



Stephanie Allman
Regulatory Coordinator

tel 416-495-5499
EGIRegulatoryProceedings@enbridge.com

Enbridge Gas Inc.
500 Consumers Road
North York, Ontario M2J 1P8
Canada

August 16, 2023

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 No.: EB-2022-0335
Panhandle Regional Expansion Project
Affidavit of Service**

On July 28, 2023, the OEB issued the Notice of Hearing and Letter of Direction for the above noted proceeding.

As directed by the OEB, enclosed please find the Affidavit of Service which has been filed through the OEB's Regulatory Electronic Submission System.

Please contact the undersigned if you have any questions.

Sincerely,

Stephanie Allman
Regulatory Coordinator

ONTARIO ENERGY BOARD

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

AND IN THE MATTER OF an application by Enbridge Gas Inc. for an order granting leave to construct natural gas pipelines in the Municipality of Chatham Kent and Essex County.

AFFIDAVIT OF SERVICE

I, Stephanie Allman, of the Town of Innsfil, make oath and say as follows:

1. I am in the employ of Enbridge Gas Inc. ("Enbridge") and as such have knowledge of the matters hereinafter deposed to.
2. On or about July, 2023 a search of title forthwith sufficient to determine any new property owners and encumbrances with land, or registered interests in land directly affected by application and not served the Notice of Hearing issued on July 4, 2022 was conducted. This information can be found as part of Exhibit D to this affidavit.
3. Pursuant to the July 28, 2023 Letter of Direction from the Ontario Energy Board (OEB), I caused to be served by courier a copy of the Notice of Application (Exhibit "A"), Enbridge's Application (Exhibit "B"), along with the following pieces of evidence (Exhibit "C") upon all new property owners and encumbrances with lands or interest in lands and not served the Notice of Hearing issued on July 4, 2022.

- Exhibit A-3-1 – Summary of Application
- Exhibit A-4-1 – Project Update Summary
- Exhibit B-1-1 – Project Need
- Exhibit B-2-1 – Panhandle System Design and Network Analysis
- Exhibit B-3-1 – Market Dynamics
- Exhibit C-1-1 – Project Alternatives
- Exhibit D-1-1 – Proposed Project
- Exhibit E-1-1 – Project Cost & Economics
- Exhibit F-1-1 – Environmental Matters
- Exhibit G-1-1 – Land Matters
- Exhibit H-1-1 – Indigenous Consultation

4. Attached hereto is proof in the form of UPS courier confirmation sheets (Exhibit "D"), that the relevant Notice of Application, and Enbridge's Application and evidence was served on those parties noted in the paragraph above as requested by the OEB in the Letter of Direction. Personal information has been redacted from the landowner and encumbrancer listing. The following courier package was considered "return to sender" and undelivered.

<u>Tracking Number</u>	<u>Landowner/Encumbrancer</u>	<u>Reason</u>
1Z4R7V942091792571	Bank of Montreal	Receiver has moved

5. In accordance with the Letter of Direction, I caused a copy of the Notice, Application and evidence to be placed in a prominent place on Enbridge's website. Attached as Exhibit "E" is proof of the information posted to Enbridge Gas Inc.'s website.

SWORN before me in the City of)
Toronto, this 16th day of)
August 2023.)
)
)

Stephanie Allman

ONTARIO ENERGY BOARD NOTICE

Enbridge Gas Inc. has applied for approval to construct approximately 19 kilometres of natural gas pipeline and ancillary facilities, in the Municipality of Chatham Kent in the Municipality of Lakeshore

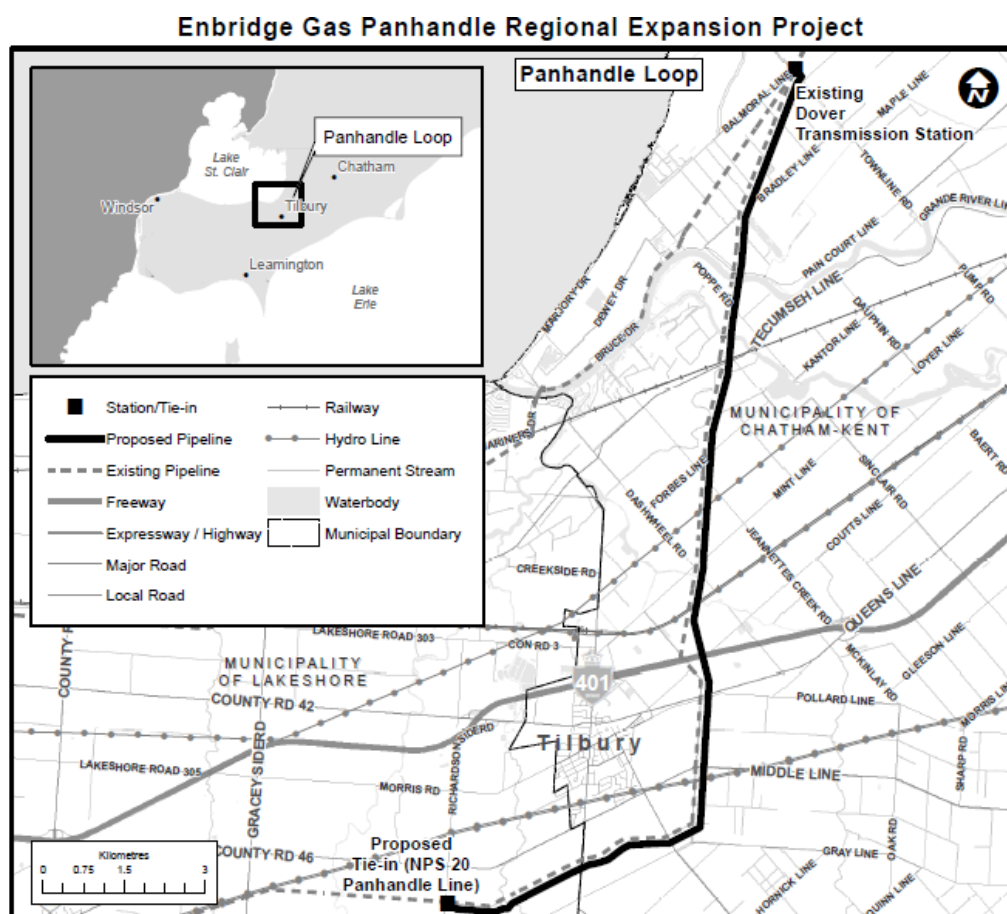
Learn more. Have your say.

Enbridge Gas Inc. applied to the Ontario Energy Board for approval to construct pipeline and associated ancillary facilities, which are collectively referred to as the Panhandle Regional Expansion Project. The pipeline, called the *Panhandle Loop*, involves the construction of approximately 19 kilometres of 36-inch diameter steel pipeline that will originate at Enbridge Gas Inc.'s existing Dover Transmission Station in the Municipality of Chatham Kent and tie into an existing pipeline at a new valve site station, in the Municipality of Lakeshore. Enbridge Gas Inc. proposes to start construction of the Panhandle Regional Expansion Project in the first quarter of 2024 to achieve an in-service date of November 2024.

Enbridge Gas Inc. says that the Panhandle Regional Expansion Project is needed to add capacity to the Panhandle Transmission System which transports natural gas between Enbridge Gas Inc.'s Dawn Compressor Station, located in the Township of Dawn-Euphemia, and the Ojibway Valve Site, located in the City of Windsor. Enbridge Gas Inc. estimates the cost of the project to be \$358 million and says that it will seek approval to recover the cost from ratepayers in a separate rate application.

Enbridge Gas Inc. is also asking the Ontario Energy Board to approve the form of agreement it offers to landowners to use their land for routing or construction of the proposed pipeline.

The location of the proposed pipelines is shown in the map.



THE ONTARIO ENERGY BOARD WILL HOLD A PUBLIC HEARING

The Ontario Energy Board (OEB) will hold a public hearing to consider Enbridge Gas's application. During the hearing the OEB will question Enbridge Gas on the case. The OEB will also hear questions and arguments from individual consumers, municipalities and others whose interests would be affected. At the end of this hearing, the OEB will decide whether to approve the application.

As part of its review of this application, the OEB will assess Enbridge Gas's compliance with the OEB's *Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Pipelines and Facilities in Ontario*.

The OEB will also assess whether the duty to consult with Indigenous Communities potentially affected by the proposed pipelines has been discharged with respect to the application.

More information on the types of issues that the OEB may consider are provided on the OEB's website in the form of a standard issues list: <https://www.oeb.ca/sites/default/files/issues-list-LTC-natural-gas.pdf>

The OEB is an independent and impartial public agency. The OEB makes decisions that serve the public interest. The goal of the OEB is to promote a financially viable and efficient energy sector that provides you with reliable energy services at a reasonable cost.

BE INFORMED AND HAVE YOUR SAY

You have the right to information regarding this application and to be involved in the process.

- You can review the application filed by Enbridge Gas on the OEB's website now;
- You can find information on the OEB's website at www.oeb.ca/participate;
- You can find information on the **duty to consult with Indigenous peoples** on the OEB's website at www.oeb.ca/industry/applications-oeb/consultation-indigenous-peoples;
- You can file a letter with your comments, which will be considered during the hearing;
- You can become an intervenor. As an intervenor you can ask questions about Enbridge Gas's application and make arguments on whether the OEB should approve Enbridge Gas's request. Apply by **August 21, 2023** or the hearing will go ahead without you and you will not receive any further notice of the proceeding;
- At the end of the process, you can review the OEB's decision and its reasons on our website.

LEARN MORE

The file number for this case is EB-2022-0157. To learn more about this hearing, find instructions on how to file a document, or to access any document related to this case, please select the file number EB-2022-0157 from the www.oeb.ca/noticeltc on the OEB website. You can also phone our Public Information Centre at 1-877-632-2727 with any questions.

FORMAT OF HEARING

There are three types of OEB hearings – oral, electronic, and written. Enbridge Gas has applied for a written hearing. The OEB is considering this request. If you think an oral hearing is needed, you can write to the OEB to explain why by August 21, 2023.

PRIVACY

If you write a letter of comment, your name and the content of your letter will be put on the public record and the OEB website. However, your personal telephone number, home address and email address will be removed. If you are a business, all your information will remain public. If you apply to become an intervenor, all information will be public.

This hearing will be held under section 90(1) and 97 of the Ontario Energy Board Act, 1998, S.O. 1998, c.15, Schedule B.

Ontario Energy Board
P.O. Box 2319, 27th Floor
2300 Yonge Street
Toronto ON M4P 1E4
Attention: Registrar
Filings: <https://p-pes.ontarioenergyboard.ca/PivotalUX/>.
E-mail: registrar@oeb.ca



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

AVIS DE LA COMMISSION DE L'ÉNERGIE DE L'ONTARIO

Enbridge Gas Inc. a déposé une requête en vue d'obtenir l'autorisation de construire un gazoduc de 19 kilomètres environ et des installations auxiliaires dans la municipalité de Chatham Kent et la municipalité de Lakeshore.

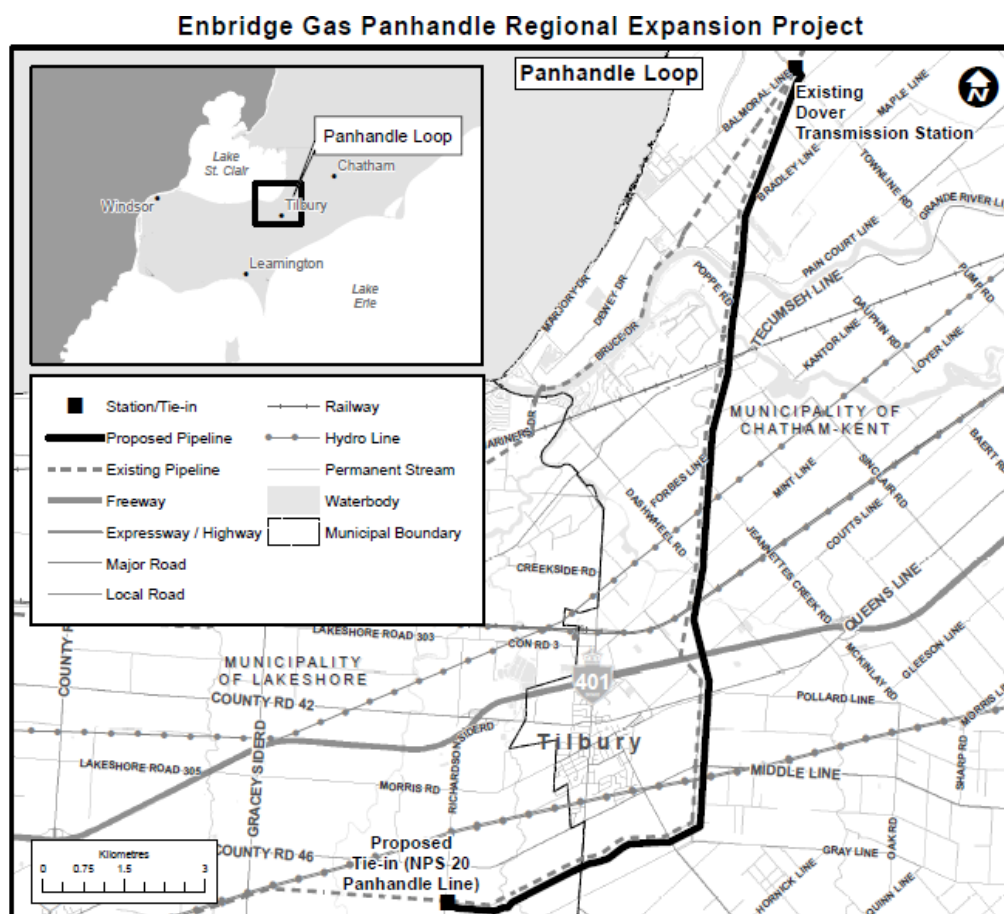
Renseignez-vous. Donnez votre avis.

Enbridge Gas Inc. a demandé à la Commission de l'énergie de l'Ontario l'autorisation de construire un gazoduc et des installations auxiliaires connexes, désignés collectivement sous le nom de « Projet d'expansion régionale Panhandle ». Le gazoduc, appelé *Panhandle Loop*, comprend la construction d'environ 19 kilomètres de conduites en acier d'un diamètre de 36 pouces qui partira de l'actuelle station de transmission Dover d'Enbridge Gas Inc. dans la municipalité de Chatham Kent et se raccordera à un gazoduc existant à une nouvelle station de distribution, dans la municipalité de Lakeshore. Enbridge Gas Inc. propose de commencer la construction du Projet d'expansion régionale Panhandle au premier trimestre 2024 pour une mise en service en novembre 2024.

Enbridge Gas Inc. affirme que le Projet d'expansion régional Panhandle est nécessaire afin d'accroître la capacité du réseau de transport Panhandle, qui achemine du gaz naturel entre la station de compression Dawn d'Enbridge Gas Inc., située dans le canton de Dawn-Euphemia, et le site de la vanne Ojibway, situé dans la ville de Windsor. Enbridge Gas Inc. estime le coût du projet à 358 millions de dollars et indique qu'elle demandera l'autorisation de recouvrer ce coût auprès des contribuables dans le cadre d'une demande tarifaire distincte.

Enbridge Gas Inc. demande également à la Commission de l'énergie de l'Ontario d'approuver la forme de l'entente qu'elle propose aux propriétaires fonciers afin d'utiliser leurs terres pour le tracé ou la construction du gazoduc proposé.

L'emplacement des conduites proposées est présenté sur la carte.



LA COMMISSION DE L'ÉNERGIE DE L'ONTARIO TIENDRA UNE AUDIENCE PUBLIQUE

La Commission de l'énergie de l'Ontario (CEO) tiendra une audience publique afin d'étudier la demande d'Enbridge Gas. Au cours de l'audience, la CEO interrogera Enbridge Gas sur cette affaire. La CEO écoutera également les questions et les arguments des consommateurs, des municipalités et de toute autre entité dont les intérêts sont en jeu. À l'issue de cette audience, la CEO prendra sa décision quant à l'approbation de la demande.

Dans le cadre de cette demande, la CEO évaluera le respect de ses directives en matière d'environnement par Enbridge Gas, en ce qui concerne l'emplacement, la construction et l'exploitation des pipelines et des installations d'hydrocarbures en Ontario.

La CEO s'assurera également que l'obligation de tenir des consultations auprès des communautés autochtones potentiellement concernées par le projet de gazoduc a bien été respectée.

De plus amples renseignements sur les types de questions que la CEO pourrait examiner sont disponibles sur le site Web de la CEO sous la forme d'une liste de questions standard :

<https://www.oeb.ca/sites/default/files/issues-list-LTC-natural-gas.pdf>

La CEO est une agence publique indépendante et impartiale. La CEO prend des décisions qui visent à servir au mieux l'intérêt public. L'objectif de la CEO est d'encourager le développement d'un secteur de l'énergie efficace et financièrement viable, afin d'offrir des services énergétiques fiables à un prix raisonnable.

RENSEIGNEZ-VOUS ET DONNEZ VOTRE AVIS

Vous avez le droit d'être informé au sujet de cette demande et de participer au processus.

- Vous pouvez examiner la demande d'Enbridge Gas sur le site Web de la CEO dès maintenant;
- Vous trouverez des renseignements sur le site Web de la CEO à l'adresse suivante : www.oeb.ca/fr/participez
- Vous pouvez en apprendre davantage sur l'**obligation de consulter les peuples autochtones** sur le site Web de la CEO à l'adresse suivante : <https://www.oeb.ca/fr/industrie/demandes-en-cours/consultation-des-peuples-autochtones>
- Vous pouvez déposer une lettre de commentaires qui sera prise en compte au cours de l'audience;
- Vous pouvez participer à titre d'intervenant. En tant qu'intervenant, vous pouvez poser des questions sur la demande d'Enbridge Gas et présenter des raisons pour lesquelles la CEO devrait approuver la demande d'Enbridge Gas. Inscrivez-vous avant le **21 août 2023**, faute de quoi l'audience aura lieu sans votre participation et vous ne recevrez plus d'avis dans le cadre de la présente affaire
- Vous pourrez examiner la décision rendue par la CEO à l'issue de la procédure ainsi que les motifs de sa décision sur notre site Web.

EN SAVOIR PLUS

Le numéro de référence de ce dossier est -EB2022-0157. Pour en savoir plus sur cette audience, obtenir des instructions sur la manière de déposer un document ou encore pour consulter les documents relatifs à ce dossier, veuillez sélectionner le numéro de dossier -EB2022-0157 à partir du lien <https://www.oeb.ca/fr/participez/applications/requetes-tarifaires-en-cours> sur le site Web de la CEO. Pour toute question, vous pouvez également communiquer avec notre centre d'information du public au 1 877 632-2727.

FORMAT D'AUDIENCE

Il existe trois types d'audiences à la CEO : les audiences orales, les audiences écrites et les audiences électroniques. Enbridge Gas a demandé une audience écrite. La CEO examine actuellement cette demande. Si vous pensez qu'une audience orale est nécessaire, vous pouvez faire part de vos arguments par écrit à la CEO au plus tard le **21 août 2023**.

PROTECTION DES RENSEIGNEMENTS PERSONNELS

Si vous écrivez une lettre de commentaires, votre nom et le contenu de cette lettre seront ajoutés au dossier public et au site Web de la CEO. Toutefois, votre numéro de téléphone, votre adresse de domicile et votre adresse électronique ne seront pas rendus publics. Si vous représentez une entreprise, tous les renseignements de l'entreprise demeureront accessibles au public. Si vous participez à titre d'intervenant, tous vos renseignements seront rendus publics.

Cette audience sur les tarifs sera tenue en vertu des articles 90(1) et 97 de la Loi de 1998 sur la Commission de l'énergie de l'Ontario, L.O. 1998, chap. 15 (annexe B).

Commission de l'énergie de l'Ontario

C.P. 2319, 27^e étage

2300, rue Yonge

Toronto (Ontario) M4P 1E4

À l'attention de : Registraire

Dépôts : <https://p-pes.ontarioenergyboard.ca/PivotalUX/>.

Courriel : registrar@oeb.ca

ONTARIO ENERGY BOARD

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

AND IN THE MATTER OF an application by Enbridge Gas Inc. for an order granting leave to construct natural gas pipelines in the Municipality of Chatham Kent and Essex County.

APPLICATION

1. Enbridge Gas Inc. (“Enbridge Gas” or the “Company”) hereby applies to the Ontario Energy Board (the “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 granting leave to construct approximately 19 km of Nominal Pipe Size (“NPS”) 36 natural gas pipeline with a Maximum Operating Pressure (“MOP”) of 6040 kPag from the existing Enbridge Gas Dover Transmission Station in the Municipality of Chatham-Kent to a new valve site in the Municipality of Lakeshore. /U

2. Enbridge Gas will also construct ancillary measurement, pressure regulation, and station facilities within the Township of Dawn Euphemia and in the Municipality of Chatham-Kent. /U

3. The facilities, collectively referred to as the Panhandle Regional Expansion Project (“Project”), are required to expand Enbridge Gas’s Panhandle Transmission System (“Panhandle System”), which transports natural gas between Enbridge Gas’s Dawn Compressor Station, located in the Township of Dawn Euphemia, and the Ojibway Valve Site, located in the City of Windsor, serving residential, commercial, and industrial markets through natural gas distribution systems in the municipalities of

Dawn-Euphemia, St Clair, Chatham-Kent, Windsor, Lakeshore, Leamington, Kingsville, Essex, Amherstburg, LaSalle, and Tecumseh (“Panhandle Market”).

4. The Project as proposed is designed to reliably serve increased demands for firm service in the Panhandle Market, including, in particular, incremental demands from the greenhouse, automotive, and power generation sectors. The Project was identified in Enbridge Gas’s Asset Management Plan as part of the Company’s 2022 Rates proceeding.¹ With leave of the OEB, construction of the NPS 36 pipeline and ancillary measurement, pressure regulation and station facilities is planned to commence in Q1 2024 and be placed into service by November 2024. The capacity provided by the Project is intended to ensure the growing Panhandle Market has sufficient capacity until Winter 2029/2030. /U

5. A map of the proposed facilities is included at Attachment 1 to this Exhibit. /U

6. Selection of the route and location for the proposed facilities associated with the Project was supported 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”).

7. 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

¹ EB-2021-0148

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.

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

9. 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 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.

10. Enbridge Gas requests that 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:

(a) The Applicant	Haris Ginis Technical Manager, Leave to Construct Applications	/U
Address:	500 Consumers Road Toronto, ON M2J 1P8	
Telephone:	(416) 495-5827	
Email:	haris.ginis@enbridge.com EGIRegulatoryProceedings@enbridge.com	

(b) The Applicant's counsel (1) Tania Persad
Associate General Counsel, Regulatory Law
Enbridge Gas Inc.

Address for personal service 500 Consumers Road
Toronto, ON M2J 1P8

Mailing Address: P. O. Box 650, Scarborough, ON M1K 5E3

Telephone: 416-495-5891

Fax: 416-495-5994

Email: tania.persad@enbridge.com

(c) The Applicant's counsel (2) Charles Keizer
Torys, LLP

Mailing Address: 79 Wellington St. W, 30th Floor, Box 270, TD
South Tower, Toronto, ON M5K 1N2

Telephone: 416-865-7512

Fax: 416-865-7380

Email: ckeizer@torys.com

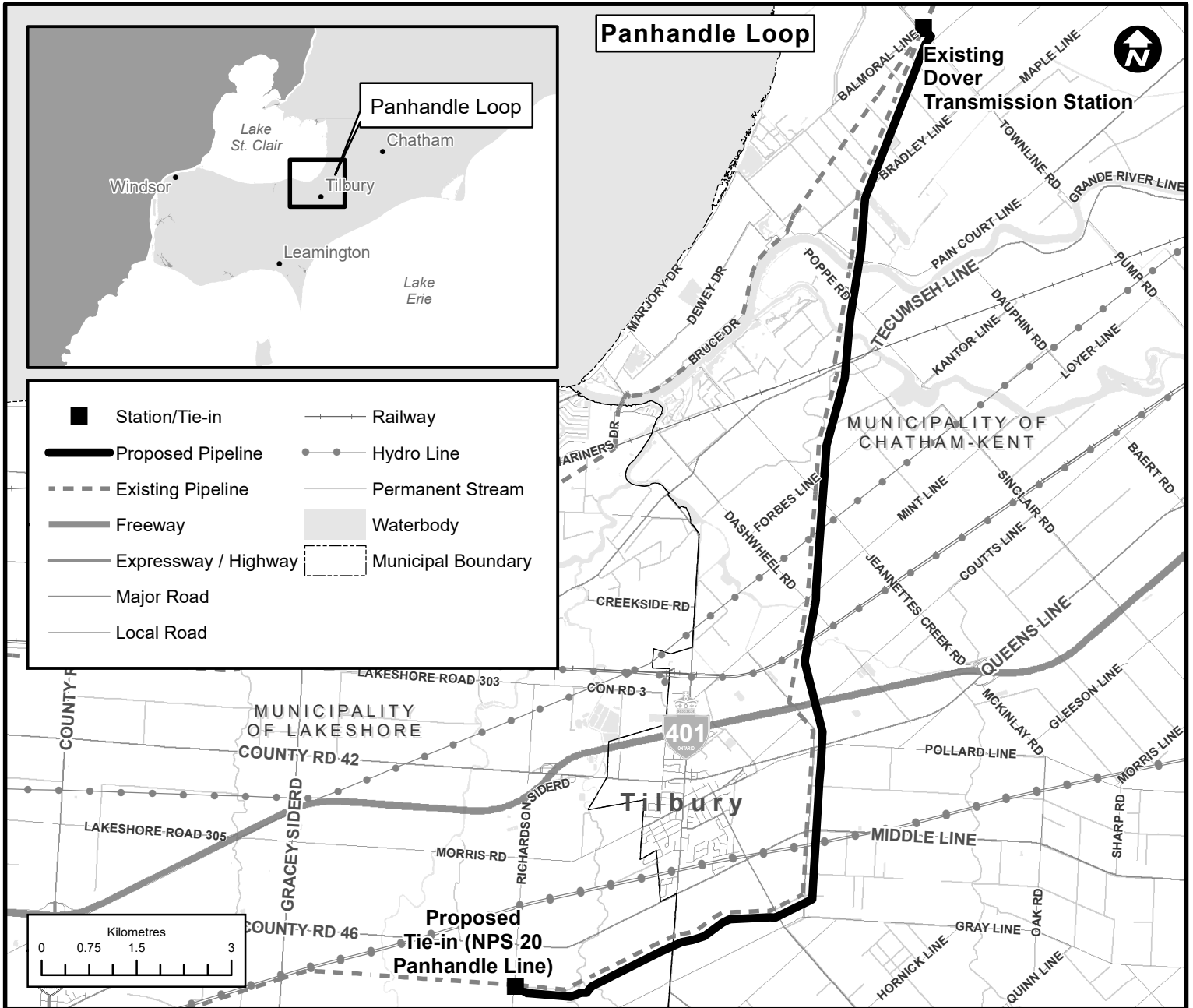
DATED at the City of Chatham, Ontario this 10th day of June 2022.

