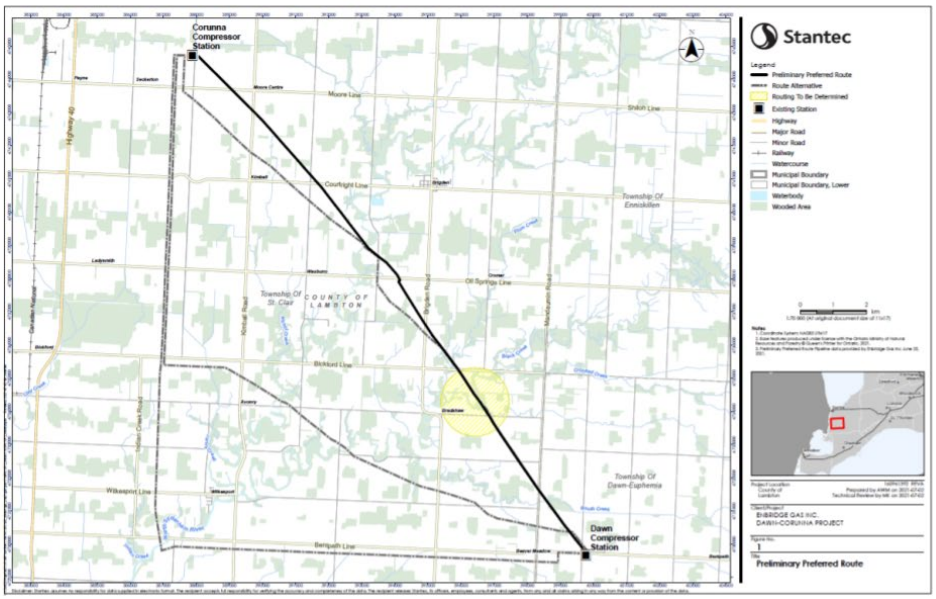
Attachment 5.7

Dawn-Corunna Project

- To maintain safe and reliable operations Enbridge Gas Inc. has identified the need to replace assets in the County of Lambton.
- The proposed Dawn-Corunna Project (the Project) will involve the construction of a new steel pipeline, up to 36-inch diameter, between the Dawn Operations Centre in the Township of Dawn-Euphemia and the Corunna Compressor Station in St. Clair Township

9

Dawn-Corunna Project



10

Dawn-Corunna Project

ENBRIDGE

- Second Open House currently being held virtually at https://solutions.ca/DawnCorunna/
- Environmental Report has begun and Enbridge will send a copy to Walpole Island once it is complete.
- Enbridge invites Walpole Island to send Indigenous monitors for the archaeology work which will commence in fall 2021.

How the route was chosen:

ENBRIDGE

Features	Route 1	Route 2	Route 3	Route 4
Agricultural				
Prime Agricultural Land (ha)				
Systematic Tile Drainage (ha)				
Random Tile Drainage (ha)				
Aquatic				
Conservation Authority Regulated Lands (ha)				
Watercourse / Drain Crossings				
Watercourses with Identified SAR (#)				
Waterwells (#)				
Wetlands – Provincial Evaluation				
Wetlands – Other				
Route Characteristics				
Length (km)				
Slope ≥5° (ha within 100m)				
Socio-Economic				
Archaeological Sites (# within 100m)				
Cultural Heritage Features (# within 100m)				
Road Crossings (#)				
Petroleum Wells (# within 100m)				
Socio-economic features (schools, churches, and community centres [# within 100m])				
Terrestrial				
ANSIs (ha)				
Wooded Areas (ha)				

Green	Alternative Route with least impact on feature (multiple green boxes indicates tie in feature value)
Black	Feature not present within any of the Alternative Routes

Attachment 5.8

From: Lauren Whitwham
To: Dean Jacobs
Cc: Janet Macbeth
Subject: Meeting to discuss Dawn Corunna Project and gathering lines projects
Date: Friday, September 10, 2021 1:54:00 PM
Attachments: UGS Well Work Notification Letter - Walpole Island First Nation.pdf
Walpole Island DC Notification.pdf

Hi Dean,

Happy Friday!