ENBRIDGE GAS INC.

(Original Digitally Signed)

Haris Ginis,
Technical Manager, Leave to Construct Applications

/U



SUMMARY OF APPLICATION

1. In response to increasing natural gas demand growth in the areas served by Enbridge Gas's Panhandle Transmission System ("Panhandle System"), Enbridge Gas is proposing to construct the following facilities, collectively referred to as the Panhandle Regional Expansion Project ("Project"):
 - Approximately 19 km of Nominal Pipe Size ("NPS") 36 natural gas pipeline with a Maximum Operating Pressure ("MOP") of 6040 kPag from the existing Enbridge Gas Dover Transmission Station in the Municipality of Chatham-Kent to a new valve site in the Municipality of Lakeshore; and,
 - Ancillary measurement, pressure regulation, and station facilities within the Township of Dawn Euphemia and in the Municipality of Chatham-Kent.

2. The Panhandle System is comprised of transmission pipelines to transport natural gas between Enbridge Gas's Dawn Compressor Station ("Dawn"), located in the Township of Dawn-Euphemia and the Ojibway Valve Site ("Ojibway"), located in the City of Windsor. The Panhandle System feeds distribution systems serving residential, commercial, and industrial markets in the municipalities of Dawn-Euphemia, St. Clair, Chatham-Kent, Windsor, Lakeshore, Leamington, Kingsville, Essex, Amherstburg, LaSalle, and Tecumseh ("Panhandle Market").

3. The current (Winter 2022/2023) Panhandle System capacity is 737 TJ/d. Enbridge Gas plans its facilities to reliably serve firm in-franchise customer demand on the coldest observed day on record, which is referred to as the "Design Day." Enbridge Gas's current Design Day demand forecast indicates that the Panhandle System demand will exceed capacity by 66 TJ/d beginning in Winter 2024/2025, which increases to 156 TJ/d by Winter 2028/2029. As a result of this demand growth,

/U

/U

there is a need for capacity to meet the forecasted firm customer demands by November 1, 2024 and beyond.

4. Enbridge Gas's current Panhandle System Design Day demand forecast is developed from the contract demand and customer attachment forecasts. Growth is forecast to occur across the entire Panhandle System with concentration in the Leamington-Kingsville and Windsor areas. Details of the Enbridge Gas growth forecast for contract and general service rate classes are provided in Exhibit B, Tab 1.
5. The Company's Panhandle System network analysis and determination of the need to mitigate the forecasted shortfall are discussed in Exhibit B, Tab 2. This network analysis has identified that the operational requirements of the Panhandle System cannot be met for Winter 2024/2025. To continue to provide reliable firm service to new and existing general service and contract rate customers, Enbridge Gas must address this forecasted shortfall beginning November 1, 2024. The optimal solution to address the forecasted shortfall is the proposed Project, which targets the largest pressure bottleneck on the current Panhandle System. /U
6. The proposed Project is designed to reliably serve the increased demands for firm service in the Panhandle Market including, in particular, from the greenhouse, automotive, and power generation sectors. Reliably serving this increased demand is vital to the continued economic well-being of the region. The additional capacity of 168 TJ/d resulting from the Project will support the continued reliable and secure delivery of natural gas to the growing residential, commercial, and industrial customer segments within the Panhandle Market. /U

7. Affordable energy is critical to the development and prosperity of communities and businesses. Affordable energy promotes and enables growth in the economy, provides savings for residential customers and helps maintain the global competitiveness of Ontario's businesses. Natural gas is the most affordable energy source available to customers.

8. The Project will directly support job growth, increase property tax revenue for the affected municipalities and increase tax revenue for the province. Furthermore, as indicated by various letters of support received by Enbridge Gas (see Exhibit B, Tab 1, Schedule 1, Attachments 3 – 7), the Project has broad support from regional municipalities as well as major customer groups. For example:

The Chatham-Kent Chamber of Commerce said:

"In order for future growth in Chatham-Kent area to be realized, sufficient natural gas infrastructure will be required and expansion of service is necessary to support current and planned economic developments in the region, particularly in the fast-growing greenhouse, manufacturing sectors and, with that, residential growth of the Chatham-Kent, Windsor and Essex County area. This project is critical for attracting new and aspiring developments by guaranteeing increased access to energy needed for all sectors of the local economy."

Mayor Drew Dilkens, on behalf of the City of Windsor, wrote:

"... this project represents an investment in the future of our region. Simply put, (the) project ensures that Enbridge Gas continues to meet the ongoing needs of longstanding businesses and industries in Windsor, at a time we are experiencing exponential growth. This project is also critical for attracting future developments by guaranteeing increased access to energy for all sectors of the local economy."

The Ontario Greenhouse Vegetable Growers Association ("OGVG"), stated:

"Natural gas is necessary now more than ever, as we implement technology that will allow more greenhouse farms to grow year-round, effectively extending the annual production cycle. This directly translates to more affordable food, more jobs created and ultimately, robust economies in the communities in which we serve."

FCA Canada Inc (Stellantis), which has recently announced several expansions to their automotive manufacturing operations within Southwestern Ontario, stated:

“This Project is also critical for attracting future investment and developments by guaranteeing increased access to energy for all sectors of the local economy. As Stellantis looks to its future, it is imperative that we have reliable and affordable access to energy, which we trust the (Enbridge) Gas Panhandle Regional Expansion Project will deliver.”

9. With leave of the OEB, construction of the NPS 36 pipeline and ancillary measurement, pressure regulation, and station facilities is planned to commence in Q1 2024 to allow these facilities to be placed into service by November 2024. The capacity provided by the Project is intended to ensure the growing Panhandle Market has sufficient capacity until Winter 2029/2030. /U
10. Through the consideration of alternatives, Enbridge Gas has determined that the proposed Project represents the best way to address the identified needs. In particular, Enbridge Gas considered several facility, non-facility and hybrid alternatives and determined that the proposed Project is the optimal solution for meeting the forecasted system need and is in the best interests of Enbridge Gas’s customers. The assessment of Project alternatives is described in Exhibit C.
11. Enbridge Gas is proposing to construct the Project following its standard construction practices which have been refined over many years. The design of the pipeline will meet or exceed all applicable Canadian Standards Association code requirements. Experienced contractors familiar with Enbridge Gas’s design and construction practices are available to construct the proposed facilities. Detailed information about the proposed Project, the construction schedule, and related engineering and construction specifications can be found in Exhibit D.

12. The proposed Project is estimated to cost \$358.0 million. Pursuant to the OEB's recommendations in the E.B.O. 134 Report of the Board, Enbridge Gas completed an economic assessment of the Project. Based on the results of this assessment, Enbridge Gas has determined that the Project is in the public interest and is economically viable. A detailed breakdown of the Company's estimated Project cost and economic analysis can be found in Exhibit E. /U
13. As outlined in Exhibit E, Tab 1, Schedule 1, Enbridge Gas is not seeking cost recovery of the Project as part of this application. Enbridge Gas expects that, as part of its 2024 rebasing application, the recovery of costs associated with this Project will be addressed. Enbridge Gas will allocate Project costs to rate classes according to the cost allocation methodology approved as part of that proceeding, or as otherwise approved by the OEB. /U
14. Selection of the route and location for the proposed facilities associated with the Project was supported 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"). This route evaluation and the results of an environmental and socio-economic impact study for the Project are documented in an Environmental Report, which is discussed in detail and included in Exhibit F. As outlined in this evidence, Enbridge Gas is confident that by following its standard construction practices and adhering to the recommendations and mitigation measures identified in the Environmental Report, there will be no significant environmental impacts resulting from the construction of the proposed Project.
15. Detailed maps of the Project route, which include the locations of municipalities, highways, railways, utility lines and navigable waters, as applicable, are included in Exhibit G. The permanent and temporary land rights necessary for the construction

of the Project will be acquired from individual landowners. Most of the proposed pipeline will be constructed in agricultural land within new easements. Exhibit G includes a description of Enbridge Gas's approach to land rights acquisition, including negotiations with impacted landowners, the standard forms of agreements which Enbridge Gas has offered or will offer to landowners impacted by the Project and its construction, and a description of the potential permits and authorizations that will be obtained by the Company in advance of constructing the proposed Project.

16. Enbridge Gas is committed to developing and implementing processes that support meaningful engagement with potentially affected Indigenous groups (First Nations and Métis). Through these processes, 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. The Ontario Ministry of Energy has delegated the procedural aspects of the constitutional duty to consult for the Project to Enbridge Gas. Details of the Company's engagement activities with potentially impacted Indigenous communities can be found in Exhibit H.

17. In summary, it is critical that Enbridge Gas provide additional capacity on the Panhandle System to meet the forecasted firm demand of customers in the Panhandle Market. The proposed Project will cost-effectively provide the required incremental capacity within the necessary timeframe. In doing so, the Project will provide a continuing source of affordable energy for residential customers while offering a competitive advantage to commercial and industrial customers, thereby helping to ensure economic growth not only in the Panhandle Market, but across the Southwestern Ontario region.

PROJECT UPDATE SUMMARY

1. On June 10, 2022, Enbridge Gas applied to the 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 granting leave to construct the following:
 - Approximately 19 km of Nominal Pipe Size (“NPS”) 36 natural gas pipeline with a Maximum Operating Pressure (“MOP”) of 6040 kPag from the existing Enbridge Gas Dover Transmission Station in the Municipality of Chatham-Kent to a new valve site in the Municipality of Lakeshore (“Panhandle Loop”); and,
 - Approximately 12 km of NPS 16 natural gas pipeline with a MOP of 6040 kPag in the Municipality of Lakeshore, the Town of Kingsville, and the Municipality of Leamington (“Leamington Interconnect”).
2. Enbridge Gas also planned to construct ancillary measurement, pressure regulation, and station facilities within the Township of Dawn Euphemia, in the Municipality of Chatham-Kent, and valve-site station facilities within the Town of Kingsville and the Municipality of Leamington.
3. On July 4, 2022, the OEB issued a Notice of Hearing and subsequently established initial procedural steps in Procedural Order No. 1 which was issued on August 12, 2022. Throughout the months that followed, the OEB, Enbridge Gas, and intervening parties engaged in a robust review of the Company’s Application, including extensive discovery via written interrogatories, a virtual technical conference and written undertakings.
4. On November 10, 2022, the OEB issued Procedural Order No. 3 which set out procedural timelines including the date by which Enbridge Gas’s Argument-in-Chief was due to be filed with the OEB and sent to intervening parties (December 5, 2022).
5. On December 5, 2022, Enbridge Gas notified the OEB and parties that, due to unexpected circumstances, the Company was not in a position to proceed with the filing of its Argument-in-Chief. The Company went on to request that the OEB place the Application into abeyance as it had identified potentially material increases to certain components of the estimated Project costs, and that it was in the process of

assessing the new cost information and its implications for the Application and the evidence before the OEB.

6. On December 14, 2022, the OEB issued Procedural Order No. 4 which approved Enbridge Gas's request to place the Application into abeyance and directed the Company to advise the OEB no later than February 1, 2023, of the date by which it would file an amended application. Additionally, the OEB acknowledged submissions made by certain parties in the interim regarding the applicability of the OEB's E.B.O. 134 and E.B.O. 188 economic tests and the extent to which contributions in aid of construction ("CIAC") should be required for the Project. The OEB noted that Enbridge Gas may wish to consider whether to provide additional evidence on those issues as part of its proposed update to its Application and whether it should be communicating with potentially affected customers regarding the same.
7. On February 1, 2023, Enbridge Gas filed a letter stating that, following receipt of the new cost information, the Company also re-assessed the capacity position of the Panhandle System based on actual 2022 attachments and their system locations, as well as updated 2023 customer demand. As a result of that re-assessment, the Company anticipated that incremental demand for Winter 2023/2024 could be accommodated and that the Project's in-service date can be deferred one year (from November 1, 2023, to November 1, 2024). Accordingly, Enbridge Gas requested that the OEB continue to hold the Application in abeyance until no later than August 2023, at which time the Company expected to file an amended Application that would address all of the issues summarized above.
8. On February 7, 2023, the OEB issued Procedural Order No. 5 which confirmed the Application would remain in abeyance until such time that Enbridge Gas files the amended Application and the OEB issues a new procedural schedule. The OEB also ordered Enbridge Gas to file, no later than July 31, 2023, a letter confirming when it expects to file the amended Application.
9. The updates provided within this amended Application reflect the outcomes of Enbridge Gas's re-assessment of the issues summarized above (i.e., new project cost information, updated demand forecast, and updated Panhandle System capacity) and their implications on Project scope and timing. Accordingly, the purpose of this Exhibit is to explain and contextualize the Project updates reflected throughout this updated Application. This Exhibit is organized as follows:

- A. New Project Cost Information
- B. Updated Demand Forecast
- C. Updated Panhandle System Capacity
- D. Contributions in Aid of Construction
- E. Outcome and Summary

10. For ease of reference, a complete list of all evidence updates is provided within the covering letter to the updated Application.

A. New Project Cost Information

11. In Q4 2022, Enbridge Gas received new Project cost information through a standard request for proposal (“RFP”) process that the Company had been undertaking. The new pricing information received from contractors via the RFP process indicated new Project cost estimates that were materially higher than previous estimates.
12. As an outcome of Enbridge Gas’s review of the new cost information, the Company found that the increased cost estimates were driven primarily by inflationary pressures and, to a lesser extent, by refinements in engineering design.
13. Regarding inflationary pressures, the Company found that prices for materials and labour had significantly increased since 2021. These increases are believed to be driven by supply chain challenges that have arisen in recent years, including:
- Global supply chain issues – Recent global conflicts and the COVID-19 pandemic have negatively impacted supply chain dynamics, causing an increase in costs for a wide range of products.
 - Limited capacity at production facilities – Production facilities have experienced capacity and labour challenges, resulting in fewer quantities of products being available, and therefore increasing their costs.
14. Regarding refinements to Project engineering designs, as part of standard Project development activities the Company further refined Project design. The results of the refinements to engineering design included but are not limited to additional trenchless crossings and additional materials (ex., valves, actuators, and cabling), which resulted in increased cost.

B. Updated Demand Forecast

15. Following the Application being placed into abeyance in December 2022 and given market indications that demand for natural gas continued to evolve, Enbridge Gas launched an additional Expression of Interest (“EOI”) and Reverse Open Season (“ROS”) to re-assess and re-confirm customer demand for natural gas services (firm and/or interruptible) in the Project area from 2024 to 2031.
16. Enhancements were made to the EOI/ROS process to gain further clarity and certainty regarding the nature of customer interest/bids. More specifically, customers who responded to the EOI/ROS were asked to provide additional information regarding the viability of interruptible service as an alternative to new firm service, including whether they would be more inclined to consider interruptible service over new firm service if the ability to negotiate lower than posted interruptible rates was available. Customers were also asked to confirm that their EOI bid amounts are inclusive of all future expected natural gas conservation activities, including natural gas conservation activities within and outside of Enbridge Gas’s Demand Side Management programs, and the use of non-natural gas alternatives.
17. Using the results of the additional EOI/ROS, an updated demand forecast to Winter 2030/2031 was developed which reflects decreases in customer demand, including:
- Winter 2023/2024 customer demands decreased by 14 TJ/d, from 744 TJ/d to 730 TJ/d.
 - The 5-year demand forecast (i.e., the total forecast demand in Winter 2028/2029) decreased by 40 TJ/d, from 932 TJ/d to 892 TJ/d.¹
18. The impact to Project scope and in-service date caused by the updated demand forecast combined with the increase in the Panhandle System’s capacity realized for 2022/2023 (described in Section C below) is described in Section E below. More information regarding the updated EOI/ROS and demand forecast can be found at Exhibit B, Tab 1, Schedule 1.

¹ As described in Section C of this Exhibit, the existing capacity of the Panhandle System is 737 TJ/d.

C. Updated Panhandle System Capacity

19. Following the Application being placed into abeyance in December 2022 (at the Company's request), Enbridge Gas re-evaluated existing system capacity based on the impact of actual 2022 customer demands, updated forecast demands, updated SWAHV, and supply volumes on the Panhandle System.² As a result of this assessment the Company found that:

- i. The nature, magnitude and location of actual customer demands has changed and the Company expects there to be less pressure loss on the existing system, and thus greater existing/remaining capacity, than originally estimated. The existing Panhandle System is now forecasted to be able to serve an additional 27 TJ/d of capacity compared to the previous modelling and forecasts, until Winter 2024/2025 at which time customer demands are expected to exceed the system's capacity.
- ii. Panhandle System capacity decreased by 3 TJ/d due to the updated SWAHV.
- iii. There were no changes to system capacity due to supply volumes and their locations.

20. The outcome of the changes described above increased the existing Panhandle System capacity by 24 TJ/d from 713 TJ/d to 737 TJ/d. The impact to the Project's in-service date due to this increase in Panhandle System capacity combined with the decrease in customer demand (described in Section B above) is described in Section E below.

D. Contributions in Aid of Construction

21. Following the OEB's remarks in Procedural Order No. 4 regarding CIAC, Enbridge Gas account managers conducted outreach to customers who indicated their intention to submit an EOI bid. Customers were asked about the impact a requirement for CIAC would have on their demands for new/incremental service. The themes of the feedback are as follows:

² Existing system capacity is based on the existing pipeline facilities, customer demand volumes and location, the energy content of natural gas (also known as the system-wide average heating value, or "SWAHV"), and supply volumes and location.

- Customers submitting EOI bids for new/incremental service were generally doing so under the assumption that the OEB would apply the established regulatory framework for transmission system expansion projects, which does not require CIAC, consistent with similar projects constructed in the past. Customers generally indicated opposition to being required to provide CIAC to support transmission system expansion in this instance.
- No customer indicated that they would be willing to provide CIAC for a transmission system expansion project without understanding the magnitude of the CIAC and the unique justification for its selective application in this instance.

22. On this basis, and for the reasons already set out on the record for the current Application, the Company re-iterates that it is not appropriate to require CIAC from specific customers for the proposed Project because, as a transmission system, the Panhandle System transports natural gas for the benefit of all customers within the Panhandle Market – rather than individual or specific customers.³

23. The Panhandle System transports natural gas supply and stored volumes from the Dawn Hub and upstream supply basins into and through Enbridge Gas's integrated storage and transmission systems, and ultimately distribution systems to end use customers. Enbridge Gas's transmission systems are connected to multiple upstream supply basins, storage facilities and markets through ex-franchise transmission pipelines. This provides Enbridge Gas's ratepayers access to multiple sources of economic natural gas supply. As a result, Ontario ratepayers pay a lower cost for natural gas supply than they otherwise would and rarely experience disruption of firm natural gas services. Accordingly, the continued expansion of the Panhandle System will allow existing and future customers to experience the same diversity, reliability, and resiliency of Enbridge Gas's integrated natural gas storage and transmission systems. This results in increased energy price stability and competitiveness, and mitigates supply shortfall or disruption to the benefit of all Ontario natural gas customers.

E. Outcome and Summary

24. The combined effects of the decrease to the customer demand forecast (as described in Section B above) and an increase in the existing system capacity (as

³ Exhibit JT1.3

described in Section C above) has resulted in a Winter 2023/2024 surplus capacity of 6 TJ/d rather than the previously projected shortfall of 31 TJ/d. As such, the original Project in-service date has been deferred one year, from November 1, 2023, to November 1, 2024. Assuming the Panhandle Loop is placed into service by November 2024, the Panhandle System is now expected to have sufficient capacity to serve incremental customer demands (as confirmed through the EOI/ROS) through Winter 2028/2029.

25. Similarly, whereas the Company originally projected that the Leamington Interconnect would be required to meet a system shortfall in Winter 2025/2026 (following construction of the Panhandle Loop in 2023), the combined effects of the updates discussed above indicate that a further system shortfall (like that driving the need for the Leamington Interconnect) will not occur until Winter 2029/2030. For these reasons Enbridge Gas has elected to remove the Leamington Interconnect from the scope of the proposed Project at this time. Enbridge Gas will reassess the need for the Leamington Interconnect in the future should projected system shortfalls come to fruition and warrant its reconsideration.

26. Please see Table 1 below for a summary comparison of the original application and the current updated application.

Table 1: Summary Comparison – Original Application (June 2022) and Updated Application (June 2023)

	Existing System Capacity (TJ/d)	Winter 2023/2024 Demand Forecast (TJ/d)	Winter 2024/2025 Demand Forecast (TJ/d)	Total Project Capital Expenditure (\$ Million)	Incremental Project Capacity (TJ/d)	Total System Capacity with Project (TJ/d)	Project Timing (Initial In-Service Date)
Original Application (June 2022)	713	744	828	314.4	203	916	November 1, 2023
Updated Application (June 2023)	737	730	802	358.0	168	904	November 1, 2024

PROJECT NEED

1. The purpose of this Exhibit is to describe the need and timing for the proposed Project.
2. This Exhibit is organized as follows:
 - A. Introduction
 - B. Existing System Capacity
 - C. Incremental Demand
 - i. Contract Rate Growth Forecast
 - ii. General Service Growth Forecast
 - iii. Total Panhandle System Growth Forecast
 - D. System Growth Benefits
 - E. Project Timing and Enbridge Gas Growth Plans
 - F. Conclusion

A. Introduction

3. The proposed Project is in response to increasing natural gas demand growth in the areas served by the Panhandle System. Specifically, Enbridge Gas is forecasting continued demand growth from commercial, industrial, and residential customers located in the areas west of Dawn, with concentrations in the Municipalities of Windsor, Leamington, and Kingsville.

B. Existing System Capacity

4. The current (Winter 2022/2023) Panhandle System capacity is 737 TJ/d. The forecasted firm demand on the Panhandle System for Winter 2022/2023 is 698 TJ/day. Enbridge Gas's current Design Day demand forecast, discussed in detail below, indicates that the Panhandle System demand will increase by 32 TJ/d to 730 TJ/d by Winter 2023/2024, and by an additional 72 TJ/d to 802 TJ/d in Winter 2024/2025. As a result of this growth, there is a need for capacity to meet the forecasted firm customer demands by November 1, 2024 and beyond.
5. Details of the Company's Panhandle System network analysis and determination of the need to mitigate the forecasted shortfall are discussed at Exhibit B, Tab 2, Schedule 1.

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C. Incremental Demand

6. The firm demand for natural gas from new and existing general service and contract rate customers has continued to grow on the Panhandle System over the past decade. Prior to 2017, Enbridge Gas was able to reinforce the Panhandle System by constructing downstream facilities, such as the Leamington North Loop (Leamington Expansion Phase I project in 2013¹ and Phase II project in 2016²), upsizing of pipeline between Ruscom and Patillo from NPS 16 to NPS 20 through the Panhandle NPS 16 Replacement Project between 2014 and 2016³, and by relying on Enbridge Gas's firm gas supply arriving at Ojibway to serve markets within the Windsor region.
7. Starting in 2017, Enbridge Gas expanded the Panhandle System to meet increasing demands for firm service from Enbridge Gas's distribution systems which serve the in-franchise markets in the Municipalities of Dawn-Euphemia and St. Clair, Chatham-Kent, Lakeshore, Essex, Tecumseh, Leamington, Kingsville, LaSalle, Amherstburg and Windsor (together "the Panhandle Market"). The Panhandle Reinforcement Project ("PRP")⁴ was placed into service on November 1, 2017, to serve forecasted demand growth out to Winter 2021/2022, including unfulfilled demand requests from the Leamington Expansion Phase II project.
8. In 2018, Enbridge Gas's Kingsville Transmission Reinforcement Project ("KTRP")⁵ was advanced by 3 years from the initial forecasted in-service date of November 1, 2022 to November 1, 2019. The forecasted Panhandle System capacity shortfall at that time occurred in Winter 2020/2021, but the Project was placed into service in 2019 to alleviate the need for incremental downstream distribution system expansion. The KTRP facilities were designed to meet forecasted demand in the Panhandle Market out to Winter 2025/2026, based on the best information then available.
9. Consistent with these past experiences, significant growth has continued within the Panhandle Market and demand is forecast to exceed the Panhandle System capacity sooner than anticipated, resulting in the need to address a forecasted system capacity shortfall by November 1, 2024.

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¹ EB-2012-0431

² EB-2016-0013

³ EB-2013-0420

⁴ EB-2016-0186

⁵ EB-2018-0013

10. Enbridge Gas's current Panhandle System Design Day demand forecast is developed from the contract demand and customer attachment forecasts. Growth is forecast to occur across the entire Panhandle System with concentration in the Leamington-Kingsville and Windsor areas. Details of the Enbridge Gas growth forecast for contract and general service rate classes are provided in the sections below.

i. Contract Rate Growth Forecast

2021 Expression of Interest and Reverse Open Season – Approach and Outcomes

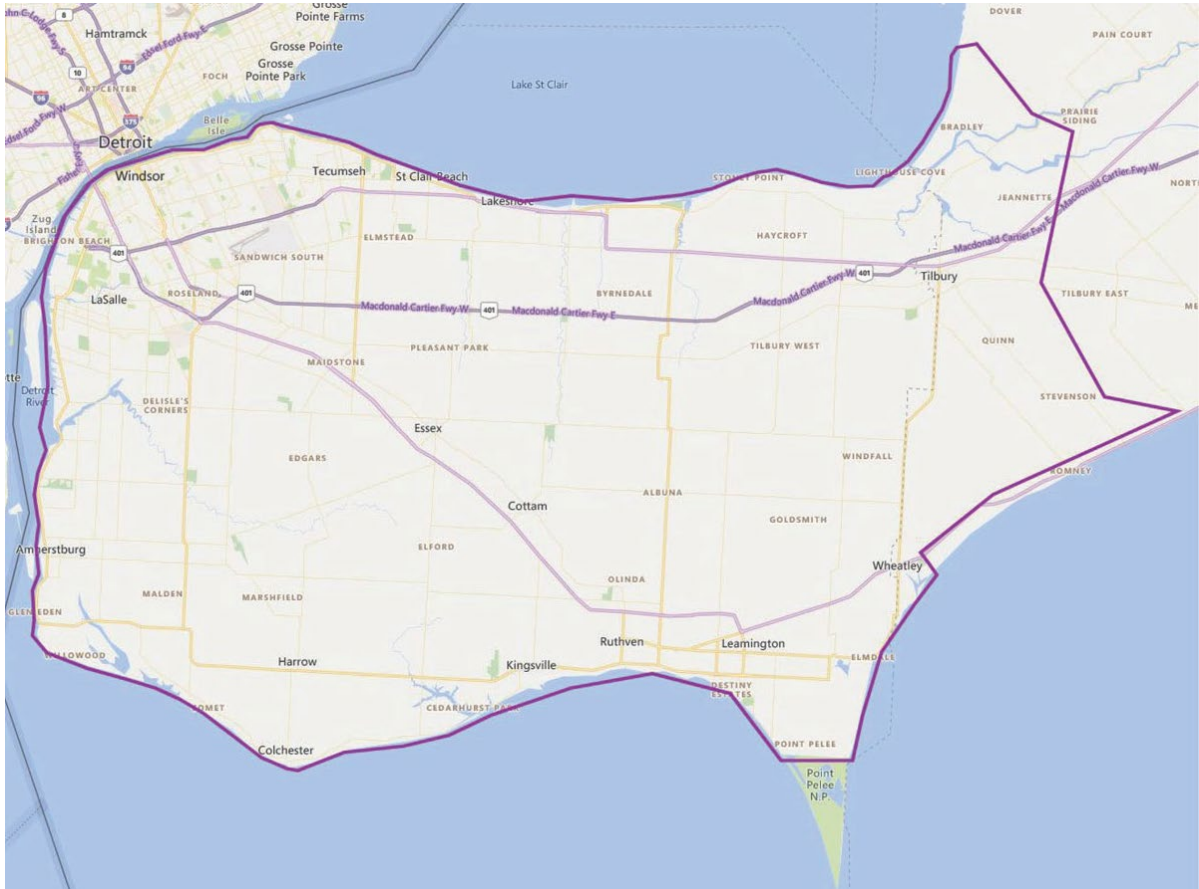
11. The contract rate (Rate M/BT4, Rate M/BT5, Rate M/BT7, Rate T-1 and Rate T-2) demand accounts for approximately 55% of firm demand served by the Panhandle System as of Winter 2021/2022. Based on early indications of incremental demand obtained by informal contract rate customer outreach, Enbridge Gas launched an Expression of Interest ("EOI") process in February 2021 to formally gauge interest for incremental growth on the Panhandle System⁶. An email notification announcing the EOI was sent to all existing contract rate customers, all large volume general service rate M2 customers within the Area of Benefit, and the direct purchase marketer community. The EOI and related bid forms were also posted on Enbridge Gas's website. The EOI is provided as Attachment 1 to this Exhibit.

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12. The EOI included a map, shown in Figure 1 below, depicting the Area of Benefit. The Area of Benefit included all of Essex County as well as the western portion of the Municipality of Chatham-Kent.

⁶ Enbridge Gas's Expression of Interest process is intended to collect and aggregate all potential customer demand changes in a targeted Area of Benefit, so that an optimized facility or non-facility solution can be developed and implemented in a timely manner. In addition to soliciting requests for firm capacity and conversion of existing interruptible capacity to firm, it allows for customers to express interest in additional interruptible capacity. Existing customers are also provided an opportunity to turn back or de-contract existing firm or interruptible capacity. The net of all changes requested through the process supports the generation of an informed demand forecast for the Area of Benefit.

Figure 1 – Expression of Interest Area of Benefit Map



13. Customers were invited to express their interest for incremental Panhandle System capacity by submitting a bid form that included details of their location, expected new or incremental firm or interruptible hourly natural gas requirements, and expected timing. The EOI bid forms were non-binding and were intended to gather information on potential customer demands over the 2023-2033 period.
14. To provide clarity on the EOI process and ensure customers understood the information requested on the EOI bid forms, Enbridge Gas followed up with contract rate customers to discuss the EOI. Meetings were also held with local economic development officials and other external stakeholders to ensure they were informed of the intent and timelines of the EOI and to answer any questions regarding the EOI process and bid forms.
15. The EOI closed on March 31, 2021. All bids received were acknowledged via email from Enbridge Gas. In total, 44 bid forms from interested parties were received, indicating over 318 TJ/d of interest for incremental firm and interruptible demand over the 2023-2033 period. Of the 44 bid forms received, 43 of the requests for additional capacity were from customers in the greenhouse sector and one request was from a large power generator (Brighton Beach Power L.P. (doing business as Atura Power (“Atura”))). The 43 requests from the greenhouse sector came from 38

greenhouse customers. Several greenhouse sector customers submitted multiple bid forms, each representing a specific location for which new or incremental service was requested.

16. The response to the EOI far exceeded Enbridge Gas's initial incremental demand projections and confirmed that demand for natural gas in the region is expected to grow significantly over the next 10 years.
17. The interest for incremental firm service received from the greenhouse sector through the EOI process is consistent with IESO reports identifying incremental demand for electricity driven by anticipated growth in the greenhouse sector in Windsor-Essex and Chatham-Kent.⁷ Greenhouses require electricity primarily for lighting, but also require natural gas for heating, power generation, and other process-related needs. Increased awareness of the importance of food security and affordability, advances in technology enabling year-round crop growing, and the addition of new crop types to greenhouses are expected to contribute to an increase in greenhouse acreage developed in the region over the next decade.
18. After the close of the EOI process, Enbridge Gas was approached by a large industrial customer from the automotive industry (Stellantis N.V. ("Stellantis")) which requested incremental natural gas service to their planned large scale electric vehicle ("EV") battery manufacturing facility in Windsor, Ontario. This facility is part of a joint-venture agreement between LG Energy Solution ("LGES") and Stellantis and will operate under the legal name NextStar Energy Inc. ("NextStar"). Because Enbridge Gas was in the process of finalizing a contract with NextStar this demand was included in the contract rate demand forecast for the Project. Enbridge Gas has since finalized a contract with NextStar for service commencing in September 2023, using existing capacity.
19. To promote the most efficient means of meeting the growing demands in the Panhandle Market, including minimizing the need for incremental facilities and thereby the overall costs to ratepayers, Enbridge Gas provided existing contract rate and large volume general service customers the opportunity to turnback firm or interruptible capacity or convert existing firm capacity to interruptible capacity in the Area of Benefit on two separate occasions.

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⁷ <https://www.ieso.ca/-/media/Files/IESO/Document-Library/planning-forecasts/apo/Dec2021/2021-Annual-Planning-Outlook.ashx>

20. First, on the EOI bid form, customers in the Area of Benefit were provided an opportunity to turn back or de-contract existing firm or interruptible capacity. Any capacity turned back can be used to serve additional growth prior to the addition of new facility or non-facility projects. Enbridge Gas received no interest to turn back capacity as part of the EOI process.
21. Second, a follow-up Binding Reverse Open Season was issued on September 29, 2021 and closed on October 15, 2021. The Binding Reverse Open Season can be found at Attachment 2 to this Exhibit. Email notification of the Binding Reverse Open Season was sent to all existing contract rate customers in the Area of Benefit, as well as to the energy marketer community, including a link to further information located on Enbridge Gas's website. Enbridge Gas received no requests to turn back capacity as part of the Binding Reverse Open Season.
22. In addition to the EOI and Binding Reverse Open Season processes, customers can de-contract firm or interruptible capacity provided they meet the notice requirements per the terms and conditions of their distribution contract. Enbridge Gas has not received any communications from customers requesting to reduce their existing firm or interruptible contract demands since the close of the Binding Reverse Open Season. Enbridge Gas does not expect existing contract rate customers will turn back firm capacity, as demand for natural gas in the region continues to increase.

2023 Expression of Interest and Reverse Open Season – Approach and Outcomes

23. On February 23, 2023, Enbridge Gas launched a second non-binding EOI and concurrent binding Reverse Open Season (ROS) for the Panhandle Market (see Figure 1 above for the Expression of Interest Area of Benefit Map). The purpose of the second EOI was to re-confirm customer interest in incremental capacity on the Panhandle System following the Project's leave to construct application being placed into abeyance in December 2022 (see Attachment 8 to this Exhibit for the February 2023 EOI form). Customers who responded to the EOI were also requested to provide additional information regarding the viability of interruptible service as an alternative to new firm service, including whether they would be more inclined to consider interruptible service over new firm service if the ability to negotiate lower than posted interruptible rates was available. Customers were also asked to confirm that their EOI bid amounts were inclusive of all future expected natural gas conservation activities, including natural gas conservation activities within and outside of Enbridge Gas's Demand Side Management programs, and the use of non-natural gas alternative options.

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24. The ROS provided existing contract customers another opportunity to formally de-contract existing firm or interruptible capacity (see Attachment 9 to this Exhibit for the February 2023 ROS form). The ROS also provided existing customers the opportunity to request to convert existing firm service to interruptible service. It should be noted that regardless of formal ROS initiatives such as this, customers always have the ability to request changes to their existing contract parameters including de-contracting existing capacity, provided appropriate notice is given per the terms and conditions of their distribution contract. /U
25. To provide clarity and respond to any questions regarding the EOI and ROS process, Enbridge Gas account managers directly contacted each contract rate customer in the Panhandle Market. In addition to direct outreach, all existing contract customers were invited to attend an in-person meeting held on March 7, 2023, and/or a virtual meeting held on March 23, 2023. A meeting with local economic development officials was also held on March 2, 2023, to inform them of the process and timelines, and to answer any questions related to the forms. /U
26. The EOI and ROS process closed on April 6, 2023, thirty business days following its launch. All bids received were acknowledged via email from Enbridge Gas. A total of 42 EOI bid forms were received from 39 entities, indicating approximately 197 TJ/d of interest over the 2024-2033 period. The 197 TJ/d is incremental to the capacity that has already been contracted for by customers via the 2021 EOI process and through the normal course of business since the close of the 2021 EOI process. Of the 42 EOI bids received, 38 bids were from the greenhouse sector, 2 bids were from the power sector and 2 bids were from the commercial sector. The results of the EOI can be found in Table 1. /U

Table 1 – 2023 EOI Bid Summary by Year (m³/hr) /U

	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	Total
New/Incremental Firm	52,432	84,503	37,807	25,802	32,952	17,204	13,732	12,547	7,277	2,325	286,581
Interruptible to Firm Conversion	66	8,484	-	-	-	-	-	-	-	-	8,550
Firm Turnback	-	-	-	-	-	-	-	-	-	-	-
Firm to Interruptible Conversion	-	-	-	-	-	-	-	-	-	-	-
Net New/Incremental Firm (by year)	52,498	92,987	37,807	25,802	32,952	17,204	13,732	12,547	7,277	2,325	295,131
Net New/Incremental Firm (cumulative)	52,498	145,485	183,292	209,094	242,046	259,250	272,982	285,529	292,806	295,131	
TJ/day (by year)	33	71	24	16	21	11	9	8	5	1	197
TJ/day (cumulative)	33	104	127	143	164	175	183	191	196	197	

Notes:

- 1) The volumes received through the 2023 Expression of Interest process were in cubic meters of gas per hour (m³/hr).
- 2) The 2023 Expression of Interest results, combined with the previously contracted volumes from the 2021 Expression of Interest process were used to generate an informed demand forecast.

27. *EOI results – existing interruptible service to firm service conversion:* Customers requesting to convert existing interruptible service to firm service were asked to identify the driving factors behind their conversion request on the EOI bid forms. Of the two bids received for interruptible to firm service conversion, one indicated that they wanted to reduce their reliance on back-up fuel sources due to increased risk of disruption/crop loss, and the other referenced contractual obligations with the IESO. /U
28. *EOI results – viability of interruptible service as an alternative to new firm service:* Customers who submitted EOI bids for new/incremental firm service were asked to provide information regarding the viability of interruptible service as an alternative to new firm service. Of the 42 EOI bids received, only 2 bids (3% of total EOI interest) indicated that interruptible service was a viable alternative and that they could rely on alternate fuel sources during an interruption event. It should be noted that for those two bids, interruptible service was not requested, nor was there an accompanying ROS request to convert existing firm service to interruptible service. The firm demands from these two bids were not included in the updated demand forecast. For the bid forms received where customers indicated why interruptible service was not a viable option, reasons included: disruption to operations/productivity impacts; potential for crop loss/production loss; contractual obligations with the IESO/regional power generation; increased cost/availability/emissions associated with alternate fuel sources; installation and maintenance costs of backup fuel systems; and, CO₂ requirements for greenhouses. /U
29. *EOI results – interruptible service as an alternative to new firm service if negotiable interruptible rates were available:* Customers were also invited to indicate whether they would be more inclined to consider interruptible service over new firm service if the ability to negotiate lower than posted interruptible rates was available. There were five bids received (8% of total EOI interest, inclusive of the two bids referenced in the paragraph above) where customers indicated they would consider interruptible /U

service as an alternative to firm service, with a required reduction in interruptible rates ranging between 20% and 35% below current rates. Of those five bids, three bids indicated that interruptible service was not a viable option and did not specify how they would comply during an interruption event. Enbridge Gas will work with these five customers to determine if their future natural gas requirements can be met with interruptible service despite their bid for new/incremental firm service. The firm demands from these five bids were not included in the updated demand forecast.

30. *EOI results – natural gas conservation:* Customers who submitted an EOI form were asked to confirm whether Enbridge Gas had discussed energy conservation program offerings with them, which all customers confirmed. Customers were also asked to confirm that their EOI bid volumes were inclusive of all future natural gas conservation activities, including natural gas conservation activities within and outside of Enbridge Gas’s Demand Side Management programs, and the use of non-natural gas alternative options. All customers confirmed that to be the case. Customers were also reminded of Enbridge Gas’s DSM programs during the in-person customer meeting on March 7, 2023, as well as during the March 23, 2023, virtual customer meeting. /U

31. *ROS results:* There were no requests received from existing contract customers via the ROS to de-contract existing firm or interruptible capacity. In addition, no customers requested to convert existing contracted firm service to interruptible service. /U

32. Since the close of the EOI, Enbridge Gas has continued to engage customers that submitted bids to confirm their interest and negotiate contracts for incremental service. Enbridge Gas is requesting a minimum five-year contract from interested contract rate customers for capacity on the Panhandle System starting in November /U

2024. This practice is consistent with the methodology of contracting for incremental capacity that was used for the PRP and KTRP projects.

33. Contract rate customer demand makes up approximately 94% of the capacity of the proposed Project. As of May 2023, approximately 34% of the contract rate customer demand is underpinned by a firm distribution contract. The commitment letters received in 2021 are no longer being relied upon by Enbridge Gas as they were applicable to the former 2021 EOI process only. Based on the timing of the 2023 EOI process and updated leave to construct application, Enbridge Gas will be executing firm distribution contracts with customers that are requesting service in 2024 and 2025 first, followed by securing customer demands for the future years. /U

34. The contract rate (Rate M/BT4, Rate M/BT5, Rate M/BT7, Rate T-1 and Rate T-2) demand represents approximately 56% of firm demand served by the Panhandle System as of Winter 2022/2023. /U

35. Each customer that requests incremental contract rate service may require an individual service line, main extension, station(s), and/or local distribution reinforcement to bring sufficient natural gas to their site. These costs will be the responsibility of the customer and will be assessed in accordance with E.B.O. 188 guidelines, which may result in the need for the customer to pay a contribution in aid of construction. /U

ii. General Service Growth Forecast

36. Approximately 44% of the firm demand served by the Panhandle System is for general service customers as of winter 2022/2023. Enbridge Gas forecasts that general service customer demand in the Panhandle Market will increase by approximately 4.6% between winter 2022/2023 and 2030/2031. Incremental /U

demands from general service customers make up approximately 6% of the incremental capacity of the proposed Project.

37. The general service growth forecast is informed by Enbridge Gas's internal customer attachment forecast. The customer attachments are converted into a volumetric forecast based on average volume per customer information and geographic location.

38. To ensure continued safe and reliable natural gas service, Enbridge Gas is maintaining enough Panhandle System capacity to serve at least 4 years of general service growth on the system. This practice is due to the amount of time it takes between identifying the need for capacity and commissioning a facility or non-facility project or other IRPA⁸.

39. Enbridge Gas is aware of, has reviewed, and is working in conjunction with the municipalities within the Panhandle Market to determine whether the expansion of the Panhandle System impacts their ability to achieve the greenhouse gas ("GHG") emissions reduction goals outlined within their respective Community Energy Plans ("CEPs"). The current CEPs do not include a level of specificity to enable Enbridge Gas to rely upon them as part of its demand forecast for the Panhandle System.

This is because of the following:

- Forecasts of measurable reductions in annual and peak-hour natural gas demand/consumption are not available as most CEPs only contain forecasts of annual GHG reductions that are achievable in a variety of

⁸ This timeframe includes scope development, design, regulatory process, expropriation, permitting, material procurement, construction, and commissioning, as applicable.

ways and, depending on the initiative, will have a variety of impacts on annual and peak-hour natural gas demand/consumption;⁹

- Details of initiatives/actions intended to be implemented to achieve the reduction targets are not yet available, nor is the associated implementation timing;
- Confirmation of full funding approval for associated programming has not been granted; and
- Confirmation that municipalities have jurisdictional authority to implement the CEP programs and activities has not been determined.

40. Absent the details described above, Enbridge Gas cannot predict the impact that any of these CEPs may have on the timing, annual and peak, and geographic distribution of regional natural gas demands in the future. However, based on Enbridge Gas's working knowledge of the identified municipalities' CEPs, the Company does not anticipate that they will materially influence the demand forecast and the resulting need for capacity on the Panhandle System. This conclusion is further reinforced by the Company's expectation that any capacity created on the Panhandle System could also be relied upon in the future to support transmission and distribution of renewable natural gas and/or hydrogen gas volumes.

iii. Total Panhandle System Growth Forecast

41. Table 2 below summarizes the Design Day demand forecast for the Panhandle System, based on the discussion in the sections above.

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⁹ For example, a programmable thermostat may achieve annual demand reductions, however, would not impact peak demand. Therefore, there would be no impact on the Company's peak demand forecast.

Table 2: Panhandle System Design Day Demand Forecast

	Historical Actuals (Tl/d)			FORECAST (Tl/d)								
	Winter 19/20	Winter 20/21	Winter 21/22	Winter 22/23	Winter 23/24	Winter 24/25	Winter 25/26	Winter 26/27	Winter 27/28	Winter 28/29	Winter 29/30	Winter 30/31
General Service Firm (Total)	317	308	310	306	308	310	312	314	315	317	319	320
Contract Firm (Total excluding Power Generators)	218	241	256	286	316	329	342	354	367	380	393	406
Power Generators - Firm Contract only	105	106	106	106	106	163	195	195	195	195	195	195
Total System Demand Forecast	640	656	672	698	730	802	849	863	878	892	906	921
General Service Firm (Total Incremental Demand)	19	-9	2	-4	2	2	2	2	2	2	2	1
Contract Firm (Incremental excluding Power Generators)	3	23	14	30	30	13	13	13	13	13	13	13
Power Generators - Firm Contract only (incremental)	0	1	0	-1	0	57	32	0	0	0	0	0
Total Incremental Demand Forecast	22	16	16	26	32	72	47	15	14	14	14	14
Total Incremental Demand Forecast (Cumulative)				26	58	130	177	191	206	220	235	249

D. System Growth Benefits

42. The Panhandle System is a critical natural gas pipeline system that supports Enbridge Gas’s residential, commercial, and industrial customers west of the Dawn Hub. With continued increasing firm demand forecasted in the Panhandle Market, primarily from greenhouse, automotive and power generation customers in the City of Windsor, Leamington, and Kingsville market areas, the Project will increase long term capacity on the Panhandle System and support the economic well-being of Southwestern Ontario.

43. 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 as discussed in Exhibit B, Tab 3, Schedule 1. Affordable energy is critical to the development and prosperity of communities and businesses. Affordable energy promotes and enables growth in the economy, provides savings for residential customers and helps maintain the global competitiveness of Ontario’s businesses. Natural gas is the most affordable energy source available to customers. 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.

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44. The Project will directly support job growth, increase property tax revenue for the affected municipalities and tax revenue for the province. Additional details regarding these economic benefits are included in Exhibit E, Tab 1, Schedule 1.

45. The economic benefits natural gas provides are significant. Such benefits include, but are not limited to:

- residential energy savings enabling more consumer spending at local businesses and across the community (e.g., charitable organizations);
- energy savings supporting the ability of new businesses to be competitive;
- enhanced ability to attract new residents and new businesses to the community;
- enhanced ability for existing businesses to grow and expand;
- increased housing values and resulting property tax assessments; and
- municipal energy cost savings in municipal buildings such as arenas and community centres.

46. As indicated by the letters of support received by Enbridge Gas (see Attachment 3 to this Exhibit), the Project has broad support from various parties, including regional municipalities and chambers of commerce. For example:

The Chatham-Kent Chamber of Commerce said:

“In order for future growth in Chatham-Kent area to be realized, sufficient natural gas infrastructure will be required and expansion of service is necessary to support current and planned economic developments in the region, particularly in the fast-growing greenhouse, manufacturing sectors and, with that, residential growth of the Chatham-Kent, Windsor and Essex County area. This project is critical for attracting new and aspiring developments by guaranteeing increased access to energy needed for all sectors of the local economy.”

Mayor Drew Dilkens, on behalf of the City of Windsor, wrote:

“... this project represents an investment in the future of our region. Simply put, (the) project ensures that Enbridge Gas continues to meet the ongoing needs of longstanding businesses and industries in Windsor, at a time we are experiencing

exponential growth. This project is also critical for attracting future developments by guaranteeing increased access to energy for all sectors of the local economy.”