I would like to set up a meeting with you and Janet the week of October 5 (if Janet has returned) or the week of October 11 to review three of our projects.

We would like to review the Dawn Corunna Project as well as the 2022 Storage Enhancement and the Coveny and Kimball-Colinville Well Drilling Project.

In terms of environmental reports, the 2022 Storage Enhancement ER was sent on August 26. The ER for the Dawn Corunna Project should be sent out in the next few weeks and the Conveny and Kimball Colinville ER will be finalized soon.

Would you be able to provide some dates that work best for you?

Thanks so much,
Lauren

Attachment 5.9

From: Hartwig, Emily
To: dawncorunna
Cc: Ryan Park; Lauren Whitwham
Subject: [External] Enbridge Gas Inc. Dawn-Corunna Project - Environmental Report
Date: Wednesday, September 22, 2021 1:02:52 PM

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Good afternoon,

Enbridge Gas Inc. ("Enbridge Gas") has conducted a review of its gas storage and transmission system and has identified the need to replace assets in order to maintain the safe and reliable operation of Enbridge Gas' systems and continue to meet the firm demands of Enbridge Gas customers. The proposed Dawn-Corunna Project will involve the construction of a new steel pipeline, up to 36-inch diameter and approximately 20 km in length, between the Dawn Operations Centre in the Township of Dawn-Euphemia and the Corunna Compressor Station in St. Clair Township. Upgrades to the Dawn Operations Centre and the Corunna Compression Station are required to integrate the two stations. Work will include the decommissioning of up to seven compressors and construction of additional piping within the of the existing stations.

Enbridge Gas has retained Stantec Consulting Ltd. ("Stantec") to undertake an environmental study of the construction and operation of the natural gas pipeline that meets the intent of the Ontario Energy Board's (OEB) Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Pipelines and facilities in Ontario, 7th Edition (2016).

An electronic copy of the Environmental Report (ER), summarizing the results of the environmental study, is available for your review by accessing the Projects page on the Enbridge Gas website, or via the temporary File Transfer Protocol (FTP):

FTP link: https://tmpsftp.stantec.com
Login name: s1002095723
Password: 2602460
Expiry Date: 10/16/2021*

*Please note the FTP expiry date of October 16, 2021. Should you require assistance downloading the Environmental Report after this date, please contact the undersigned.

Please forward any comments or questions you have regarding the ER to the undersigned. Your comments would be appreciated by **November 8, 2021.**

Regards,

Emily Hartwig B.Sc., EP.
Environmental Consultant, Assessment and Permitting

Attachment 5.10

From: Lauren Whitwham <Lauren.Whitwham@enbridge.com>
Sent: Wednesday, October 6, 2021 2:51 PM
To: Dean Jacobs <Dean.Jacobs@wifn.org>
Subject: FW: Enbridge Gas Inc. Dawn-Corunna Project - Environmental Report

Hi Dean,

Hope this finds you well and that you enjoyed your time away.

I just wanted to bring this to your attention as I can get the link re-sent to you if it expires. Below is the environmental review for the EGI Dawn Corunna Project.

Currently, there are three projects that will require an ER review. 2022 Storage Enhancement, Dawn Corunna and Coveny and Kimball Colinville which will go out on Friday.

Please let us know if your third party reviewer has a quote (including your time) for the technical review of these docs.

Thanks and hope to connect soon,

Lauren

From:	Lauren Whitwham
To:	Bridget Doyle
Cc:	Dean Jacobs
Subject:	FW: Enbridge Gas Inc. Dawn-Corunna Project - Environmental Report
Date:	Friday, October 8, 2021 2:10:00 PM

Hi Bridget,

As per your request, please find below the link for the Dawn Corunna Environmental Review.

If you will be reviewing this document on behalf of Walpole Island First Nation, please provide a quote for the review as you have previously done.

The Coveny and Kimball Colinville Project ER should be completed next week.