Sector Specific Benefits:

Greenhouse Sector

47. The growth of the controlled environment agriculture (greenhouse) industry in Southwestern Ontario is vital to the economic prosperity of the region. The greenhouse sector is one area of the agriculture industry that is particularly reliant on natural gas and has a significant impact on the local economy.
48. Natural gas is uniquely suited to the greenhouse sector. It is used to heat greenhouses and to supply the carbon dioxide requirements (“CO₂”) of the growing plants. A common practice within the greenhouse sector is to capture the CO₂ that would normally be emitted into the atmosphere upon combustion of natural gas and use it within the greenhouse where it is consumed by the growing plants, resulting in faster growth and increased production.
49. The greenhouse sector does not currently have a viable economic alternative to replace natural gas for heat and CO₂ production.
50. The main alternate fuels used for heating in the greenhouse sector are oil, diesel, and propane. These fuels are not only more expensive than natural gas but also prevent the greenhouse operations from using the CO₂ emissions within the greenhouse because other elements within the exhaust of these fuels will harm the plants. As a result, without natural gas, a more expensive and higher carbon intensive energy source would need to be procured for heat, and an alternative source of CO₂ would also be required to maintain production levels.

51. Over one third of greenhouse production costs are energy related. If natural gas is not available, greenhouse customers will be forced to either rely on a far more expensive alternative, which will threaten their competitiveness, or move their operations to other jurisdictions, such as the United States, where natural gas is available.

52. On average, every acre of greenhouse development: i) creates jobs for five employees, ii) results in significant capital investment of approximately \$2,000,000, iii) results in additional spin-off employment, and (iv) annually produces approximately \$370,000 worth of produce (2021 farm gate value).

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53. The greenhouse market in Southwestern Ontario has experienced significant growth, increasing in size from approximately 1,500 acres in 2007 to over 3,500 acres in 2022¹⁰. This industry provides approximately 14,500 jobs in Southwestern Ontario and supports food processing plants and packagers located in the area. Greenhouse vegetable production is integral to a strong and resilient domestic food supply system and produces nutritious and affordable food for Ontarians.

54. On the 2023 EOI bid forms, customers were requested to provide economic development impacts related to their incremental gas needs. Based on the feedback received through the EOI (75% of bids provided feedback), a total of 6,900 jobs could be created through the greenhouse business growth enabled by the incremental capacity of the proposed Project. In addition, the total direct capital investment into their business operations in Southwestern Ontario indicated by customers on the bid forms exceeded \$4.5 billion.

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¹⁰ <https://www.ogvg.com/post/ogvg-applauds-the-province-for-supporting-economic-development-in-southwestern-ontario>

55. Letters of support for the Project from the Ontario Greenhouse Vegetable Growers and several large greenhouse customers can be found at Attachment 4 to this Exhibit.

Power Generation Sector

56. The IESO's 2022 Annual Planning Outlook ("APO") electricity demand forecast anticipates a rise in the average growth of electricity demand in Ontario, reaching about 1.9% annually compared to 1.7% in the 2021 forecast.¹¹ Due to the demand growth, along with nuclear retirements/refurbishments and expiring generation contracts, the IESO is anticipating to experience electricity capacity shortfalls by the mid-2020s. /U

57. On October 6, 2022, Ontario Minister of Energy Todd Smith issued a Minister's Directive to the IESO to procure approximately 4,000 MW of capacity, with up to 1,500 MW of natural-gas fired generation, to ensure the reliable operation of Ontario's electricity system in response to ongoing and growing electricity needs expected in the future.¹² The Minister's Directive noted the IESO's 2021 finding that natural gas-fired generation plays an important role in the near term to avoid rotating blackouts. /U

58. Following the Minister's Directive, the IESO stated that it will seek to secure the new capacity through long-term procurement processes with in-service dates ranging from 2025 to 2027.¹³ The IESO also re-iterated that without new natural gas-fired /U

¹¹ <https://www.ieso.ca/-/media/Files/IESO/Document-Library/planning-forecasts/apo/Dec2022/2022-Annual-Planning-Outlook.ashx>

¹² <https://www.ieso.ca/-/media/Files/IESO/Document-Library/corporate/ministerial-directives/Directive-from-the-Minister-of-Energy-20221007-resource-eligibility.ashx>

¹³ Resource Eligibility Interim Report | October 7, 2022, p. 8

generation in the near term, the IESO would be reliant on emergency actions such as conservation appeals and rotating blackouts to stabilize the grid.

59. As per the IESO, the Brighton Beach Generating Station (“BBGS”) will play a particularly critical role in meeting localized power generation needs between 2024 and 2028.¹⁴ With demand for electricity continuing to grow, it is anticipated that BBGS will continue to play a significant role in maintaining energy reliability in the region and will serve increased peak period electricity demand growth in the Southwest Region beyond 2028. Additionally, the IESO’s May 16, 2023 Resource Adequacy Update stated that the IESO has finalized a 10-year agreement for the continued operation of the BBGS facility, including a 42.5 MW efficiency upgrade for the facility.¹⁵ /U
60. In January 2023, Windsor City Council voted to support an energy proposal from Capital Power to pursue an expansion at its existing East Windsor Cogeneration Centre location related to the above mentioned IESO procurement.¹⁶ The IESO’s May 16, 2023 Resource Adequacy Update highlighted that the East Windsor Cogeneration Centre location was awarded an incremental 100 MW contract.¹⁷ /U
61. It is Enbridge Gas’s understanding that these near-term and longer-term needs have driven requests for incremental firm service from these customers, and the /U

¹⁴ IESO Annual Planning Outlook, December 2021, p. 57, <https://www.ieso.ca/-/media/Files/IESO/Document-Library/planning-forecasts/apo/Dec2021/Demand-Forecast-Module.ashx>

¹⁵ <https://www.ieso.ca/-/media/Files/IESO/Document-Library/resource-adequacy/ieso-resource-adequacy-update-May2023.ashx>

¹⁶ <https://windsorstar.com/news/local-news/capital-powers-natural-gas-turbine-expansion-in-windsor-approved>

¹⁷ <https://www.ieso.ca/-/media/Files/IESO/Document-Library/resource-adequacy/ieso-resource-adequacy-update-May2023.ashx>; <https://ieso.ca/-/media/Files/IESO/Document-Library/long-term-rfp/ELT1-RFP-Selected-Proponents.ashx>

incremental firm service needs from these customers are reflected in the Panhandle System's demand forecast.

62. A letter of support for the Project from Atura can be found at Attachment 5 to this Exhibit. A letter of support for the Project from Capital Power can be found at Attachment 7 to this Exhibit. /U

Automotive Sector in Southwestern Ontario

63. The automotive sector also has significant natural gas demands. The City of Windsor is home to major automotive manufacturers as well as Tier 1 and Tier 2 automotive suppliers. This industry employs thousands of people in the Panhandle Market. Natural gas is relied upon through the automotive manufacturing process, including for paint baking, paint shop humidification, and melting metal for auto parts. Moreover, natural gas cannot be easily substituted with other energy sources for carrying out these processes. Phase 2 of Ontario's plan, *Driving Prosperity: The Future of Ontario's Automotive Sector* aims to support the attraction of large-scale electric vehicle and electric battery production, to anchor an advanced electric battery supply chain in the Province¹⁸.

64. On March 23, 2022, the multinational automotive manufacturing company, Stellantis, and the battery manufacturer, LGES, announced that they had entered into a binding joint-venture agreement to establish the first large scale EV battery manufacturing facility in Windsor, Ontario, through an entity to be known as /U

¹⁸ <https://files.ontario.ca/medjct-driving-prosperity-ontario-automotive-plan-phase-2-en-2021-11-23.pdf>

NextStar.¹⁹ Natural gas plays a critical role in meeting the energy needs of the EV, EV battery and EV battery component manufacturing sector.

65. Since the NextStar EV battery plant was announced, Enbridge Gas has been responding to multiple confidential inquiries from EV battery component manufacturers that have expressed interest in the Windsor-Essex region and the availability of natural gas capacity. Demands for incremental natural gas capacity are expected in this region as participants in the EV component supply chain desire to situate themselves in close proximity to the new NextStar production facility. Due to the preliminary nature of these discussions, these demands have not been included in the demand forecast for the Project.

66. A letter of support for the Project from Stellantis can be found at Attachment 6 to this Exhibit. As discussed in paragraph 18 above, Enbridge Gas has since finalized a contract with NextStar for service commencing in September 2023, using a portion of the remaining Panhandle System existing capacity. However, the broader system benefits of the proposed Project outlined by Stellantis in Attachment 6 including access to reliable and affordable natural gas supply to support future investments and developments in the local economy remain relevant.

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E. Project Timing and Enbridge Gas Growth Plans

67. The Project has previously been identified within Enbridge Gas's Asset Management Plan ("AMP"), as filed with the OEB. More particularly, as part of the Company's 2022 Rates (Phase 2) proceeding, Enbridge Gas filed an AMP Addendum which identified the proposed Project as a requirement to meet the growing Design Day demand of the Panhandle System:

¹⁹ <https://www.stellantis.com/en/news/press-releases/2022/march/stellantis-and-lg-energy-solution-to-invest-over-5-billion-cad-in-joint-venture-for-first-large-scale-lithium-ion-battery-production-plant-in-canada>

“The Panhandle Regional Expansion Project (PREP) is required to provide reliable, secure, economic natural gas supply to meet the growing design day demand of the EGI Panhandle Transmission System which serves in-franchise markets (including residential, commercial and industrial customers). As a result of a non-binding Expression of Interest (EOI) conducted in February 2021, EGI is forecasting firm transportation growth driven by general service growth, greenhouse market demand in Leamington / Kingsville / Chatham-Kent and industrial demand in Windsor requiring incremental facilities as early as winter 2023-24. Alternatives are being evaluated at varying levels of detail depending upon project feasibility including engineering, cost, construction feasibility, capacity and reliability. Through this process, EGI will identify the most efficient project to provide the Panhandle Transmission System with reliable supply and adequate capacity for both design day conditions and operational conditions. As part of the project plan, EGI will complete a supply-side IRP assessment in addition to a binding reverse open season. In this way, EGI will minimize the facilities required to serve incremental demand while optimizing any unwanted existing capacity.”²⁰

68. Exhibit D, Tab 1, Schedule 1 describes the overall Project and construction schedule. Construction of the NPS 36 pipeline and ancillary measurement station facilities is planned to commence in Q1 2024 and to be placed into service by November 2024, and construction of the pressure regulation and measurement facilities within the Dawn Yard is planned to commence in Q2 2025 and to be placed into service by November 2025. The construction schedule for both portions of the project takes advantage of the drier summer months, thereby minimizing the impact of construction on agricultural lands and other features such as watercourses. /U

69. Enbridge Gas has taken extra steps at the front end of the Project to begin early negotiations with landowners and other impacted stakeholders, including municipalities and Indigenous communities, to minimize the potential for requiring land expropriation.

70. Enbridge Gas has also identified the potential need for a second phase of transmission expansion to meet the demands that are forecasted over the next 20

²⁰ EB-2021-0148, Exhibit B, Tab 2, Schedule 3, P. 8

years. This second phase has been identified within the Enbridge Gas 2021-2025 AMP with a forecasted 2029 in-service date as shown below.

“Panhandle Transmission System Reinforcement - The Panhandle System expansion is driven by in-franchise growth in Chatham-Kent, Windsor-Essex and surrounding areas, including the fast-growing greenhouse market in the Leamington/Kingsville area. Based on the current forecast for in franchise general service and contract growth in the Panhandle Transmission System market, EGI has determined that the next Panhandle facilities for expansion will need to be in place for the 2029 winter season (construction beginning in 2029).”²¹

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F. Conclusion

71. Enbridge Gas is forecasting continued demand growth from commercial, industrial, and residential customers located in the areas west of Dawn, with concentration in the Municipalities of Windsor, Leamington, and Kingsville. This demand growth is primarily driven by the greenhouse, power generation, and automotive sectors in the region.
72. As a result of the increased forecast of demand growth, there is a need for capacity on the Panhandle System to meet the forecasted firm system demands by November 1, 2024.
73. If this natural gas capacity on the Panhandle System is not available by such day, there is a risk that businesses will delay or cancel plans to expand or may establish their operations in different jurisdictions where reliable, affordable energy is available.

²¹ EB-2021-0181, Exhibit C, Tab 2, Schedule 1, P. 88

PANHANDLE SYSTEM DESIGN AND NETWORK ANALYSIS

1. The purpose of this section of evidence is to: i) provide an overview of the current and future design and operation of Enbridge Gas's Panhandle System, and ii) to describe the network analysis methodology and its results which demonstrate the existing Panhandle System will be unable to meet the demands as detailed in Exhibit B, Tab 1, Schedule 1, by the winter of 2024/2025. /U
2. This Exhibit includes the following sections:
 - A. Panhandle System Overview
 - B. Panhandle System Design
 - C. Panhandle System Supply and Demand
 - D. Panhandle System Network Analysis
 - E. Conclusion

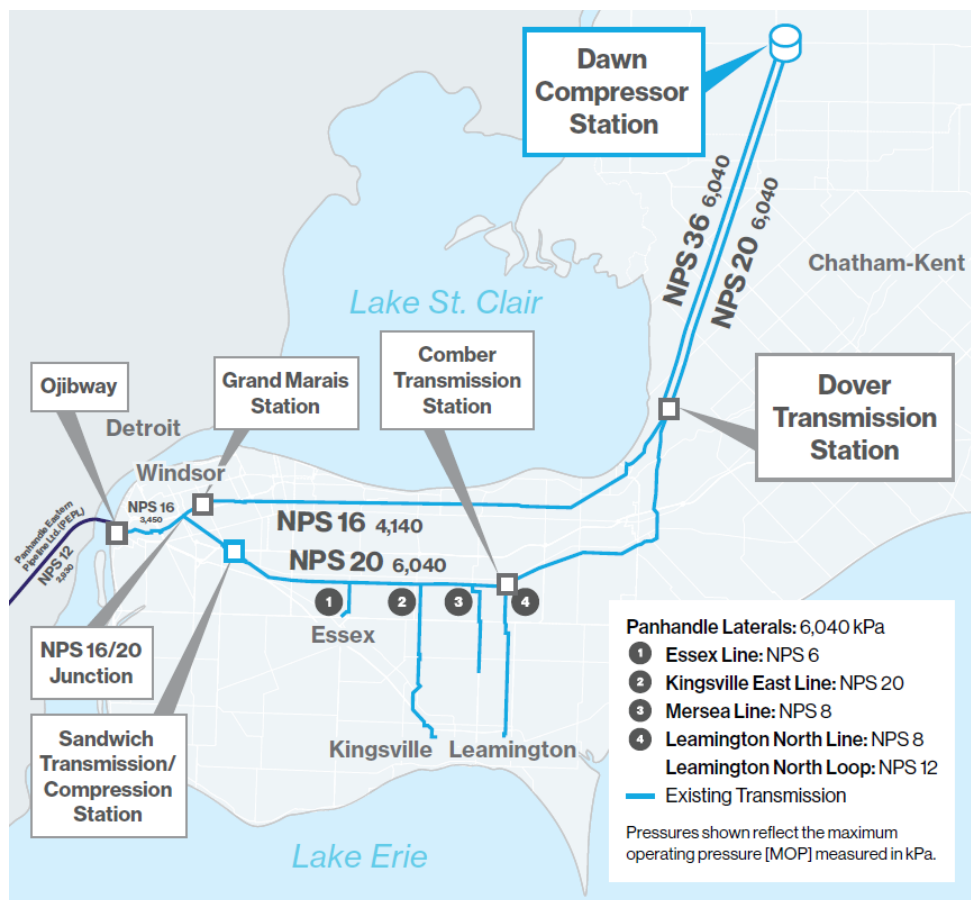
A. Panhandle System Overview

3. The Panhandle System is the transmission system that supplies natural gas to the Panhandle Market. The Panhandle System also provides C1 Rate transportation services from Michigan through the Ojibway Valve Site ("Ojibway") to the Dawn Compressor Station ("Dawn" or "Dawn Hub"). Figure 1 below illustrates the Panhandle System and the market areas it supplies.
4. The Panhandle System is critical to providing safe, reliable, and affordable natural gas to Enbridge Gas's in-franchise residential, commercial, and industrial customers in the Panhandle Market. A reliable, cost competitive energy supply is fundamental to economic well-being and growth in Ontario. As detailed in Exhibit B, Tab 1, Schedule 1, the forecast rate of growth in the Panhandle Market has surpassed

Enbridge Gas’s expectations. This increased forecast growth and the resulting network analysis are showing the demands will be greater than the system capacity by the winter of 2024/2025

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Figure 1: The Panhandle System Overview



5. As shown in Figure 1 above, Enbridge Gas’s Panhandle System includes the following pipelines:
 - i) A NPS 36 pipeline, approximately 40 km in length, from Dawn to Dover Transmission Station (“Dover Transmission”) with a maximum operating pressure (“MOP”) of 6040 kPag;

- ii) A NPS 16 pipeline (“NPS 16 Panhandle Line”) from Dover Transmission to Grand Marais Station with a MOP of 4140 kPag¹. The NPS 16 continues from Grand Marais Station to Ojibway with a MOP of 3450 kPag;
 - iii) A NPS 20 pipeline (“NPS 20 Panhandle Line”) from Dawn to Sandwich Transmission Station (“Sandwich”) with a MOP of 6040 kPag. The NPS 20 continues into the City of Windsor and connects with the NPS 16 near Grand Marais Station (referred to as the “NPS 16/20 Junction”) with a MOP of 3450 kPag; and
 - iv) Two NPS 12 pipelines (“Detroit River Crossing” or “the crossings”) connect the NPS 16 Panhandle Line at Ojibway to the Panhandle Eastern Pipeline System (“Panhandle Eastern”)² at the International Border. This interconnection was established in 1947 and is commercially known as Ojibway. The Detroit River Crossing MOP is 2930 kPag.
6. The Panhandle System also includes the following four transmission laterals which are connected to the NPS 20 Panhandle Line, each having a MOP of 6040 kPag:
- i) A NPS 6 pipeline extending approximately 5 km towards Essex (“Essex Line”);
 - ii) A NPS 20 pipeline extending approximately 19 km towards Kingsville (“Kingsville East Line”) built as part of KTRP³;

¹ A portion of the NPS 16 pipeline from Ruscom Launcher/Receiver Site to Patillo Station was replaced with an NPS 20

² Panhandle Eastern Pipe Line Company, LP is owned by Energy Transfer Equity L.P.

³ EB-2018-0013 OEB Decision and Order dated September 20, 2018.

- iii) A NPS 8 pipeline extending approximately 10 km towards Leamington and Kingsville (“Mersea Line”); and
 - iv) A NPS 8 (“Leamington North Line”) and an NPS 12 (“Leamington North Loop”) each, extending approximately 15 km towards Leamington.
7. Sandwich also includes a compressor (“Sandwich Compressor”). The Sandwich Compressor facilitates the easterly C1 Rate transportation from Ojibway to Dawn during times when the Windsor market demand is insufficient to consume all supply coming from Ojibway.

B. Panhandle System Design

8. Enbridge Gas plans its facilities to reliably serve firm in-franchise customer demand on the coldest observed day on record, which is referred to as the “Design Day.” Since the majority of firm in-franchise customers served by the Panhandle System are heat sensitive, their maximum demands occur on the Design Day.
9. The Design Day demand for the Panhandle System is the amount of firm in-franchise customer demand Enbridge Gas is committed to serve on the Panhandle System on the Design Day. The Design Day demand for the Panhandle System is the sum of the firm general service and firm Contract Rate customer demand served by the system. Ex-franchise easterly C1 Rate transportation and Interruptible in-franchise contract rate demands are not included in the Design Day demand as they are not controlled by Enbridge Gas and are not guaranteed to arrive on Design Day.
10. The Panhandle System Design Day weather condition is a 43.1 Heating Degree Day (“HDD”), which represents an average daily temperature of -25.1 degrees centigrade. This HDD is the coldest observed day on record based on temperature

and wind speed data from the London Airport which consists of recorded temperature and wind speeds since 1953⁴. Using a coldest observed on record methodology ensures Enbridge Gas's South Rate Zone⁵ customers can continue to be safely and reliably served during the coldest winters.

11. The assumptions used to develop Design Day demands and the Design Day network analysis of the Panhandle System include the following:

- All in-franchise interruptible contract rate customer demands have been curtailed;
- All in-franchise general service and contract rate customers consume volumes equivalent to the Design Day estimates, which are derived from firm contract demand, historical consumption, and forecast growth;
- There are no supply failures of Enbridge Gas's Gas Supply Plan deliveries arriving at Ojibway;
- Ex-franchise Rate C1 transportation contracts from Ojibway to Dawn are not considered as a firm supply for Design Day;
- Required pressure and supply are available from Dawn;
- System cannot operate above its maximum operating pressure;
- Must operate within flow and minimum inlet pressure constraints at meter and regulating stations;
- Must operate above customers' minimum contractual delivery pressures; and
- Must operate above minimum suction pressure at Sandwich Compressor.

⁴ The Windsor region has recently experienced temperatures as cold as 43.7 HDD (observed on Jan 30, 2019), which is higher than the current Panhandle System Design Day of 43.1 HDD.

⁵ The South Rate Zone includes customers located west of Mississauga, south of Owen Sound and east of Windsor.

12. The Panhandle System currently has two minimum pressure constraints which must be maintained:
- The BBGS is located at the extreme western end of the Panhandle System just east of Ojibway. The pressure constraint for the entire Panhandle System is located at the outlet of the BBGS customer station, where the contracted minimum delivery pressure must be maintained at or above 1,724 kPag; and
 - The Leamington North Gate Station is the endpoint of the Leamington North Line which is a lateral connected to the NPS 20 Panhandle Line. The system pressure at the Leamington North Gate Station must be maintained at or above of 2,275 kPag.
13. If these constraints cannot be met on Design Day considering the assumptions listed above, then a Panhandle System capacity shortfall is identified.

C. Panhandle System Supply and Demand

System Supply

14. The Panhandle System's firm in-franchise demand is served primarily from the Dawn Hub and supplemented from a combination of supply sources including Ojibway and the Chatham D storage pool. North American natural gas market dynamics as they relate to Dawn and Ojibway are further detailed within Exhibit B, Tab 3, Schedule 1.
15. Currently on Design Day, the Panhandle System supply predominantly flows westerly from the Dawn Hub towards Windsor. Dawn serves approximately 89% or 627 TJ/d of the Design Day demand. Approximately 9% or 60 TJ/d of the Design Day demand is served from Ojibway using Enbridge Gas's firm system Gas Supply

Plan contracted deliveries. Enbridge Gas relies on firm sales service deliveries from the Gas Supply Plan to reduce the need for physical transportation from the Dawn Hub, and therefore to reduce the need for pipeline facilities. Ojibway enables access to natural gas supplies shipped on the Panhandle Eastern system and contributes to the security and diversity of Enbridge Gas's natural gas supply portfolio and supply to the Dawn Hub. The remaining 2% or 11 TJ/d of the Design Day demand is served from Enbridge Gas' Chatham D storage pool.

16. The Panhandle System's ability to accept supply at Ojibway on a firm basis is limited by the physical Panhandle System assets and the minimum Panhandle Market available to consume gas between Ojibway and Dawn. The minimum firm Panhandle Market is limited by the base load summer Windsor market demands and the capacity of Sandwich Compressor to compress gas from Windsor towards Dawn. The capacity of the Sandwich Compressor is 80 to 88 TJ/d and limited by the fixed amount of horsepower available. Due to the increased amount of heat load, the winter Windsor market is larger than the summer Windsor market. The Panhandle System's ability to accept supply at Ojibway is limited to 108 TJ/d in the summer and 126 TJ/d in the winter.⁶

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17. Furthermore, incremental supply deliveries at Ojibway from Panhandle Eastern can only efficiently serve demands in the far west end of the Panhandle Market in Windsor between Ojibway, Grand Marais Station and Sandwich Compressor.

⁶ In developing the response to the interrogatory at Exhibit I.FRPO.9, Enbridge Gas undertook to review the previous values (Summer 115 TJ/d and Winter 140 TJ/d) using the most recent information from the previous five years. The results of that review indicated that the Panhandle System's ability to accept supply at Ojibway has declined to 108 TJ/d (Summer) and 126 TJ/d (Winter). The methodology used to update these figures is consistent with the original methodology, which is described at EB-2016-0186 Reply Argument, December 30, 2016, P. 26, Para 73.

18. The 108 TJ/d summer market (the firm minimum market) dictates the maximum amount of import supply volume that can be contracted on an annual firm basis. Enbridge Gas is not operationally able to guarantee that import volumes greater than this amount can be accepted in the summer. As stated in the PRP proceeding (EB-2016-0186) and again in the KTRP proceeding (EB-2018-0013), this maximum capacity limit is not artificial⁷. Rather, as noted in response to EB-2016-0186, Exhibit JT1.5 and further reiterated in the Company's Reply Argument, the amount of firm import volume is determined based on available market and facility/system capability: /U

"The limit is based on sound methodology that uses historical data over a significant period of time. The maximum firm import capacities are determined based on available Windsor market and facility/system capability. The available market at Ojibway is calculated based on an average of the lowest demands for 20 days of each month. This average value is compared each month across a rolling 5-year timeframe to determine a reasonably available market and to create a minimum demand profile."⁸ /U

19. The OEB accepted this limit in their Decision and Order:

"In considering alternatives, Union must select one that will provide sufficient pressure on its NPS 20 on the Panhandle System to serve this area. The OEB accepts Union's evidence that the annual maximum supply capacity at Ojibway is now 115 TJ/day given the design day forecast, forecast Windsor demand, pressure requirements and other operational considerations of the Panhandle System."⁹

20. Table 1 below summarizes the annual (long term) and seasonal (short term) import capabilities from Ojibway on the Panhandle System and the amount of C1 Rate transportation capacity currently contracted on the Ojibway to Dawn path.

⁷ EB-2018-0013, Exhibit A, Tab 4, P. 4 and EB-2016-0186, Exhibit A, Tab 4, P. 4.

⁸ EB-2016-0186 Reply Argument, December 30, 2016, P. 26, Para 73.

⁹ EB-2016-0186 Decision and Order (dated February 23, 2017), p. 15.

Table 1 – Ojibway Import Capability to Enbridge Gas Panhandle System

Capacity	Long-Term (Annual) [TJ/d]	Short-Term (Winter-Only) [TJ/d]
Total Ojibway Import Capability	108	126
Gas Supply (Included in Design Day)	60	60
Ojibway to Dawn C1 Service ¹⁰	37	37
Available Import Capacity	11	29

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Current System Demand

21. On Design Day, Enbridge Gas must have enough capacity to serve all firm in-franchise general service and contract rate demands served by the Panhandle System. Figure 2 below provides a summary of firm demand by customer type for Winter 2022/2023.

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22. The general service (Rate M1 and Rate M2) demand consists of residential, commercial, and small industrial customers. Approximately 44% of the firm demand served by the Panhandle System is for the general service customers.

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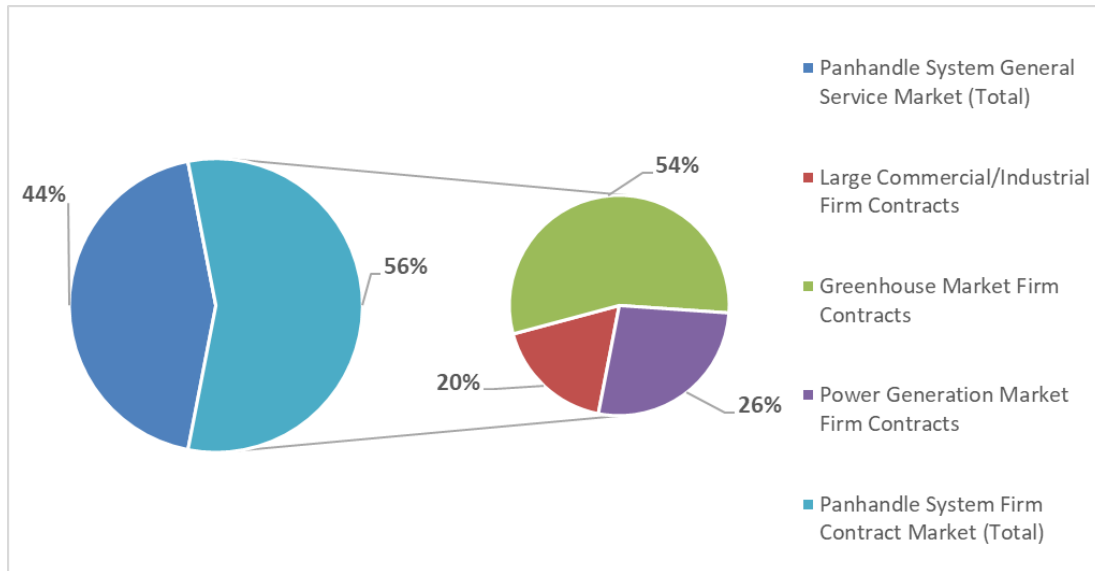
23. The contract rate (M/BT4, M/BT5, M/BT7, T-1 and T-2) demand accounts for about 56% of the firm demand served by the Panhandle System. The contract rate demand consists of power generation, greenhouse and large commercial/industrial. The current mix is 26% power generation, 54% greenhouse and 20% large commercial/industrial customers.

/U

¹⁰ As explained in Exhibit B, Tab 3, Schedule 1, this capacity is held by a single shipper (ROVER Pipeline LLC)

Figure 2: Panhandle System Demand Summary for Winter 2022/2023

/U



24. When the HDD is lower than the Design Day HDD, firm demand on the system is lower than on Design Day. This situation creates capacity on the system to serve interruptible demand. As the HDD decreases (warmer ambient temperature), more interruptible demand can be served, subject to the contractual limitation of 40 days of interruption per year (where stipulated as such in customer contracts).

25. Some customers are willing to take interruptible service on a temporary short-term basis until firm service becomes available. Interruptible demand accounts for approximately 11% of the total system demand on the Panhandle System. Table 2 below provides a summary of firm and interruptible demands on the Panhandle System by customer type.

Table 2: Panhandle System Demands by Service Type for Winter 2022/2023

Service Type	Demands (TJ/d)
General Service (firm)	306
Contract Rate (firm)	392
Contract Rate (Interruptible)	87
Total	785

/U

26. Enbridge Gas continues to offer customers the ability to turn back firm service and select interruptible service. This offering, if accepted, would reduce Design Day firm demands. As described in Exhibit B, Tab 1, Schedule 1, to date there has been no interest from customers to turn back firm service.

D. Panhandle System Network Analysis

27. The Panhandle System capacity for Winter 2022/2023 is 737 TJ/day¹¹. The forecasted firm demand on the Panhandle System for Winter 2022/2023 is 698 TJ/day. A forecast of the Panhandle System capacity, Design Day demand, and shortfall is detailed in Table 3 below.

/U

Table 3: Panhandle System Capacity, Design Day Demand, and Shortfall

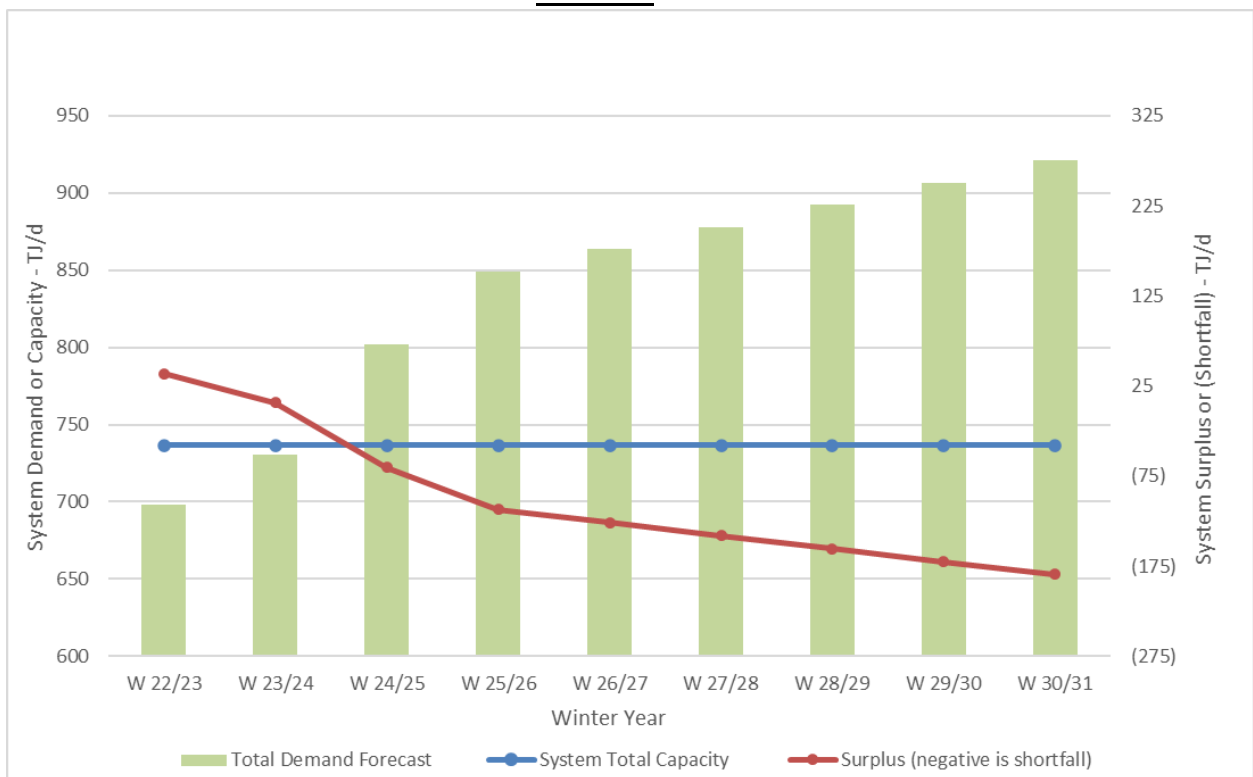
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	Historical Actuals			FORECAST								
	Winter 19/20	Winter 20/21	Winter 21/22	Winter 22/23	Winter 23/24	Winter 24/25	Winter 25/26	Winter 26/27	Winter 27/28	Winter 28/29	Winter 29/30	Winter 30/31
Panhandle System Capacity (TJ/d)	725	725	713	737	737	737	737	737	737	737	737	737
Design Day Demand Forecast (TJ/d)	640	656	672	698	730	802	849	863	878	892	906	921
Surplus (shortfall is negative) (TJ/d)	84	69	41	38	6	(66)	(112)	(127)	(141)	(156)	(170)	(184)

¹¹ The existing system capacity has increased since the previous forecast due to differences in the actual location of growth and changes in the energy content of the gas.

28. In Winter 2023/2024, the Design Day demand is expected to increase to 730 TJ/d and is forecast to further increase to a Design Day demand of 802 TJ/d in Winter 2024/2025. This demand exceeds the current system capacity of 737 TJ/d, resulting in a shortfall of 66 TJ/day beginning in Winter 2024/2025. Figure 3 below shows a graphical representation of the forecasted Panhandle System capacity, Design Day demand, and shortfall.

Figure 3: Graph of the Forecast Panhandle System Capacity, Design Day Demand and Shortfall

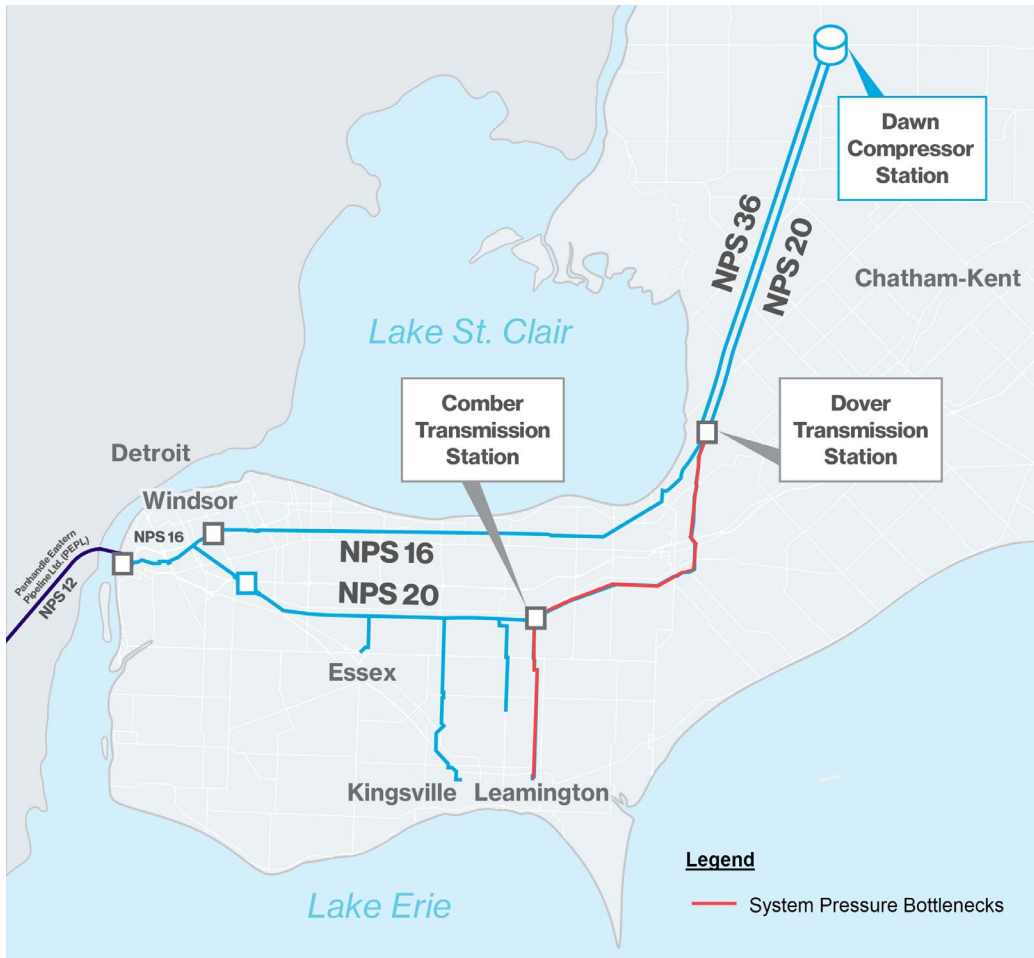


29. Design Day demands are based on the forecast detailed in Exhibit B, Tab 1, Schedule 1

Panhandle System Pressure Bottlenecks

30. A system shortfall occurs when the demand is greater than the system capacity. System capacity is limited by pressure bottlenecks throughout the system. Pressure bottlenecks occur within segments of pipelines where the diameter of the pipeline is too small to flow the required volume, causing friction-related pressure losses. Pressure bottlenecks are not unique to a pipeline system. As demands increase over time, pressure bottlenecks will materialize as areas of inefficiency in the natural gas system. These inefficiencies are investigated through a network analysis and evaluated as areas of potential reinforcement. The most effective solutions to reduce or eliminate a forecasted system shortfall are those that alleviate pressure bottlenecks. These solutions can include: reducing demands and/or increasing supply downstream of a pressure bottleneck and/or modifying the pipeline system such that the drop in pressure no longer occurs (such as looping a pipeline segment).
31. There are currently two major pressure bottlenecks along the Panhandle System. The NPS 20 Panhandle Line between Dover Transmission and Comber Transmission Station is currently the largest bottleneck on the Panhandle System. The next largest bottleneck on the Panhandle System is the pressure loss between the NPS 20 Panhandle Line and the Leamington-Kingsville market. Figure 4 provides a map illustrating the current location of these pressure bottlenecks in the Panhandle Market.

Figure 4: Panhandle System Current Pressure Bottlenecks



32. Previous projects have been constructed to alleviate similar bottlenecks (such as PRP, KTRP and Leamington North Line Phase I and II). The methodology to target pressure bottlenecks when identifying alternatives to mitigate a system shortfall was accepted by the OEB as highlighted on page 7 of the EB-2016-0186 Decision and Order

“In considering alternatives, Union must select one that will provide sufficient pressure on its NPS 20 on the Panhandle System to serve this area”.

33. Attachment 1 to this Exhibit is a Winter 2024/2025 Panhandle System schematic showing the network analysis for the Panhandle System assuming no reinforcements are completed. /U
34. This schematic is a geographical representation of the Panhandle System with flow and pressure at various distribution station locations along the system. The system capacity in Winter 2024/2025 is 737 TJ/d and the firm customer demands are 802 TJ/d, resulting in a capacity shortfall of 66 TJ/d. /U
35. The existing Panhandle System cannot maintain the required contracted minimum delivery pressure of 1,724 kPag to BBGS. Specifically, the minimum inlet pressure to the BBGS customer station must be maintained at or above 1,827 kPag to be able to deliver the 1,724 kPag minimum contracted delivery pressure required by the customer. The results of the network analysis show the inlet pressure to BBGS is 1481 kPag, which is less than required. /U
36. In addition, the network analysis shows that the minimum inlet pressure to the Leamington North Gate station is 1580 kPag, which is below the required minimum inlet pressure of 2,275 kPag. /U

E. Conclusion

37. Given the forecasted Panhandle System shortfall discussed above, Enbridge Gas’s Panhandle System network analysis has identified that the operational requirements of the Panhandle System cannot be met for Winter 2024/2025. This is based on the forecast Design Day demand of 802 TJ/d and no changes to the Panhandle /U

System capacity. To continue to provide reliable firm service to new and existing general service and contract rate customers, Enbridge Gas must address this forecasted shortfall beginning November 1, 2024. The optimal solution to address the forecasted shortfall is the proposed Project, which targets the largest pressure bottleneck on the current Panhandle System (i.e., between Dover Transmission and Comber Transmission Station).

/U

MARKET DYNAMICS

1. The purpose of this Exhibit is to provide an overview of North American natural gas supply and market dynamics as it relates to the primary supply feeds into the Panhandle System: The Dawn Hub and Ojibway.

2. This Exhibit is organized as follows:
 - A. The Dawn Hub
 - B. Ojibway

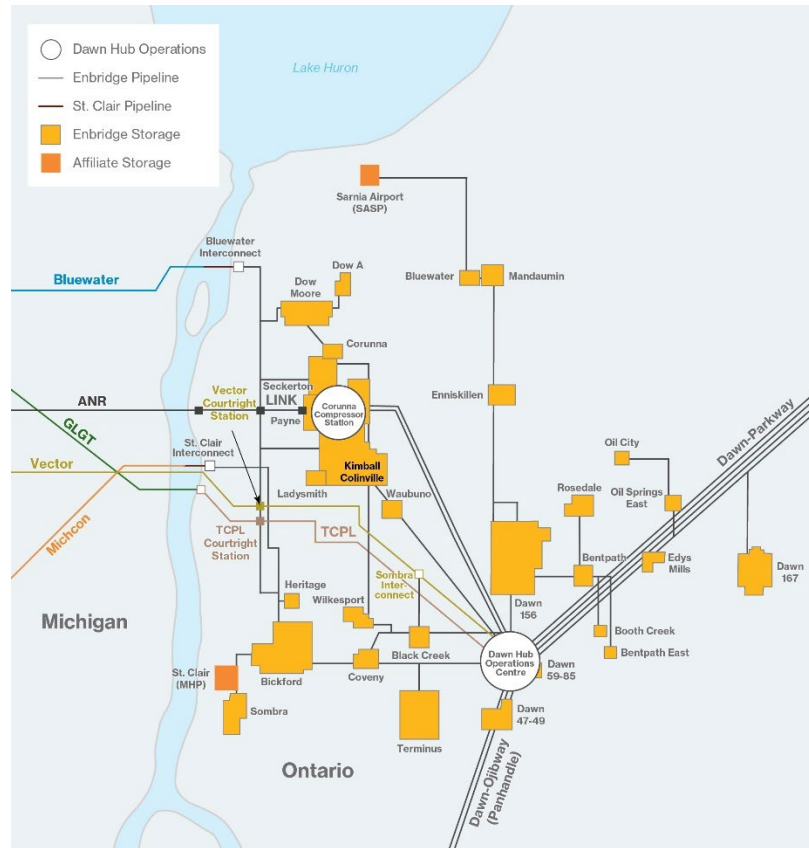
- A. The Dawn Hub**

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 interconnected natural gas pipelines and underground storage facilities and is the primary source of supply for Enbridge Gas's transmission systems, including the Panhandle System and Dawn Parkway System.

4. The Dawn Hub is also connected to a significant amount of underground natural gas storage within the Great Lakes region and to most major natural gas supply basins across Canada and the continental US, including the Western Canadian Sedimentary Basin ("WCSB") and the Appalachian production region, through various upstream natural gas transmission pipelines.

5. A map of the Enbridge Gas storage facilities connected to the Dawn Hub is shown at Figure 1 below.

Figure 1: Dawn Storage



6. The Dawn Hub is one of the most physically traded, liquid hubs in North America and is the most physically traded natural gas hub in the Great Lakes region. The liquidity of the Dawn Hub is the result of the combination of:

- interconnections with high-capacity upstream transmission pipelines;
- access to a diverse supply of natural gas from most major supply basins across North America;
- Dawn Parkway System take-away capacity to growth markets and interconnections with high-capacity downstream transmission pipelines;
- access to abundant underground storage;
- many buyers and sellers of natural gas; and
- price transparency.

7. The depth and liquidity of the market at the Dawn Hub provides Ontario natural gas customers affordable supply, energy security, reliability, and critical infrastructure to meet Ontario's peak energy demand, delivering approximately three times the energy equivalent to natural gas consumers as compared to peak electric demand in the province.

8. The OEB has recognized the importance and value of the Dawn Hub 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.

9. 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

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

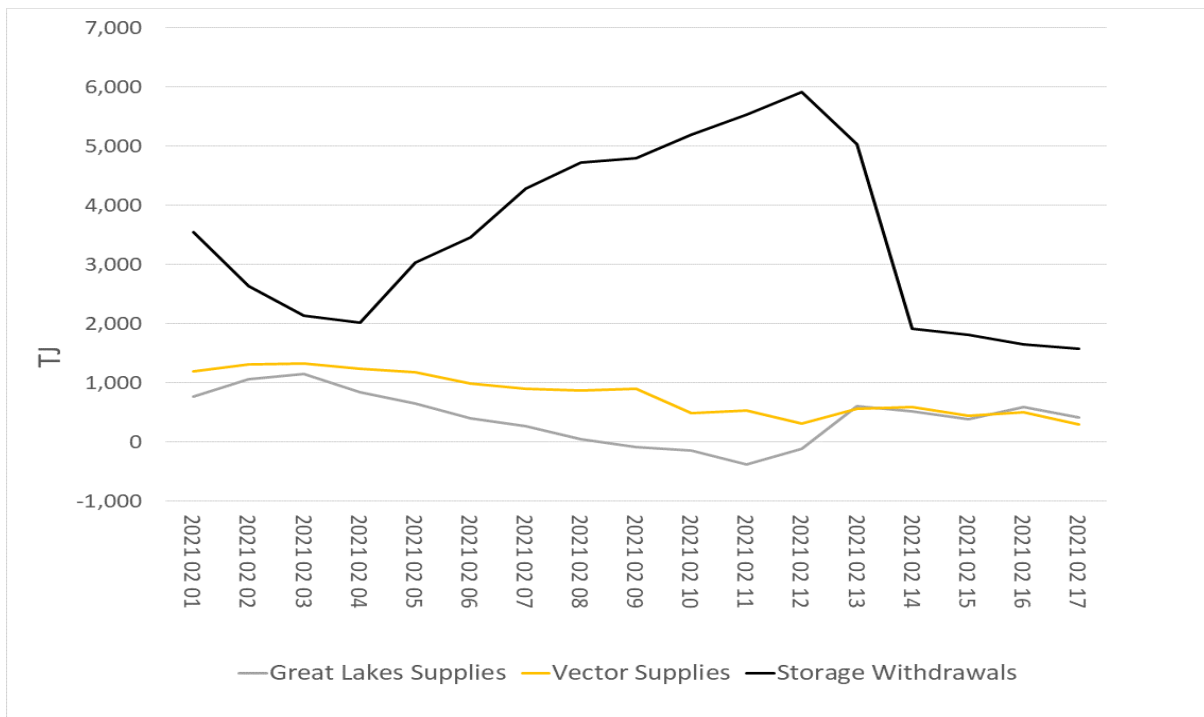
resulting in localized and regional supply shortfalls during periods of high demand (including distribution system outages), causing severe price spikes at regional market hubs. During each of these events, upstream supplies being delivered to the Dawn Hub have been significantly reduced as gas is drawn to higher priced markets away from Dawn, requiring the Dawn Hub storage facilities to fill the resulting supply shortfall via increased withdrawals.

10. During Winter Storm Uri in February 2021 which impacted a large area of the central U.S. (Oklahoma and Texas) and Canada (Alberta, Saskatchewan, and Manitoba), the Dawn Hub provided security of supply to Ontario consumers by increasing storage withdrawals to offset upstream supply shortfalls as shown in Figure 2 below. Not only did this avoid system outages, but it also provided price stability during peak conditions, as evident in Figure 3 below.