Thanks,
Lauren

Attachment 5.11

From: Lauren Whitwham <Lauren.Whitwham@enbridge.com>
Sent: October 18, 2021 4:15 PM
To: Janet Macbeth <Janet.Macbeth@wifn.org>
Subject: FW: Enbridge Gas Inc. Dawn-Corunna Project - Environmental Report

Welcome back!

Not sure if this one got sent over to Neegan Burnside or not.

If you need a copy of the report, I can ask them to extend the site or it can be pulled from the Projects page on the Enbridge Gas website.

Thanks Janet and hope all is well

Lauren

From:	Janet Macbeth
To:	Lauren Whitwham
Subject:	[External] Re: Enbridge Gas Inc. Dawn-Corunna Project - Environmental Report
Date:	Monday, October 18, 2021 5:43:48 PM

CAUTION: EXTERNAL EMAIL
This email originated from outside Enbridge and could be a phish. Criminals can pretend to be anyone. Do not interact with the email unless you are 100% certain it is legitimate. Report any suspicious emails.

Thanks. Today was my first day back.

Attachment 5.12

From: Lauren Whitwham
To: Dean Jacobs; Janet Macbeth
Bcc: Lauren Whitwham
Subject: Meeting to discuss Enbridge Projects
Date: Friday, October 29, 2021 1:57:00 PM

Hi there,

Hope this finds you both well and getting ready for Halloween. In my house, the costume selection has changed a number of times so hopefully they will stick with the one they have picked.

I wanted to touch base with you both as I would like to set up a meeting to discuss three Enbridge projects: 2022 Storage Enhancement, Dawn Corunna and the Convey and Kimball Colinville Well Drilling Project. The environmental reports for all three are complete and have been set out to you. We'd like to get your feedback, including any suggestions or proposals on mitigating, avoiding or accommodating any potential impacts the Project may have on your Aboriginal or treaty rights.

Looking ahead, is there a time that would best with you both to meet? I could come down to the community and bring the environmental planner or we could do it via an online platform.

Hope to hear from you soon,
Lauren

Attachment 5.13

From: Janet Macbeth <Janet.Macbeth@wifn.org>
Sent: Wednesday, November 10, 2021 2:12 PM
To: Lauren Whitwham <Lauren.Whitwham@enbridge.com>
Subject: [External] Catching up

CAUTION: EXTERNAL EMAIL
This email originated from outside Enbridge and could be a phish. Criminals can pretend to be anyone. Do not interact with the email unless you are 100% certain it is legitimate. Report any suspicious emails.

Hi Lauren,

I'm still trying to catch up on many different files, but I wanted to try to set up a virtual meeting for an update on Enbridge's current projects. Do you have time next Monday (15th) or after 2pm on the 17th?

Thanks,
Janet

From: Lauren Whitwham <Lauren.Whitwham@enbridge.com>

Sent: November 10, 2021 2:15 PM
To: Janet Macbeth <Janet.Macbeth@wifn.org>
Subject: RE: Catching up

Hi Janet,

Thanks for the note.

I'm available on Monday from 3-5 and Wednesday (17) from 2-3.

Hopefully one of those times work for you.

Thanks,
Lauren

From: Janet Macbeth <Janet.Macbeth@wifn.org>
Sent: Wednesday, November 10, 2021 3:01 PM
To: Lauren Whitwham <Lauren.Whitwham@enbridge.com>
Subject: [External] Re: Catching up

CAUTION: EXTERNAL EMAIL
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Hi Lauren,

Let's try Monday at 3pm.

Thanks,
Janet

From: Lauren Whitwham <Lauren.Whitwham@enbridge.com>
Sent: Wednesday, November 10, 2021 3:07:34 PM
To: Janet Macbeth <Janet.Macbeth@wifn.org>
Subject: RE: Catching up

Perfect. I can put together some slides and send them over to you.

Did you want me to send a MS Teams invite or will you be sending over a virtual invite?