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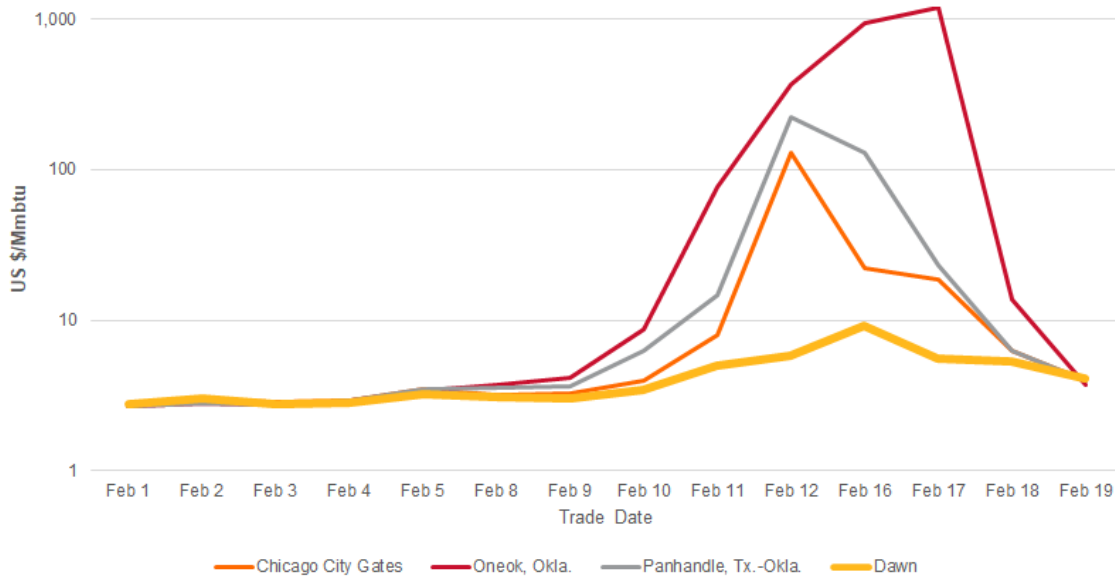
Figure 2: 2021 Winter Storm Uri Dawn Storage and Upstream Supply

/U



/U

Figure 3: 2021 Winter Storm Uri Natural Gas Price Impacts



11. By contrast, during this same February 2021 Winter Storm Uri 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 (up to 100 times higher than prices at the Dawn Hub as detailed in Figure 3). 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, many people lost their lives during this event, 10

/U

² <https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/gas-utilities-face-multibillion-dollar-financing-needs-after-storm-price-surge-62790289>

from fire-related injuries from space heaters and 19 from carbon monoxide poisoning (potentially also related to space heaters).³

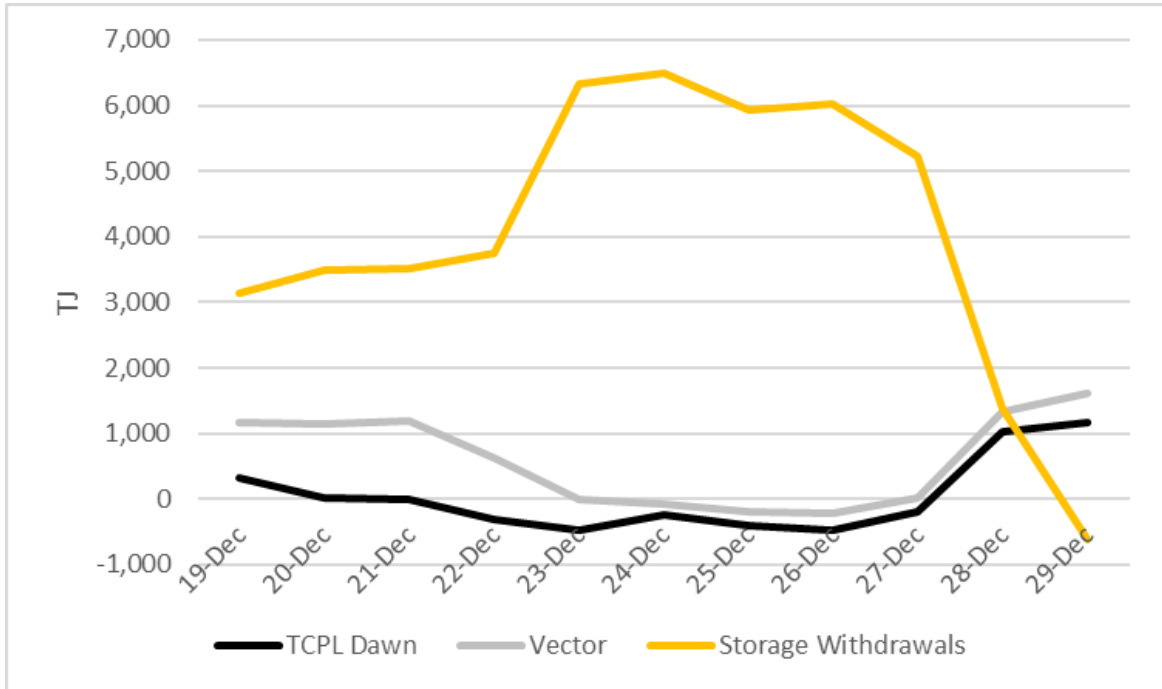
12. Between December 22 and December 26, 2022, Winter Storm Elliott swept across North America causing widespread blackouts and the cancellation of thousands of flights while covering roads in much of Canada and the U.S. in sheets of ice and snow. The deep freeze also impacted natural gas pipelines throughout North America, including those that supply Dawn. Appalachian gas producers experienced widespread production freeze-offs which resulted in significant force majeure to be called on downstream supply transactions. Enbridge Gas received notices of force majeure impacting over 230 TJ of supply deliveries contracted to Dawn. Enbridge Gas was able to maintain service to its customers amid the lost supply using significant withdrawals from its Dawn storage. /U

13. As shown in Figure 4 below, during the period of December 23, 2022, to December 27, 2022, the Dawn Hub saw reduced natural gas imports on the Vector and TCPL (Great Lakes) system. These reduced imports from Vector and TCPL (Great Lakes) were offset by incremental withdrawals from Dawn storage inventories. On December 24, 2022, a single-day record of 6.5 PJ was withdrawn from storage at Dawn. /U

14. In addition to allowing Enbridge Gas to serve its customers, these storage withdrawals also provided stability in the price of gas at Dawn during the storm. Dawn prices increased by approximately \$0.50 USD/Mmbtu through the week leading up to the holiday storm whereas nearby market hubs in the U.S. Midwest and Northeast increased by \$10 - \$25 USD/Mmbtu. /U

³ https://www.dshs.texas.gov/news/updates/SMOC_FebWinterStorm_MortalitySurvReport_12-30-21.pdf

Figure 4: 2022 Winter Storm Elliott Dawn Storage and Upstream Supply /U



15. 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:

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.⁴

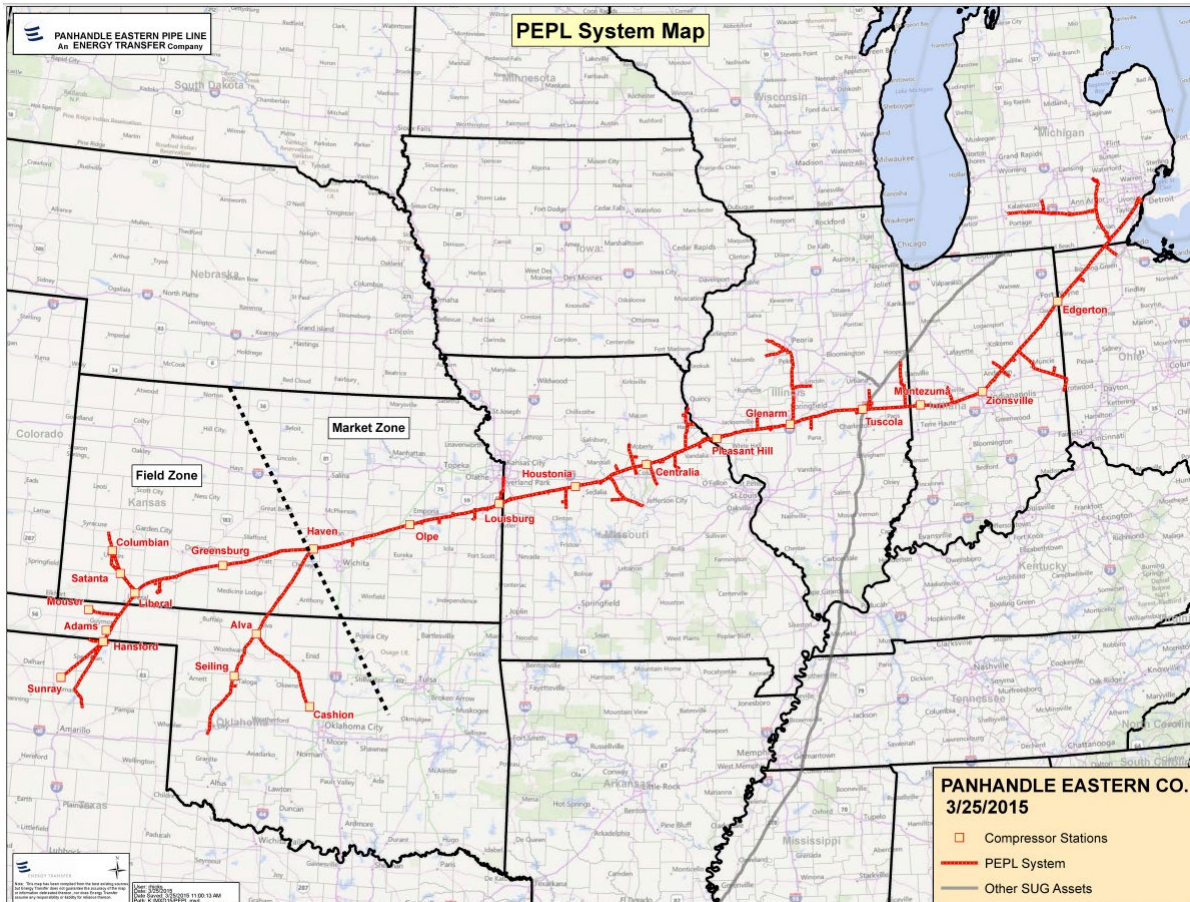
16. Considering the ongoing and historical value that the Dawn Hub has provided to Ontario natural gas consumers, the increased frequency and severity of extreme weather events experienced across the continent, and ICF's forecast calling for increased seasonal storage values and winter price volatility, 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.

B. Ojibway

17. Enbridge Gas's Panhandle System interconnects with the PEPL system at Ojibway. Long-haul PEPL shippers can source gas from the Panhandle Field Zone located in Texas, Oklahoma, and Kansas. Other PEPL supply locations include interconnects with the Rockies Express ("REX"), NEXUS and ROVER pipelines. Ojibway is the final delivery point along the PEPL system. A map of the PEPL system is provided at Figure 5 below.

⁴ ICF Q4 2021 Base Case

Figure 5: PEPL System Map⁵



18. The Enbridge Gas Panhandle System flows from Ojibway into the Panhandle Market. As outlined in Exhibit B, Tab 2, Schedule 1, approximately 9% or 60 TJ/d of the demand on the Panhandle System is served through Enbridge Gas' deliveries (to serve system customers) at Ojibway on Design Day.
19. Ojibway is not a liquid trading point, but rather a trans-shipment point between two pipeline systems. There is no natural gas market price or transaction reporting coverage to provide price transparency at Ojibway. In order to deliver supply to

⁵ https://peplmessenger.energytransfer.com/InfoPost/resources/ /PEPL_SystemMap.pdf

Ojibway, market participants must contract for transportation on the PEPL system to access more liquid upstream natural gas markets.

20. As of June 1, 2023 the PEPL Index of Customers indicates there are two firm shippers that contract for capacity with Ojibway as a delivery point on November 1, 2023:

/U

- Enbridge Gas holds two contracts for a total of up to 57,000 Dth/d (60 TJ/d) for sales service customers. As outlined in Exhibit B, Tab 2, Schedule 1, these volumes are required to arrive on Design Day to meet the firm demands of the Panhandle System and the Company's Gas Supply Plan; and
- ROVER Pipeline LLC ("ROVER") holds contracts for up to 35,157 Dth/d (37 TJ/d).

21. No other parties hold capacity on the PEPL system with a firm delivery point of Ojibway. On June 1, 2023, PEPL's website indicated that 20,000 Dth/d (21 TJ/d) of delivery capacity was currently available at Ojibway on November 1, 2023.

/U

22. ROVER is also a Rate C1 ex-franchise customer of Enbridge Gas with a firm transportation contract of up to 37 TJ/d to transport natural gas from Ojibway to the Dawn Hub on a year-round basis. ROVER uses the PEPL system to Ojibway and the Enbridge Gas system from Ojibway to Dawn to provide service from its own pipeline receipt points to Dawn. ROVER also uses contracted capacity on Vector Pipeline to provide the same services. Enbridge Gas cannot rely on these volumes being delivered to Ojibway when designing its system since Enbridge Gas does not control the utilization of the ROVER path (PEPL system and Enbridge Gas system components). Furthermore, ROVER's shippers do not have access to Ojibway as a delivery point, so Enbridge Gas cannot contract for deliveries at Ojibway from these shippers.

PROJECT ALTERNATIVES

1. The purpose of this Exhibit is to describe Enbridge Gas’s analysis of alternatives to address the Panhandle System shortfall, which is defined as the Project Need. As discussed in Exhibit B, Enbridge Gas is forecasting a Panhandle System shortfall beginning in Winter 2024/2025 of 66 TJ/d, which increases to 184 TJ/d by Winter 2030/2031. /U

2. The preferred alternative is the proposed Project, which includes: the construction of 19 km of NPS 36 pipeline from the existing Dover Transmission Station to Richardson Sideroad and the construction of ancillary station, pressure regulation, and measurement facilities associated with the pipeline. /U

3. The proposed Project provides 168 TJ/d of incremental Panhandle System capacity at an estimated cost of \$358.0 million. The proposed Project has in-service dates of November 1, 2024 for the NPS 36 pipeline and November 1, 2025 for related ancillary infrastructure, all of which provides market assurance that there will be sufficient capacity to meet the growing firm demands for natural gas service along the Panhandle System for the next five years. /U

4. This Exhibit is organized as follows:
 - A. Integrated Resource Planning
 - B. Alternatives Assessment Criteria
 - C. Identification and Assessment of Alternatives
 - D. Project Selection & Conclusion

A. Integrated Resource Planning

5. The Decision and Order for Enbridge Gas’ Integrated Resource Planning Framework Proposal (EB-2020-0091) was issued on July 22, 2021. This decision was

accompanied by an Integrated Resource Planning Framework for Enbridge Gas (“IRP Framework”)¹. The IRP Framework provides guidance from the OEB about the nature, timing, and content of IRP considerations for future identified needs. The IRP Framework provides Binary Screening Criteria in order to focus on situations where there is reasonable expectation that an IRP Alternative (“IRPA”) could technically and economically meet a system need. The Binary Screening criteria were applied, and it was determined that the need underpinning the Project does not warrant further IRP consideration based on the timing criteria, as the need must be met in under three years:

- **Timing:** If a system 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.²
6. Notwithstanding that an IRP evaluation was not required due to the timing criteria discussed above, Enbridge Gas evaluated supply-side alternatives both alone and in combination with an Enhanced Targeted Energy Efficiency (“ETEE”) IRP alternative to determine if implementation of these alternatives could meet the need within the required timeframe. For the reasons discussed below, the supply-side and ETEE alternatives were unable to meet the growing needs of the Panhandle System from a technical and/or financial feasibility perspective.
7. Following the updated EOI process conducted by Enbridge Gas in February 2023, the timing of the identified system need was established as November 1, 2024. /U

¹ EB-2020-0091, Decision and Order, July 22, 2021, Appendix A

² *ibid*, P. 10

8. Enbridge Gas has completed an alternatives assessment to determine the optimal solution to meet the identified system need. This alternatives assessment evaluated facility alternatives and IRPAs, including supply-side IRPAs (e.g., 3rd party exchange service), demand-side IRPAs (ETEE), and hybrid facility with IRPA alternatives). This assessment determined the proposed Project is the optimal solution to meet the identified system need. The timing of the proposed Project meets the demand forecast for the identified system need and customer commitments secured to date.

B. Alternatives Assessment Criteria

9. Enbridge Gas established alternatives assessment criteria with consideration to economic feasibility, timing, safety & reliability, risk management and environmental & socio-economic impact. Enbridge Gas used both quantitative and qualitative criteria assessments.
10. Enbridge Gas assessed each alternative that was identified to meet the system need using the following criteria (together, the “Assessment Criteria”):

Economic Feasibility (Quantitative):

The alternative must be cost-effective compared to other alternatives. Enbridge Gas used the following metrics to assess economic feasibility of alternatives:

- Total Cost;
- Cost per unit of capacity; and
- Net Present Value (“NPV”).

Timing (Quantitative):

- The alternative must meet the growing firm demands on the Panhandle System for the next five years; and

- The alternative must meet the required in service date (November 1, 2024) to accommodate customer needs. /U

Safety & Reliability (Qualitative):

- The alternative must provide reliable and safe delivery of firm natural gas volumes to Enbridge Gas's customers on the coldest winter day on the Panhandle System. Therefore, the alternative must meet the Panhandle System Design Criteria as outlined in Exhibit B, Tab 2, Schedule 1.

Risk Management (Qualitative):

- The alternative should not contain material risks relative to other alternatives. Enbridge Gas considered the following risks when evaluating alternatives:
 - *Price risk*: the risk that the price or cost of the alternative may increase once that alternative has been deployed.
 - *Availability*: the risk that the alternative may become unavailable to meet the identified system need.

Environmental and Socio-economic Impact (Qualitative):

- The alternative should minimize impacts to Indigenous peoples, municipalities, landowners, and the environment relative to other viable alternatives.

C. Identification and Assessment of Alternatives

11. Enbridge Gas identified several facility alternatives and IRPAs to meet the identified system need.

12. The following facility alternatives were identified and assessed:

1. Upsize of existing NPS 16 Panhandle Line or NPS 20 Panhandle Line west of Dover Transmission
2. Loop the existing NPS 20 Panhandle Line west of Dover Transmission (the proposed Project) /U
3. New Liquefied Natural Gas (“LNG”) Plant

13. The following IRPAs were identified and assessed:

1. Firm exchange between Dawn and Ojibway
2. Firm exchange between Dawn and Ojibway in combination with looping of the NPS 20 Panhandle Line west of Dover Transmission (Hybrid Alternatives) /U
3. Trucked Compressed Natural Gas (“CNG”)
4. ETEE

14. Detailed descriptions of each of the above alternatives and the results of the Company’s assessments thereof are provided below.

Facility Alternatives

15. The following sections summarize the assessment findings for each facility alternative identified.

1. *Upsize of existing NPS 16 Panhandle Line or NPS 20 Panhandle Line west of Dover Transmission*

16. Enbridge Gas considered increasing the diameter of the existing pipelines on the Panhandle System to meet the identified system need. Specifically, the Company considered increasing the diameter of either the NPS 16 Panhandle Line or the NPS 20 Panhandle Line west of Dover Transmission. This alternative would be comparable to the 2017 Panhandle Reinforcement Project, whereby Enbridge Gas

employed a “lift and lay” construction process to increase the diameter of an existing segment of the Panhandle System. The existing NPS 16 Panhandle Line between Dawn and Dover Transmission was removed (lift) and replaced with the new NPS 36 pipeline (lay) in the same location except for those sections of pipe deemed not practical to remove as determined by an engineering assessment, including major road and watercourse crossing locations. At these locations, the NPS 16 Panhandle Line was abandoned in place and a new land right was obtained for the new NPS 36 pipeline.

17. This replacement alternative was feasible in the 2017 Panhandle Reinforcement Project because the NPS 16 Panhandle Line between Dawn and Dover Transmission ran in close proximity alongside the NPS 20 Panhandle Line, which allowed for any connected stations or customers on the NPS 16 Panhandle Line to be moved to the NPS 20 Panhandle Line to meet the Panhandle System demands throughout construction.
18. In contrast, the NPS 16 Panhandle Line and the NPS 20 Panhandle Line diverge in their proximity to one another west of Dover Transmission. Halfway between Dover Transmission and Comber Transmission Station (approximately 11 km west from Dover Transmission), the two pipelines are approximately 9 km apart from one another.
19. The NPS 20 Panhandle Line is required to serve customers at all times of the year because the NPS 16 Panhandle Line cannot serve system demands on its own, even during periods of low demand in the summer. As result, reliable service to customers could not be maintained during the construction period while the NPS 20 Panhandle Line would be out of service. Therefore, a lift and lay of the NPS 20 Panhandle Line west of Dover Transmission is not a viable alternative.

20. Enbridge Gas also evaluated upsizing of the NPS 16 Panhandle Line west of Dover Transmission, which would require moving as many as nine downstream system connections from the NPS 16 Panhandle Line to the NPS 20 Panhandle Line and constructing a new interconnecting pipeline between the NPS 16 Panhandle Line and the NPS 20 Panhandle Line. This would require acquisition and development of new greenfield pipeline easements on previously undisturbed land resulting in increased environmental and landowner impacts.

21. Furthermore, upsizing of the NPS 16 Panhandle Line would not directly address the Panhandle System pressure bottleneck on the NPS 20 Panhandle Line between Dover Transmission and Comber Transmission Station, discussed in Exhibit B, Tab 2, Schedule 1. The amount of capacity gained by upsizing the NPS 16 Panhandle Line would be limited as a result.

22. Based on the above assessments, Enbridge Gas determined that upsizing the existing pipelines on the Panhandle System west of Dover Transmission was not viable to meet the identified system need. Moreover, the assessment determined that any new pipeline constructed to meet the identified system need will need to be constructed as a pipeline loop to allow Enbridge Gas to maintain service to Panhandle System customers during construction.

2. *Loop Existing NPS 20 Panhandle Line west of Dover Transmission (the proposed Project)*

/U

23. Enbridge Gas evaluated a facility alternative that would alleviate the largest of the two Panhandle System pressure bottlenecks described in Exhibit B, Tab 2, Schedule 1 (i.e., the NPS 20 Panhandle Line between Dover Transmission and Comber Transmission Station). The alternative consists of looping the existing NPS 20 Panhandle Line from Dover Transmission station towards Comber Transmission

/U

station, directly addressing forecast growth while ensuring minimum inlet pressure to the system constraints.

24. When evaluating the potential length and diameter of the Panhandle Line loop, Enbridge Gas considered the following criteria: /U
- The new pipeline should provide enough system pressure to maintain system constraints for at least 5-years of forecast growth; and,
 - The project should result in new station or tie-in facilities that are adjacent to existing roadways and in locations easily accessible for vehicle access. This also limits environmental impact as new roads and power infrastructure would not be needed.
25. Enbridge Gas determined that approximately 19 km of NPS 36 is required to satisfy the criteria above. /U
26. Wheatley Road and Richardson Sideroad were assessed as potential end-point tie-in locations as they reflect the existing roadways approximately 19 km from Dover Transmission. The distances between Dover Transmission to Wheatley Road and Richardson Sideroad are 16.30 km and 18.93 km, respectively. A potential tie-in location at Wheatley Road was rejected since it does not provide sufficient capacity to serve the 5-year growth forecast utilizing either an NPS 30 or NPS 36 pipeline alternative. /U
27. While either an NPS 30 or NPS 36 to Richardson Sideroad would be sufficient to meet the 5-year growth forecast, the NPS 36 pipeline alternative was selected as it is the most cost-effective option with the lowest cost per unit of capacity (see Table 3 below). /U

28. Extending the existing NPS 36 Panhandle Line from Dawn through to Comber Transmission Station at the same diameter will reduce overall system costs for operations and maintenance. As discussed in Exhibit B, Tab 2, Schedule 1, the Panhandle System currently consists of an NPS 36, NPS 16 and NPS 20. Therefore, a common pipe size for the proposed Project (NPS 36) benefits the system from a maintenance perspective by avoiding costs associated with multiple pipeline inspection programs. This also minimizes the number of overall facilities required (i.e. tie-ins, valve sites, etc.), therefore minimizing impacts to Indigenous peoples, municipalities, landowners, and the environment.

Table 3: Panhandle Loop Economic Assessment

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Potential Alternative	Incremental Capacity (TJ/d)	Costs (\$ Million)	Net Present Value ⁽¹⁾ (\$ Million)	Cost per Unit of Capacity (\$/TJ/d)
Facility Alternative: Looping of NPS 20 Panhandle				
<u>Proposed Project</u> 19 km Loop with NPS 36	168	\$358.0	\$(153.5)	\$2.13
19 km Loop with NPS 30	160	\$342.7 ⁽²⁾	\$(144.6)	\$2.14

(1) The calculation of the Net Present value does not include Overheads

(2) The estimated cost of \$342.7 M for an NPS 30 alternative is based on a November 1, 2024 in-service date, for the purpose of displaying a direct comparative to the proposed Project. The actual installation of an NPS 30 alternative would result in a November 1, 2025 in-service date and as such the estimated cost would be higher due to inflationary impacts.

3. *New LNG Plant*

29. Enbridge Gas considered constructing an above-ground LNG storage facility installed along the Panhandle System to meet the identified system need. This alternative includes the cost to construct and operate the LNG facilities, including the annual operating costs for the liquefaction, storage, vaporization, compression, and site development.

30. In the PRP proceeding, Enbridge Gas evaluated constructing and operating an LNG storage facility as an alternative. The estimated cost was \$287 million (approximately \$390 million in today's dollars) with about \$5 million in annual operating expenses to address 106 TJ/d of system growth. This would only provide a portion of the capacity of the proposed Project. Enbridge Gas expects an LNG solution to require more significant investment in both the size of the facility required and annual operating expenses. Enbridge Gas expects the costs to be 50% to 80% more than the estimated costs from the PRP proceeding (upwards of \$580 million) that addressed 156 TJ/d of system shortfall. /U

31. As a result, Enbridge Gas deemed this alternative to be financially infeasible and did not assess it further.

IRPAs

32. The following sections summarize the assessment findings for each IRPA identified.

1. *Firm exchange between Dawn and Ojibway*

33. Enbridge Gas defines commercial alternatives as any supply-side service provided by a third-party. Commercial alternatives include, but are not limited to, upstream transportation services to enable the delivery of supply to a point on Enbridge Gas's system, peaking supply transactions, delivered supply transactions, exchanges, and third-party assignments of transportation capacity. The suitability of commercial alternatives to meet transmission system needs is dependent on the contractual terms of the agreement and therefore is assessed on a case-by-case basis. The 60 TJ/d of capacity contracted by Enbridge Gas for delivery to Ojibway from the PEPL system is fundamentally an IRPA that is being utilized today.

34. Enbridge Gas considered contracting a firm exchange between Dawn and Ojibway with a third party to meet the identified system need. An exchange would allow gas

to be received at Ojibway, to be used to serve Enbridge Gas' in-franchise customers, in exchange for natural gas delivered at Dawn to the third party. An exchange would reduce the need to physically flow gas from Dawn towards Ojibway on the Panhandle System.

35. There are no commercial services available to be contracted at Ojibway with third parties that can fully eliminate the forecasted 5-year Panhandle System shortfall. Of the total 108 TJ/d of capacity operationally available to be delivered to Ojibway on an annual basis, 60 TJ/d is already utilized by Enbridge Gas to serve firm design day demands. Of the remaining 48 TJ/d of capacity, 37 TJ/d is contracted by ROVER until October 31, 2025 with renewal rights. As outlined in Exhibit B, Tab 2, Schedule 1 and Exhibit B, Tab 3, Schedule 1, Enbridge Gas currently estimates that only 18 - 21 TJ/d of incremental firm annual capacity is available for deliveries to Ojibway into the Panhandle System. /U

36. Ojibway deliveries can efficiently serve demands in the Windsor market, which is located near the Ojibway supply point. Ojibway is however not efficient for directly serving demands on the remainder of the Panhandle System (i.e., east of Windsor between Sandwich and Dawn). Incremental Ojibway deliveries yield diminished returns to serve demand east of the Windsor market between Sandwich and Dawn (for example, 55 TJ/d of incremental Ojibway deliveries provides only 25 TJ/d of incremental capacity between Sandwich and Dawn without specific system reinforcements).

37. The factors which contribute to this inefficiency include:

- Regulation at Sandwich prevents Ojibway gas, which is delivered into the 3450 kPa MOP system from flowing into the 6040 kPa MOP system on the NPS 20 Panhandle Line east of Sandwich Transmission Station in absence of constructing incremental facilities.

- Ojibway supply does not flow directly into the Leamington-Kingsville market, which can only be served by Ojibway through displacement, i.e., additional Windsor volume served by Ojibway means less Windsor market volume served by the NPS 20 Panhandle Line.
- The Leamington-Kingsville market has a peak hour factor of 1.2, which means that the demand pattern throughout the day does not match the constant volumetric supply rate of Ojibway. In the absence of incremental facilities along the NPS 20 Panhandle Line, there is no mechanism to manage the intra-day peaks in the incremental demand in the Leamington-Kingsville market.
- The distribution systems that supply the Leamington-Kingsville market are fed from long (10 to 18 km) smaller diameter laterals that require an increase in upstream pressure (along the NPS 20 Panhandle Line) in order to provide the necessary incremental capacity to the market. An increase in Ojibway supply, corresponding to a decrease in the Windsor market demand being fed from the NSP 20 Panhandle Line, does not result in an increase in pressure along the NPS 20 Panhandle Line sufficient to service a corresponding increase in demand in the Leamington-Kingsville market.

38. As a result of these factors, in order to serve incremental demand in the Leamington-Kingsville market with supply at Ojibway, a greater volume of supply must arrive at Ojibway than is being delivered to the Leamington-Kingsville market. It is therefore inefficient to serve the Leamington-Kingsville market with Ojibway supply.

39. Within the PRP proceeding, the OEB agreed with this assessment:

“Increasing deliveries at Ojibway will not get the gas to Leamington-Kingsville without an inefficient supply ratio, a significant change in supply mix, the need for additional facilities and the assumption of more risk.”³

40. It is not possible to address the 5-year system shortfall of 156 TJ/d with Ojibway deliveries alone because the volume required would greatly exceed the physical import capability at Ojibway. /U

41. Based on the Winter 2024/2025 Panhandle System design forecast, a minimum of 69 TJ/d of incremental deliveries at Ojibway would be required to delay the in-service date of the proposed Project by one year (over triple the capacity which is operationally available to deliver to into Ojibway). This is larger than the forecast Panhandle System shortfall of 66 TJ/d because increasing deliveries at Ojibway will not efficiently serve the Leamington-Kingsville market demands. /U

42. To confirm the Company’s assessment of the availability of commercial services to deliver incremental firm supply to Ojibway, Enbridge Gas held a formal Request for Proposal (“RFP”) for a Firm and Obligated Call Option Exchange Service beginning between November 1, 2023 and November 1, 2024 (later start dates were also considered up to 2026). The RFP is provided at Attachment 1 to this Exhibit.

43. To ensure the reliability of the commercial service at an illiquid point (Ojibway), Enbridge Gas requested that all quantities submitted in the RFP be supported by firm upstream transportation agreements. Shippers were asked to supply contract details for verification.

³ EB-2016-0186 Decision and Order, February 23, 2017, P. 26

44. To ensure third-party providers would be motivated to meet their obligated deliveries at Ojibway under the exchange agreement, Enbridge Gas indicated that the penalty rate for non-performance would be the highest spot price of natural gas in North America. This would prevent instances of third parties intentionally defaulting to redirect gas deliveries to higher priced markets, especially during extreme pricing events such as Winter Storm Uri and Winter Storm Elliot as discussed in Exhibit B, Tab 3, Schedule 1.

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45. To ensure price certainty, Enbridge Gas requested bids to be fixed price during the initial term of the agreement. This will mitigate price risk associated with the relative value of natural gas between the exchange points and the cost of transportation tolls to deliver at Ojibway. These values fluctuate over time which poses significant price risk if a point becomes constrained or is illiquid (like Ojibway).

46. The RFP was sent to Dawn market area customers, Ojibway to Dawn shippers, and posted on the Enbridge Gas website between September 16, 2021 and October 7, 2021.

47. During the RFP, Enbridge Gas approached the existing C1 Ojibway to Dawn shipper, ROVER, to determine whether they were interested in participating in the RFP. ROVER indicated that they were not interested in providing the service, as ROVER is a transmission pipeline operator that transports gas for other shippers. ROVER shippers do not have Ojibway as a delivery point as part of their service. ROVER utilizes services on Vector Pipelines and the Enbridge Gas system to deliver gas to Dawn and, therefore, ROVER shippers cannot specify the physical delivery path to get to Dawn. ROVER did not bid in the RFP.

48. Only one market participant responded to the RFP. This is indicative of the limited number of counterparties holding transportation capacity to Ojibway on the PEPL system.

49. The bid received was subject to available capacity on the PEPL system, which was estimated by the bidder to be 19 TJ/d. Details of the bid received are set out below:

Bid Service Parameters:

- A. Start Date: November 1, 2023
- B. 5 Year initial term
- C. Annual Service (No bid received for winter-only)
- D. Exchange quantity: Up to 55 TJ/d subject to condition #4 below
- E. Unit price: \$0.55 CAD/GJ/d
- F. Annual price (\$11,041,250 CAD per year)

Conditions:

- A. Any service parameters and pricing are subject to refresh
- B. The proposal is subject to management and executive approval
- C. Subject to credit approval
- D. Exchange quantity is subject to available capacity on PEPL with delivery into Ojibway
 - i. Bid stated the estimated available quantity is 19 TJ/d
- E. At any time within the term of the deal, the demand rate is subject to change due to potential toll increases on PEPL
- F. Renewal rights to be negotiated between parties

50. On June 1, 2022, the PEPL website indicated that up to 21 TJ/d of delivery capacity was available at Ojibway. Based on results of the RFP and the information on the PEPL website, available PEPL system capacity with delivery to Ojibway is limited to

21 TJ/d. The results of the RFP confirmed that a firm exchange to Ojibway is not commercially available to defer the need for the proposed Project. Therefore, the Company did not evaluate this alternative further.

51. A firm exchange is not commercially available to defer the need for the proposed project to Winter 2025/26. On June 1, 2023, the PEPL website indicated that up to 21 TJ/d of delivery capacity was available at Ojibway. The available PEPL system capacity with delivery to Ojibway did not change since the RFP was conducted. Therefore, the company did not complete a second RFP and did not evaluate this alternative further. /U

2. *Firm exchange between Dawn and Ojibway in combination with looping of the NPS 20 Panhandle Line west of Dover Transmission (Hybrid Alternatives)* /U

52. While the entire capacity requirement cannot be met through delivered supply at Ojibway, the potential to utilize delivered supply to reduce the pipeline facilities required to meet the 5-year forecast growth was evaluated. Enbridge Gas evaluated a hybrid alternative which includes a 21 TJ/d firm exchange between Dawn and Ojibway beginning November 1, 2024, for a 40-year term⁴ coupled with a NPS 36 loop of the NPS 20 Panhandle Line. Based on analysis, the incremental 21 TJ/d of Ojibway deliveries would reduce the length of the NPS 36 loop from approximately 18.93 km to 17.86 km to provide the same capacity as the proposed Project (168 TJ/d). The loop length of 17.86 km would result in an end-point located in the middle of a landowner's agricultural property. When constructing new pipelines, Enbridge Gas does not typically construct pipeline tie-ins beyond the edge of property-lines or roadways so the facilities can be easily accessed for maintenance and connection to required utility services. Furthermore, locating pipeline tie-ins in the middle of an /U

⁴ Aligned with the expected useful life of the pipeline alternative.

agricultural property would result in larger impacts to the landowner (i.e., installation of driveways, power infrastructure, etc.).

53. Notwithstanding the fact that this hybrid alternative does not viably impact the length of the NPS 36 loop, it is not economic relative to the proposed Project even if Enbridge Gas proceeded to locate a tie-in in the middle of the agricultural property. This 1.07 km reduction in the length of the loop would decrease the proposed Project cost by \$7 million. To achieve this scope reduction, Enbridge Gas estimated that the firm exchange would cost \$4.2 million annually for an estimated discounted total cost of \$66.2 million over a 40-year term.

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54. Enbridge Gas evaluated a second hybrid alternative which includes a 21 TJ/d firm exchange between Dawn and Ojibway beginning November 1, 2024, for a 40-year term coupled with a shorter NPS 36 loop of the NPS 20 Panhandle Line, ending at Wheatley Road. This tie-in location is 16.20 km west of Dover Transmission (2.73 km shorter than the preferred alternative).

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55. This hybrid alternative provides 15 TJ/d less capacity compared to the proposed Project, does not provide enough capacity to serve the 5-year forecast growth, and is not economic relative to the proposed Project. This 2.73 km reduction in the length of the loop would decrease the proposed Project cost by \$27.5 million. To achieve this scope reduction, Enbridge Gas estimated that the firm exchange would cost \$4.2 million annually for an estimated discounted total cost of \$66.2 million over a 40-year term.

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56. A summary of the hybrid alternatives discussed above is provided in Table 4 below.

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Table 4: Hybrid Alternative Economic Assessment

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Potential Alternative	Incremental Capacity (TJ/d)	Costs (\$ Million)	NPV (\$ Million)	Cost per Unit of Capacity (\$/TJ/d)
Hybrid Alternative: 17.86 km NPS 36 and 21 TJ/d Ojibway to Dawn Exchange	168	<i>Facility</i> \$351.0	\$(212.1)	\$2.48
		<i>O&M</i> \$4.2 Annually \$(66.2) over a 40-year term		
Hybrid Alternative: 16.20 km (i.e., Wheatley Road end-point) NPS 36 and 21 TJ/d Ojibway to Dawn Exchange	153	<i>Facility</i> \$330.5	\$(204.0)	\$2.59
		<i>O&M</i> \$4.2 Annually \$(66.2) over a 40-year term		

(1) The estimated O&M costs are based on the bid received in the RFP. The bid stated pricing is subject to refresh based on the market conditions at the timing of contracting.

57. The commercial availability, economic viability, flexibility, and reliability of these hybrid alternatives are dependent on various factors including price, term, and capacity uncertainty, which poses risk to Enbridge Gas customers when relying on third party transportation services with delivery to Ojibway to meet firm demand.

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58. There is future price risk with respect to exchange services. The service contains price variability compared to facility alternatives which have a fixed cost once installed.

59. The value of the exchange service is generally based on the relative difference in gas commodity price between Dawn and Ojibway. Gas prices are subject to change based on market factors over time. Therefore, the cost of an exchange service beyond the initial term is uncertain.

60. Renewal risk relates to the uncertainty and timing of exercising a renewal. Since a firm exchange service at Ojibway would require firm upstream transportation capacity on the PEPL system, the provider of a firm exchange service would be exposed to renewal risk of their firm capacity agreement with PEPL. This risk would be passed on to Enbridge Gas through similar renewal provisions in the exchange agreement. PEPL transportation services uses a Right of First Refusal (“ROFR”) process to manage renewals of firm capacity beyond their initial contracted terms. Generally, the ROFR notice requirement is due within 1-year of the initial term expiring. When utilizing a ROFR, PEPL will require posting of the capacity to be renewed and if another party is willing to contract for a longer term at maximum tolls, the original contract holder would have to match that term to retain the rights to the capacity at maximum tolls. Therefore, there is risk that firm exchange services underpinned by firm upstream PEPL capacity may become unavailable with only a single year notice. A one-year notice is not sufficient if a facility alternative is required to replace capacity lost by an expired commercial agreement.

61. The hybrid alternatives were rejected as neither is financially viable and would contain a high price and renewal risk associated with the firm exchange component.

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3. *Trucked CNG*

62. Enbridge Gas considered using CNG deliveries to the Panhandle System to meet the identified system need. To address the identified system need using CNG, facilities would need to be constructed to produce CNG at Dawn for injection into the NPS 16 Panhandle Line in Windsor and the NPS 12 and NPS 8 Leamington North Lines north of Leamington North Gate Station.

63. A CNG analysis indicated that approximately 420 loads per day would be required to meet the shortfall capacity of 156 TJ/d on a Design Day. This alternative poses

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issues both in terms of logistics and in terms of security of supply. This alternative is not a viable solution and was not pursued further.

4. *ETEE*

64. In 2021, Enbridge Gas engaged Posterity Group (“Posterity”) to evaluate whether an ETEE IRPA could viably meet the identified system need or reduce the scope of the facilities that would otherwise be required. This alternative examined the extent to which the proposed Project, could be eliminated or reduced through investment in ETEE. Due to the timing of the identified system need, this alternative would require a supply-side solution to bridge the gap between the year that the system is constrained and the year that the full ETEE reductions would be realized. However, as noted below, the ETEE alternative cannot meet the required peak demand reduction.

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65. As noted in the Posterity report, included at Attachment 2 to this Exhibit, a maximum peak hour reduction potential of 6,900 m³/hour (5.43 TJ/d) from general service customers could be obtained by Winter 2029/2030 and would cost approximately \$50 million.

66. Enbridge Gas engaged Posterity again in 2023, while the application was in abeyance, to assess whether including the Windsor and Chatham areas in addition to the Leamington area (which was the geographic scope of the original ETEE IRPA analysis) would result in a viable ETEE IRPA in relation to the updated Project. The analysis focused on assessing the extent to which an ETEE IRPA could eliminate or reduce the scope of the NPS 36 Panhandle Loop.

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67. As noted in Posterity’s June 5, 2023 report, included at Attachment 3 to this Exhibit, a maximum peak hour reduction potential of approximately 72,000 m³/hour (57 TJ/d) from general service customers could be obtained by Winter 2029/2030 and would cost approximately \$468 million. This results in \$8.2 million per TJ, whereas the

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preferred alternative provides capacity at a cost of \$2.14 million per TJ. Further, the potential peak hour reduction of 57 TJ/d is only achievable by Winter 2029/2030. As noted at Exhibit B, Tab 2, Schedule 1, Table 3, the required capacity is 66 TJ/d by Winter 2024/2025 and increases to 112 TJ/d by Winter 2025/2026. Therefore, the ETEE alternative is not technically or economically feasible to meet forecasted demands.

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D. Project Selection & Conclusion

68. Based on the above assessment of alternatives, Enbridge Gas has determined that the proposed Project is the optimal solution to meeting the identified system need.

69. The proposed Project provides many benefits and is the best alternative for the following reasons:

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- Economic Feasibility:
 - ✓ Proposed Project provides the lowest cost per unit of capacity relative to all other alternatives assessed.

- Timing:
 - ✓ Provides market assurance in meeting the growing firm demands along the Panhandle System for the next five years.
 - ✓ Can meet required in service date of November 1, 2024.

- Safety & Reliability:
 - ✓ Positions the Panhandle System and the distribution pipelines connecting to it to meet forecasted long-term growth in the most efficient manner.
 - ✓ Alleviates the largest bottleneck, increasing the reliability of service for existing customers and allowing for growth for both existing and new customers.

- Risk Management:
 - ✓ Increases price transparency of the Dawn Hub and Ontario customer's access to diverse supply, and storage
 - ✓ Scalable with future system growth
 - ✓ Directly serves areas of growth

- Environmental and Socio-economic Impact:
 - ✓ Minimizes project impact by paralleling existing right of way

PROPOSED PROJECT

1. This Exhibit is organized as follows:

- A. Project Description
- B. Project Timing
- C. Project Construction
- D. Design Specifications & Testing Procedures
- E. TSSA Correspondance

A. Project Description

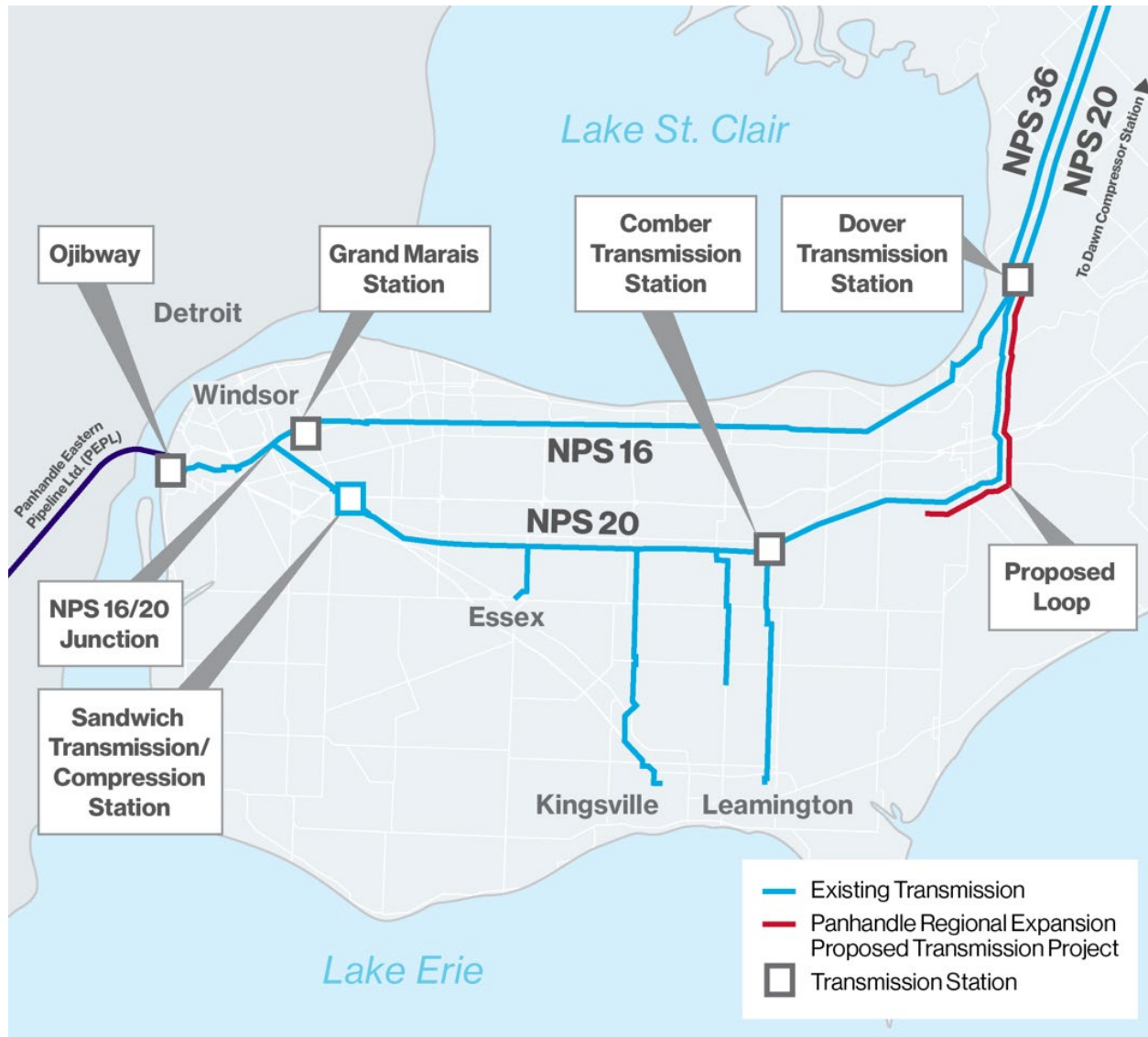
2. To provide reliable, secure, and affordable natural gas supply to meet the growth in Design Day demand of the Panhandle System, Enbridge Gas is proposing to loop a portion of the existing NPS 20 Panhandle Line with a new NPS 36 pipeline ("Panhandle Loop"). Figure 1 below is a map of the proposed Project facilities.

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3. Enbridge Gas will also construct ancillary measurement, pressure regulation and station facilities within the Township of Dawn Euphemia and in the Municipality of Chatham-Kent.

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Figure 1: Map of Proposed Project Facilities



- The Project will commence at the existing Enbridge Gas Dover Transmission Station located 40 km southwest of the Dawn Hub at Balmoral Line and Town Line Road in Chatham-Kent, Ontario. The pipeline will loop the existing NPS 20 Panhandle Line, following existing easements where possible, for approximately 19 km to Richardson

Sideroad in Lakeshore, Ontario where it will tie into the existing NPS 20 Panhandle Line at a new valve site station.

5. The required pipeline, station, measurement, and pressure regulation facilities for the Project are listed in Table 1 below. Further details on the facility specifications can be found within the “Design Specifications & Testing Procedures” section of this Exhibit.

Table 1: Proposed Project

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Item	Facilities	Approximate Pipe Length (m)	NPS (inches)	Material	MOP (kPag)
i	Dawn Yard Upgrade	1400	42	Steel	8960
ii	Panhandle Take-off Station	NA	NA	NA	6040
iii	Dover Transmission Station	NA	NA	NA	6040/4140
iv	Panhandle Loop	19,000	36	Steel, internally coated	6040
v	Richardson Sideroad Valve-Site Station	NA	NA	NA	6040

NOTES: Consistent with the Company’s project management practices and to mitigate escalation of Project costs, a purchase order for the proposed NPS 36 pipeline (19 km) was issued to the vendor on August 4, 2022. The pipeline was subsequently manufactured (rolled) in November and December 2022, and delivered to Enbridge Gas in January 2023.

6. A description of each of the above proposed facilities is outlined below:
 - i. **Dawn Yard Upgrade:** Approximately 1400 m of 8960 kPa MOP NPS 42 station header piping and other various modifications are needed to maintain the required discharge pressure from Dawn to the Panhandle System.
 - ii. **Panhandle Take-off Station:** The existing station located within the Dawn Yard will be modified to meet the forecast needs of the Panhandle System. The modifications include measurement, odourization and regulation assets.

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- iii. **Dover Transmission Station:** This existing regulating station will be modified to connect the new NPS 36 pipeline to the upstream system. Flow measurement equipment will also be added to the station.
- iv. **Panhandle Loop:** 19 km of 6040 kPag MOP NPS 36 pipeline will parallel the NPS 20 from Dover Transmission Station to a new valve site station at Richardson Sideroad.
- v. **Richardson Sideroad Valve Site Station:** A new valve site station is required at the end of the NPS 36 Panhandle Loop to connect to the existing NPS 20 mainline. Isolation valves and launcher/receiver facilities will be installed at this location.

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B. Project Timing

- 7. The proposed Project will be constructed and placed into service in two phases:
 - A. Construction of the Panhandle Loop, modifications to the Panhandle take-off station and Dover Transmission Station, and construction of the new Richardson valve site station are planned to commence in the first quarter of 2024, subject to OEB approval, and to be placed into service by November 1, 2024; and
 - B. Construction of the Dawn yard upgrades are planned to commence in the second quarter of 2025, subject to OEB approval, and to be placed into service by November 1, 2025.