Thanks,
Lauren

From: Janet Macbeth
To: Lauren Whitwham
Subject: [External] Re: Catching up
Date: Wednesday, November 10, 2021 3:14:46 PM

CAUTION: EXTERNAL EMAIL
This email originated from outside Enbridge and could be a phish. Criminals can pretend to be anyone. Do not interact with the email unless you are 100% certain it is legitimate. Report any suspicious emails.

Please send me an invite.

Thanks,
Janet

Attachment 5.14

From: Lauren Whitwham <Lauren.Whitwham@enbridge.com>
Sent: November 12, 2021 9:27 AM
To: Janet Macbeth <Janet.Macbeth@wifn.org>
Subject: Dawn Corunna ER

Hi Janet,

I got the quote from Bridget for the review of the Convey project which I will take a look at.

I was wondering if you passed along the Dawn Corunna environmental report to them as I haven't yet received a quote? We will be filing it with the OEB in the middle of December and having your comment complete before then would be helpful. The Dawn Corunna project is much larger in scale with some water crossings etc.

Thanks,
Lauren

From:	Janet Macbeth
To:	Lauren Whitwham
Subject:	[External] Re: Dawn Corunna ER
Date:	Friday, November 12, 2021 4:27:42 PM

CAUTION: EXTERNAL EMAIL
This email originated from outside Enbridge and could be a phish. Criminals can pretend to be anyone. Do not interact with the email unless you are 100% certain it is legitimate. Report any suspicious emails.

Hi Lauren,

I was able to connect with Bridget and they are going to put together a budget on this. I mentioned it was a priority item.

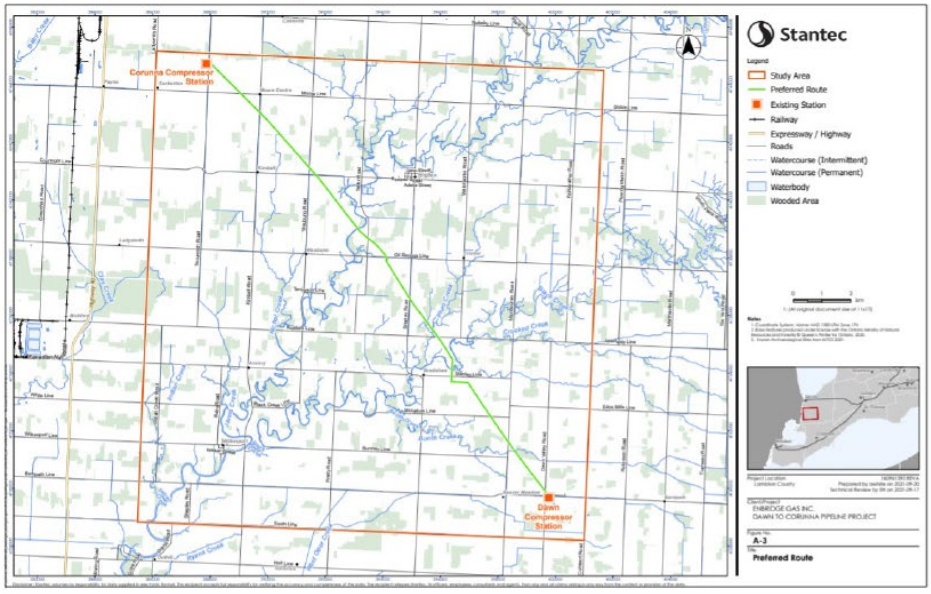
Thanks,
Janet

Attachment 5.15

Dawn-Corunna Project

- To maintain safe and reliable operations Enbridge Gas Inc. has identified the need to replace assets in the County of Lambton.
- The proposed Dawn-Corunna Project (the Project) may include all or some of the following:
  - The decommissioning of up to seven (7) reciprocating compressors located at the Corunna Compressor Station, which were installed between 1964 and 1974 and are approaching the end of their lifecycle.
  - Meeting existing firm demand through the construction of a new steel pipeline, 36-inch diameter, between the Dawn Operations Centre in the Township of Dawn Euphemia and the Corunna Compressor Station in St. Clair Township. The length of the proposed pipeline will be approximately 20 km in length.
  - The projected in-service date of the Project is November 2023.

Dawn-Corunna Project



Dawn-Corunna Project

Species at Risk Potentially Present in Project Area:

Mammals
- SAR Bats (4 species)

Birds
- Bobolink
- Bank Swallow
- Barn Swallow
- Yellow-Breasted Chat
- Eastern Meadowlark

Herpetofauna
- Blandings Turtle
- Eastern Foxsnake
- Butler's Gartersnake

Fish
- Pugnose Shiner
- Pugnose Minnow

Mussels
- Lilliput
- Fawnsfoot

Plants
- Eastern Flowering Dogwood
- Blue Ash
- Kentucky Coffee-Tree
- Eastern Prairie Fringed-Orchid
- Colicroot
- Butternut
- Dense Blazing-Star

Dawn-Corunna Project

- Environmental Report is complete and was distributed on September 22.
- Initiated discussions with the MECP regarding SARs that could potentially be in the project area.
- We will be conducting surveys for snakes (Eastern Foxsnake and Butler's Garter Snake), Birds (particularly Eastern Meadow Lark, Bobolink and Yellow-breasted Chat), Botanical surveys for several SAR,
- Two watercourse have been identified to contain SAR for fish and mussels (Bear Creek and Black Creek). Mitigations and any required permitting will be completed with the approvals of the MECP and DFO.
- Enbridge invites Indigenous monitors for the archaeology and natural heritage surveys work which will commence in fall 2021.
- Project will be filed with the OEB middle of December 2021

Attachment 5.16

From: Bridget Doyle
To: Lauren Whitwham
Cc: Dean Jacobs; Skye Vandenberg
Subject: [External] [WARNING: MESSAGE ENCRYPTED]Comment letters
Date: Thursday, December 9, 2021 1:59:14 PM
Attachments: ATT00001.ong
211209_Enbridge Coveny & Kimball-Colinville Well Drilling Project_ WIFN review_054320.pdf
211209_Enbridge Dawn-Corunna Project Review_ WIFN review_054468.pdf

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CAUTION: EXTERNAL EMAIL
This email originated from outside Enbridge and could be a phish. Criminals can pretend to be anyone. Do not interact with the email unless you are 100% certain it is legitimate. Report any suspicious emails.

Hi Lauren,

On behalf of WIFN, please accept the attached comment letters for the:

- Coveny & Kimball-Colinville Well Drilling Project
- Dawn-Corunna Project

Also, please note that I will be heading off on maternity leave as of January 17th. Skye Vandenberg (Cc'd) will be taking over the coordination of Neegan Burnside reviews for WIFN. Please update your contact information to include Skye on future correspondence.

Thank you very much – and if we don't connect, enjoy your holidays and have a wonderful 2022!

Bridget

From: Lauren Whitwham
To: Bridget Doyle
Cc: Dean Jacobs; Skye Vandenberg
Subject: RE: Comment letters
Date: Thursday, December 9, 2021 3:01:00 PM
Attachments: image001.ong

Thank you Bridget. I acknowledge the receipt of the comments.

Happy Holidays to you as well and wishing you a peaceful winter solstice. All the best on maternity leave

Lauren

Attachment 5.18

From: Lauren Whitwham
To: Dean Jacobs
Subject: Technical review: Environmental Report comments
Date: Tuesday, December 14, 2021 9:15:06 AM

Hi Dean,

Further to our call yesterday, I just wanted to let you know that I am currently working to gather the comments to respond to the WIFN review of the 2022 Storage, Coveny Kimball-Colinville and Dawn Corunna environmental reports.

I will get these over to you once I have them completed and then we can set up a meeting to discuss.

Thanks,
Lauren

Attachment 5.19

From: Lauren Whitwham
To: Janet Macbeth
Subject: ER comments: Dawn Corunna Project
Date: Thursday, January 13, 2022 3:27:00 PM

Hi Janet,

Hope this finds you and your family well.

I just wanted to touch base with you to let you know that I received Neegan Burnside's comments on the Dawn Corunna Environmental Report on December 9, 2021. I'm working to pull together the Enbridge Gas responses for them.

Once I have it finalized, I will send it over to you and we can set up a meeting to discuss.

Thanks and talk soon,
Lauren

Lauren Whitwham
Senior Advisor, Community & Indigenous Engagement, Eastern Region

Public Affairs, Communications & Sustainability

—

Attachment 5.20

From: Lauren Whitwham
To: Janet Macbeth; Dean Jacobs
Subject: Follow up from Call
Date: Thursday, January 27, 2022 2:56:56 PM
Attachments: Enbridge Proposed Projects Jan 2022 WIFN.pdf

Hi there,

Thanks so much for the call today. It was nice to touch base.

As we discussed, I made some changes to the chart to capture the status of the engagement on the Projects. I left questions back to you on next steps.

Once I get the Enbridge Gas responses to the Coveny and Kimball Colinville and Dawn Corunna ER review comments, I'll send them right over to you. I'm available for any questions, comments or concerns you might have after reviewing the responses back.

As for the Panhandle Project, if you'd like to send the VOH slides to Neegan Burnside, please provide me with a quote for the services. We are happy to provide capacity funding for the technical review of any documents. The Environmental report will be close to the size of the Dawn to Corunna Project if that helps with planning.

I have asked Richard Brant to reach out with the information on the types of work that comes from our projects and how our procurement process works. He has Janet's email and will reach out directly.

Attached you will find the slides that we reviewed.

Again, thank you so much and I look forward to chatting with you soon,

Best,
Lauren

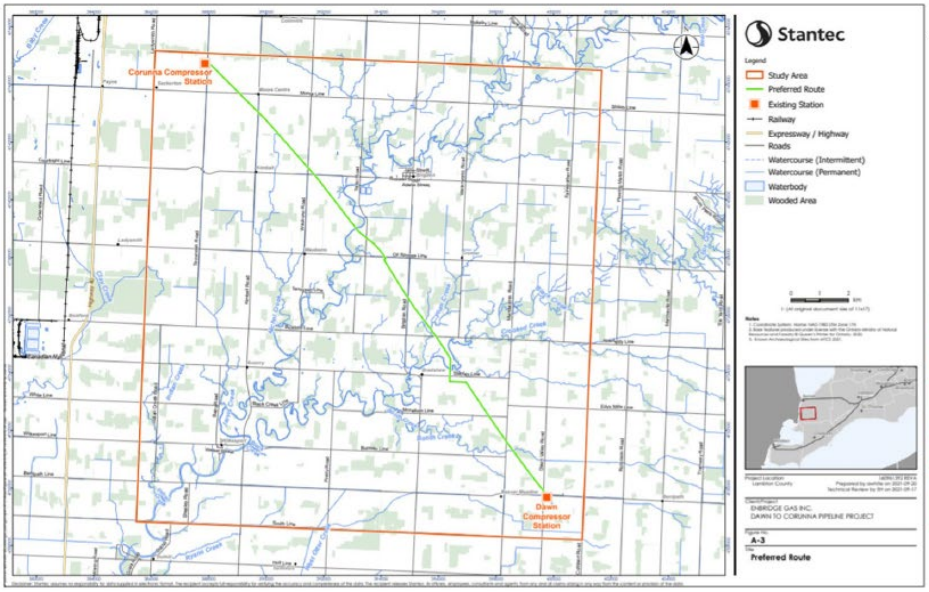
Project	Project Kick-Off	Regulatory Status	Engagement Status
2022 Storage Enhancement	June 8, 2021	Ministry of Energy will be reaching out to discuss	Enbridge Gas responses to ER comments sent to WIFN **Does WIFN have any questions or follow up?**
Coveny and Kimball Colinville Well Drilling Project	June 8, 2021	Ministry of Energy will be reaching out to discuss	Enbridge Gas response to ER comments being drafted
Dawn Corunna Project	April 13, 2021	Filing with OEB February 2022	Enbridge Gas response to ER comments being drafted
Panhandle Regional Expansion Project	October 15, 2021	Virtual Open House #2 February 14 and February 28, 2022	**Would WIFN require capacity funding to have VOH slides reviewed by 3rd party?**

Lauren Whitwham

Dawn Corunna Project

- To maintain safe and reliable operations Enbridge Gas Inc. has identified the need to replace assets in the County of Lambton.
- The proposed Dawn-Corunna Project (the Project) may include all or some of the following:
  - The decommissioning of up to seven (7) reciprocating compressors located at the Corunna Compressor Station, which were installed between 1964 and 1974 and are approaching the end of their lifecycle.
  - Meeting existing firm demand through the construction of a new steel pipeline, 36-inch diameter, between the Dawn Operations Centre in the Township of Dawn Euphemia and the Corunna Compressor Station in St. Clair Township. The length of the proposed pipeline will be approximately 20 km in length.
  - The projected in-service date of the Project is November 2023.

Dawn Corunna Project



Dawn Corunna Project

ENBRIDGE

Species at Risk Potentially Present in Project Area:

Mammals
- SAR Bats (4 species)

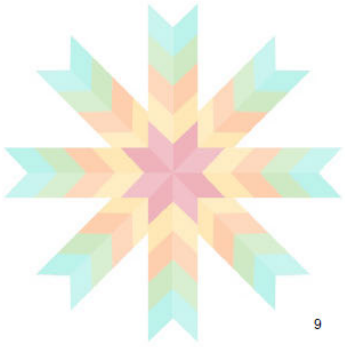
Birds
- Bobolink
- Bank Swallow
- Barn Swallow
- Yellow-Breasted Chat
- Eastern Meadowlark

Herpetofauna
- Blandings Turtle
- Eastern Foxsnake
- Butler's Gartersnake

Fish
- Pugnose Shiner
- Pugnose Minnow

Mussels
- Lilliput
- Fawnsfoot

Plants
- Eastern Flowering Dogwood
- Blue Ash
- Kentucky Coffee-Tree
- Eastern Prairie Fringed-Orchid
- Colicroot
- Butternut
- Dense Blazzing-Star

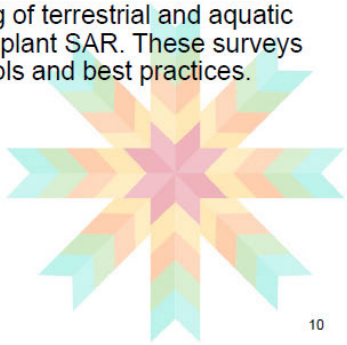


9

Dawn Corunna Project

ENBRIDGE

- Enbridge Gas will be conducting surveys for snakes (Eastern Foxsnake and Butler's Garter Snake), Birds (particularly Eastern Meadow Lark, Bobolink and Yellow-breasted Chat), Botanical surveys for several SAR,
- Two watercourse have been identified to contain SAR for fish and mussels (Bear Creek and Black Creek). Mitigations and any required permitting will be completed with the approvals of the MECP and DFO.
- Field surveys will be undertaken in 2022 to enhance the understanding of terrestrial and aquatic habitat. These studies will include targeted surveys for SAR, including plant SAR. These surveys will be conducted by qualified professionals following accepted protocols and best practices.
- Project will be filed with the OEB early February 2022



10

Attachment 5.21

From: Lauren Whitwham
To: Dean Jacobs; Janet Macbeth
Subject: ER responses: Dawn Corunna
Date: Friday, February 4, 2022 1:20:46 PM
Attachments: 2022 Dawn Corunna ER comments WIFN Final.pdf

Good afternoon,

Hope this finds you well as we come into the weekend.

Please find attached the responses to the third party review on the Dawn Corunna project. I have put the Enbridge Gas responses into the final column.

Once you have had the opportunity to review, please let me know if you'd like a call to discuss.

Thanks and talk soon,
Lauren