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8. The proposed construction schedule for the Project is set out in Attachment 1 to this Exhibit.

C. **Project Construction**

9. Enbridge Gas will ensure that all pipeline components for the Project will be designed, installed, and tested in accordance with specifications outlined in Enbridge Gas's Construction and Maintenance Manual ("Specifications"). The Specifications meet or exceed the requirements of CSA Z662-19 – *Oil and Gas Pipeline System standard and Ontario Regulation 210/01, Oil and Gas Pipeline Systems*.
10. Enbridge Gas will construct the Project using qualified construction contractors and Enbridge Gas employees. Each of these groups will follow the approved construction Specifications which will be supplemented with site specific conditions for the Project as per the findings in the Environmental Report discussed at Exhibit F, Tab 1, Schedule 1. All construction, installation and testing of the Project will be witnessed and certified by a valid Gas Pipeline Inspection Certificate Holder.
11. The method of construction will be a combination of open trench and trenchless technology. Restoration and monitoring will be conducted to ensure successful environmental mitigation for the Project.
12. Pipeline construction is performed by and coordinated among 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.
13. 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 a road.

14. Construction of the pipelines include the following activities:

(a) Locating Running Line

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.

(b) Clearing and Grading

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.

(c) Stringing

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

(d) Welding

The pipe is welded/fused into manageable lengths. The welds in steel pipe are radiographically inspected and the welds are coated.

(e) Installation

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 hand-located or hydro vacuumed to identify their location.

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.

The Dam & Pump method of isolating watercourse crossings (also referred to as a dry crossing method) are often used in smaller watercourses where flow is slow to moderate and can be managed by isolation equipment such as dams and pumps. Essentially the watercourse or flow is pumped from in front of the upstream dam, pumped over the construction site and discharged back into the watercourse behind the downstream dam. The area between the dams is dewatered in order to allow the installation of the pipeline to occur.

For steel pipe, the pipe coating is then inspected and tested using a high voltage electrical tester 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 applicable.

Trenchless Method: Trenchless methods are alternate methods used to install pipelines under railways, roads, sidewalks, trees and environmentally sensitive areas and water courses. There are three trenchless methods: directional drilling, auger bore, and direct pipe. All three methods share the same principles but vary in the drilling distance, depth, and type of equipment. The trenchless methods proposed for installing the Panhandle Loop are horizontal directional drilling, auger bore, and direct pipe.

(f) Tie-Ins

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

(g) Cleaning and Testing

To complete the construction, the pipeline is cleaned, hydrostatically tested with water in accordance with Enbridge Gas Specifications, dewatered and placed into service.

(h) Backfilling and Restoration

The final construction activity is restoration of lands. The work area is backfilled and leveled, 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.

D. **Design Specifications & Testing Procedures**

15. The proposed facilities for the Project are set out in Table 1 above.

16. The design specifications for the Project are provided in Table 2 below. The specifications are representative of the entire Project including the main pipeline, and ancillary station facilities. Higher wall thickness, higher grade, or higher category piping may also be used in stations applications pending final engineering assessment and calculations. Testing procedures for the Project are discussed below.

Table 2: NPS 36, Design Specifications

Description	Design Specification		Unit
External Diameter (OD)	914.4		mm
Wall Thickness	11.9	14.3	mm
Pipe Grade	483	483	MPa
Material Specification	CSA Z245.1		-
Material Toughness	CAT II		-
Coating Type	Fusion Bonded Epoxy & Abrasion Resistant Overcoat for external coating and Liquid Epoxy for internal coating (Pipeline) YJ/High Performance Paint (Station)		
Material Designation	Carbon Steel		-
Cathodic Protection	Galvanic system (Corrosion Operating Standard, Galvanic Anode Installation Procedure)		
Components			
Fittings	CSA Z245.11		-
Flanges	CSA Z245.12		-
Valves	CSA Z245.15		-
Design Data			
Class Location	2 & 3		-
Design Pressure (DP)	6,895		kPag
Hoop Stress at Design Pressure per % SMYS	55%	46%	
Maximum Operating Pressure (MOP)	6040		kPag
Hoop Stress at MOP per % SMYS	48%	40%	
Minimum Depth of Cover	1.2		M
Method of Construction	Open Cut/Trenchless (Pipeline) Open Cut (Stations)		-
Strength Test Data			
Test Medium	Water		-
Test Pressure (Min / Max)	9,653 / 10,342		kPag
Hoop Stress at Strength Test per % SMYS	77%	64%	
Test Duration	4		Hrs
Leak Test Data			
Test Medium	Water		-
Test Pressure	7,585 / 9,653		kPag
Hoop Stress at Strength Test per % SMYS	60%	50%	
Test Duration	4		Hrs

17. The NPS 36 pipeline will be strength tested after installation, prior to the leak test, for a duration of four hours. The strength test will use water as the test medium at pressures between 9653 and 10342 kPag (1.4 – 1.5x Design Pressure). This corresponds to a maximum 77% Specified Minimum Yield Stress (“SMYS”) during the strength test.

18. The NPS 36 pipeline will be leak tested after installation, following the strength test, for a duration of four hours. The leak test will use water as the test medium at a pressure between 7585 and 9653 kPag (1.1 to 1.4x Design Pressure). This corresponds to a maximum 60% SMYS during the leak test.

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E. TSSA Correspondence

19. Enbridge Gas has filed an application with the Technical Standards & Safety Authority (“TSSA”). Enbridge Gas has received a letter from the TSSA indicating that they have completed their review of the design for the proposed facilities and have no concerns.

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PROJECT COSTS AND ECONOMICS

1. The purpose of this Exhibit is to provide an overview of the costs of the Project and the economic analysis that was completed to demonstrate that the Project is economically feasible and in the public interest.

2. This Exhibit is organized as follows:
 - A. Project Cost
 - B. Project Economics
 - i. Stage 1 – Project Specific Discounted Cash Flow Analysis
 - ii. Stage 2 – Benefit/Cost Analysis
 - iii. Stage 3 – Other Public Interest Considerations
 - iv. Summary of Stages 1 to 3 Analyses

A. Project Cost

1. The total estimated cost of the Project is \$358.0 million, as shown in Exhibit E, Tab 1, Schedule 2. This cost includes: (i) materials; (ii) labour; (iii) external permitting and land; (iv) outside services; (v) contingencies; (vi) interest during construction; and (vii) indirect overheads. Excluding indirect overheads, the total estimated cost of the Project is \$289.2 million. /U

2. The costs are based upon a class 3 estimate prepared in Q1 2023, updated to reflect market conditions based on Q4 2022 contractor responses to RFP, as per American Association of Cost Engineers standards, and include a contingency of approximately 8% applied to all direct capital costs reflecting the detailed engineering design stage of the Project and materials received to date. This contingency amount has been calculated based on the risk profile of the Project and is consistent with contingency amounts calculated for projects in similar stages of design and complexity completed by Enbridge Gas. /U

3. Table 1 below provide a comparison of Project pipeline costs to other recent Enbridge Gas pipeline projects in close proximity to the Project area. Table 1 compares the estimated cost of the current Project (Panhandle Loop) to the latest estimated cost of the Dawn to Corunna Replacement Project (EB-2022-0086). A high-level explanation of significant variances is provided in the notes to the table.

Table 1: Project Cost Comparison – Pipeline Costs (\$ Millions)

Item No.	Description	(a) Proposed Project Panhandle Loop (EB-2022-0157)	(b) Current Forecast Dawn to Corunna (EB-2022-0086)	(c) = (a) - (b) Variance to Actual
	Pipeline Diameter	NPS 36	NPS 36	
	Length	19 km	20 km	
	Pipeline Material	Steel	Steel	
1	Materials	28.3	26.1	2.2
2	Labour	150.8	123.1	27.7
3	Contingency	13.9	2.6	11.3
4	Interest During	6.4	3.7	2.7
5	Total Direct Capital Cost	199.5	155.5	44.0
6	Indirect Overheads	48.0	33.4	14.6
7	Total Project Cost	247.5	188.9	58.6
8	Total Cost per km	13.0	9.4	3.6
9	Material Cost per km	1.5	1.3	0.2
10	Labour, External permitting and land, and Outside Services per km	7.9	6.2	1.7
11	Total Ancillary Facilities Direct Capital Cost	89.7	127.1	(37.4)
12	Ancillary Facilities Indirect Overheads	20.8	23.3	(2.5)
13	Total Ancillary Facilities Project Cost	110.5	150.4	(39.9)
14	Total Project Cost (Mainline and Ancillary Facilities) \$ Millions	358.0	339.3	18.7

NOTES:

- The proposed Project mainline estimate is inclusive of the Richardson Sideroad end point valve site.
- The proposed Project has a more complex mainline scope with eight (8) trenchless crossings compared to one (1) trenchless crossing for the Dawn to Corunna Replacement Project.
- Reduced contingency for the Dawn to Corunna Replacement Project due to its current stage of development/execution.

B. Project Economics

4. The purpose of this section of evidence is to discuss the economic analysis of the Project, completed in accordance with the OEB's recommendations in E.B.O. 134 Report of the Board ("E.B.O. 134"). E.B.O. 134 is the appropriate economic test to apply to the Project, as the Project consists entirely of transmission pipeline infrastructure to which distribution customers do not directly connect. The use of E.B.O. 134 for the Project is also consistent with recent expansions to Enbridge Gas's Panhandle System approved by the OEB.¹

5. To provide the OEB with supporting information, a Discounted Cash Flow ("DCF") analysis, consistent with E.B.O. 134, has been completed.

6. Stage 1 consists of a DCF analysis specific to Enbridge Gas. All incremental cash inflows and outflows resulting from the Project are identified. The NPV of the cash inflows is divided by the NPV of the cash outflows to arrive at a profitability index ("PI"). If the NPV of the cash inflows is equal to or greater than the NPV of the cash outflows, PI is equal to or greater than 1.0 and the Project is considered economic based on current approved rates. If the Project NPV is less than \$0 or the PI is less than 1.0, Stage 2 and 3 benefit/cost analysis must be undertaken.

7. Stage 2 consists of discounting the quantified benefits to customers resulting from the Project at a social discount rate and the results are added to the Project NPV from Stage 1 to calculate the direct net benefit of the Project to Enbridge Gas customers.

The Project is considered to be in the public interest if the net benefit is greater than \$0.

¹ Union Gas Panhandle Reinforcement Project: EB-2016-0186, Union Gas Kingsville Transmission Reinforcement Project: EB-2018-0013.

8. Stage 3 analysis considers other quantifiable benefits and costs related to the construction of the Project, not included in the Stage 2 analysis, and other non-quantifiable public interest considerations.

i. Stage 1 – Project Specific Discounted Cash Flow Analysis

9. The Stage 1 DCF analysis for the Project can be found at Exhibit E, Tab 1, Schedule 5. This schedule indicates that the Project has a NPV of negative \$150 million and a PI of 0.48.

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10. A summary of the key input parameters, values and assumptions used in the Stage 1 DCF analysis can be found at Exhibit E, Tab 1, Schedule 3.

11. Incremental cash inflows are estimated based on the transmission portion (“transmission margin”) of 2023 OEB-approved rates.² The revenue calculation for the transmission margin can be found at Exhibit E, Tab 1, Schedule 4.

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12. Incremental cash outflows, in accordance with E.B.O. 134, include all estimated incremental Project costs. Indirect overhead is not included within cash outflows.

13. The total estimated incremental cost of \$289.2 million can be found at Exhibit E, Tab 1, Schedule 2, Line 7.

ii. Stage 2 – Benefit/Cost Analysis

14. A Stage 2 analysis was undertaken as the Stage 1 NPV is less than zero (negative \$150 million). The Stage 2 analysis considers the estimated energy cost savings that accrue directly to Enbridge Gas in-franchise customers as a result of using natural

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² EB-2022-0133

gas instead of another fuel to meet their energy requirements. The difference in fuel cost is derived as:

$$[\textit{Weighted Average Alternative Fuel Cost} - \textit{Cost of Natural Gas}] \times \textit{Energy Use}$$

15. The Stage 2 NPV of energy cost savings are estimated to be in the range of approximately \$226 million over a period of 20 years to \$353 million over 40 years. A range is provided as the outcome can vary depending upon the assumptions for alternative fuel mix, energy use, fuel prices, and term. /U
16. The Stage 2 energy cost savings have only been calculated for the general service customer class. It is assumed that contract rate customers will not choose an alternative fuel if natural gas is not available to them. The non-availability of natural gas will cause contract rate customers to expand or move their operations to other jurisdictions, likely outside of Ontario, where their natural gas needs can be served. The resulting impacts to the Ontario economy are addressed in Stage 3.
17. The results and assumptions associated with this analysis can be found at Exhibit E, Tab 1, Schedule 6.

iii. Stage 3 – Other Public Interest Considerations

18. There are several other public interest factors for consideration as a result of the Project. Some are quantifiable and others are not readily quantifiable. Quantifiable factors include GDP, taxes, and employment impacts. Applicable other public interest factors are discussed below:

Economic Benefits for Ontario

19. The construction of the Project will provide direct and indirect economic benefits to /U

Ontario estimated at approximately \$257 million, as detailed at Exhibit E, Tab 1, Schedule 7. This figure is related only to the construction of the Project and does not include the similar direct and indirect economic benefits to Ontario when natural gas customers receiving this incremental supply invest and grow their operations. Customers who submitted EOI bids in 2021 were requested to provide economic development impacts related to their incremental natural gas needs. In the EOI bid responses, customers indicated that total direct capital investment into their business operations in Southern Ontario would exceed \$6.37 billion. These figures were updated via the 2023 EOI bid forms. Although, the Company only received relevant feedback from 75% of customers who bid in 2023 (relative to 100% in 2021) the Project is still anticipated to result in total direct capital investment in Southwestern Ontario exceeding \$4.5 billion.³

Employment

20. The construction of this Project will result in additional direct and indirect employment. There will be additional employment of persons directly involved in the construction of the Project. In addition, there will be a trickledown effect on employment as the Project is estimated to create approximately 1,093 jobs as referenced at Exhibit E, Tab 1, Schedule 7. /U
21. Customers who submitted EOI bids in 2021 indicated that a total of 11,526 jobs could be created through the investment into their business operations enabled by the incremental capacity of the proposed Project. These figures were updated via the 2023 EOI bid forms. Although, the Company only received relevant feedback from 75% of customers who bid in 2023 (relative to 100% in 2021) the Project is still anticipated to result in the creation of 6,900 jobs.⁴ /U

³ Implying a comparable result to 2021, since \$4.5 billion is 75% of \$6 billion total potential.

⁴ Implying a comparable result to 2021, since 6,900 jobs is 75% of 9,200 total potential.

Utility Taxes

22. A decision to proceed with this Project will result in Enbridge Gas paying taxes directly to various levels of government. These taxes include Ontario income taxes and municipal taxes paid by Enbridge Gas as a direct result of the Project and are included as costs in the Stage 1 DCF analysis. These taxes are not true economic costs of the Project since they represent transfer payments within the economy that are available for redistribution by federal, provincial, and municipal governments. The NPV of Ontario income taxes and municipal taxes payable by Enbridge Gas related to the Project over the Project life is approximately \$45 million with a further \$22 million paid to the federal government. These figures are further detailed at Exhibit E, Tab 1, Schedule 7.

Employer Health Taxes

23. The additional employment resulting from construction of the Project will generate additional employer health tax payments to aid in covering the cost of providing health services in Ontario.

iv. Summary of Stages 1 to 3 Analyses

24. Table 3 below shows the NPV calculated for the 3-Stage economic analysis completed for the Project.

Table 3: NPV Calculation

Stage	NPV (\$millions)
1	(\$150)
2	\$226 to \$353
3	\$257
Total	\$333 to \$460

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25. As set out above, the Project is in the public interest and the tests set out in E.B.O. 134 are appropriate for the purposes of evaluating the Project. Based on these tests,

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the Project has a net present value of \$333 million to \$460 million and is economically feasible.

26. On February 21, 2013, the Board issued a new requirement to the Filing Guidelines on the Economic Tests for Transmission Pipeline Applications with respect to E.B.O. 134 (EB-2012-0092):⁵

Any project brought before the Board for approval should be supported by an assessment of the potential impacts of the proposed natural gas pipeline(s) on the existing transportation pipeline infrastructure in Ontario, including an assessment of the impacts on Ontario consumers in terms of cost, rates, reliability and access to supplies.

27. These impacts have been addressed throughout this application and evidence.

Table 4 below summarizes these impacts and provides references to additional detail.

Table 4: Project Impact to Customers

Entity Impacted		Summary of Impact	Reference
Existing Infrastructure	Enbridge Gas	Enbridge Gas is proposing to construct: i) 19 km of NPS 36 pipeline that will parallel the existing NPS 20 pipeline from the Dover Transmission Station to a new valve site at Richardson Sideroad	Exhibit D, Tab 1, Schedule 1
Impacts to Ontario consumers	Costs and Rates	Enbridge Gas is not seeking cost recovery of the Project as part of this application. Enbridge Gas expects that, upon rebasing, the capital costs associated with the Project will be included within rate base. Enbridge Gas will allocate Project costs to rate classes according to the applicable OEB-approved cost allocation methodology in place at the time the Company applies for such rate recovery.	N/A
	Reliability and Access to Supplies	In response to increased forecast of demand growth, the Project will create incremental reliable firm transportation assets on the Panhandle System. Project also supports increased access to the Dawn Hub for the Panhandle Market, providing lower cost and greater reliability.	Exhibit B, Tab 3, Schedule 1 Exhibit C, Tab 1, Schedule 1

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⁵ EB-2012-0092, Filing Guidelines on the Economic Tests for Transmission Pipeline Applications, February 21, 2013, P. 3.

ENVIRONMENTAL MATTERS

1. The purpose of this Exhibit 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 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. Social-Economic Features

- A. ER Background
3. Enbridge Gas retained AECOM Canada Limited (“AECOM”) to undertake a route evaluation and environmental and socio-economic impact study, which included a cumulative effects assessment, to select the preferred route for the Project. As part of development of the study, a consultation program was implemented to receive input from interested and potentially affected parties including Indigenous communities. Input gathered from the consultation program 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

4. The results of the study are documented in the ER included at Attachment 1 to this Exhibit. The ER conforms to the OEB's *Environmental Guidelines for the Location, Construction and Operation of Hydrocarbon Pipelines and Facilities in Ontario, 7th Edition, 2016* ("Guidelines").¹ In May 2023 AECOM confirmed that that the ER included at Attachment 1 to this Exhibit remains appropriate with respect to the 2023 updated Project scope. /U
5. The ER was forwarded to the Ontario Pipeline Coordination Committee ("OPCC") on April 29, 2022 for review. Copies of the ER were also sent to all affected municipalities, conservation authorities, landowners, Indigenous communities, and other local agencies. In May 2023 letters were sent to OPCC members, affected municipalities, conservation authorities, landowners, Indigenous communities, and other local agencies advising of the 2023 updated Project scope and expected timeline for Enbridge Gas's updated application submission. /U
6. A summary of the comments from members of the OPCC, Indigenous communities, and other interested parties with the Enbridge Gas responses can be found at Attachment 2 to this Exhibit.
7. To inform and solicit input from landowners, tenants, and the general public with respect to the Project, virtual public information sessions were held on the following dates:
 - November 17, 2021 – December 3, 2021
 - February 14, 2022 – February 28, 2022

¹ The OEB Released the 8th Edition of the Environmental Guidelines for the Location, Construction, and Operation of Hydrocarbon Pipelines and Facilities in Ontario in March 2023, after the initiation, consultation and finalization of the Project and associated Environmental Report.

8. The purpose of the virtual 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 preferred routes, and the overall planning process. Notification of the information sessions were completed through newspapers, letters, social media, and radio.

9. The ER identifies the environmentally preferred route for the proposed pipeline. The ER also identifies various mitigation measures to minimize the impacts to the environment resulting from the construction of the Project. Enbridge Gas will comply with all mitigation measures recommended in the ER, including the development of an Environmental Protection Plan (“EPP”) prior to construction which 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.

10. Enbridge Gas believes that by following its standard construction practices and adhering to the recommendations and mitigation identified in the ER/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.

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11. Some of the more pertinent aspects of the ER are explained in further detail below.

B. Species at Risk

12. 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 routes 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. Enbridge Gas has obtained a Letter of Advice (“LOA”) from the MECP and a permit from the DFO regarding species at risk.

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C. Archaeology

13. An archaeological assessment has been completed by a licensed archaeological firm along the pipeline route, as recommended in the ER, for all but three

remaining properties. Enbridge Gas proposes to have completed all archaeological assessments prior to construction. Enbridge Gas has received notification from the Ministry of Citizenship and Multiculturalism (“MCM”) on the Stage 1 Archaeological Assessment which has been entered into the Registry.

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D. Built Heritage Resources and Cultural Heritage Landscapes

14. A Cultural Heritage Assessment Report: Existing Conditions and Preliminary Impact Assessment (“CHAR”) has been completed for the Project and can be found in Appendix F of the ER. The purpose of the CHAR was to determine existing conditions within the Study Area, present an inventory of municipally, provincially, and/or federally recognized Built Heritage Resources (“BHRs”) and Cultural Heritage Landscapes (“CHLs”), as well as to identify potential BHRs and CHLs within and adjacent to the Study Area. The CHAR concluded that there are no BHRs or CHLs

anticipated to be directly (physically) impacted by the Project. The proposed Panhandle Loop may transect parcels of land that contain a potential BHR or CHL, however, the installation of the pipeline will not require the removal or relocation of any structures, commemorative markers, or monuments, since none were identified in the path of the preferred route. Given that the infrastructure will be underground, impacts to the agricultural lands are anticipated to be minimal. Enbridge Gas will adhere to the recommendations described in section 6.2 of the CHAR.

E. Wetlands

15. The Project routes do not cross wetlands; however, the Panhandle Loop travels in close proximity (approximately 15 m) to one wetland unit. The ER provides a number of measures designed to reduce the impact of constructing the proposed pipeline in proximity to wetlands. Enbridge Gas has assessed the Project for potential environmentally sensitive areas, including wetlands, and has developed mitigation measures in consultation with the MECP and the Lower Thames Valley Conservation Authority as appropriate.

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F. Watercourses

16. The Project crosses a number of watercourses. These crossings will be completed using a 'Dam and Pump' dry crossing method and trenchless methods (e.g., horizontal directional drilling, auger bore, and direct pipe methods). Crossing methods will be reviewed and finalized as additional field surveys are completed and site-specific data becomes available. All permits required to complete the crossings have been obtained from the DFO, the MECP, and Lower Thames Valley Conservation Authority.

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G. Tree Removal

17. Tree removal for the Project will be minimal, and will be limited to hedgerows, work areas in proximity to watercourses that will be crossed using the Dam & Pump method. For trees removed within the proposed easement and temporary working space, Enbridge Gas has a tree replacement program. For this Project, trees cut from woodlots will be replaced at a 3:1 per area basis. Coniferous and deciduous seedlings native to Ontario are planted within the region of the Project and maintained for a period of up to 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 will be given first right of refusal for tree planting.

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H. Social-Economic Features

18. The Project is located almost exclusively on land designated as agricultural, and the Panhandle Loop crosses four Hydro One transmission lines, two railways, one provincial highway (Highway 401), and one Canadian Heritage River (Thames River). Enbridge Gas has developed and will continue to develop appropriate mitigation measures to reduce potential negative impacts to these social-economic features.

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LAND MATTERS

1. The purpose of this Exhibit 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 is organized as follows:
 - A. Land Rights for the Project
 - B. Landowner Agreements
 - 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 preferred route for the Project are provided at Attachment 1 to this Exhibit.

 4. The proposed pipelines total approximately 19 km in length and require an approximate 23m easement width. In total, approximately 42.0 hectares (104 acres) of permanent easement will be required for the Project. Enbridge Gas will also require approximately 71.6 hectares (177 acres) of temporary easement for construction and topsoil storage purposes. Enbridge Gas will begin to execute the necessary land rights agreements, discussed below, with impacted landowners upon the OEB granting leave to construct the Project.
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5. Attachment 2 to this Exhibit sets out the redacted list of landowners that are directly affected (construction activities occurring on their lands) by the Project work.

Enbridge Gas will provide notice of this application to all landowners listed in Attachment 2.

6. Enbridge Gas has initiated meetings with the landowners from whom either permanent or temporary land rights are required and will continue to meet with them to obtain options to acquire all the necessary land rights.

B. Landowner Agreements

7. Enbridge Gas's form of Pipeline Easement is included as Attachment 3 to this Exhibit. This agreement is the same as the one approved by the OEB for use in the Company's Haldimand Shores Community Expansion Project (EB-2022-0088).¹ This agreement covers the installation, operation, and maintenance of the proposed 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.

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8. Enbridge Gas's form of Temporary Land Use agreement is included as Attachment 4 to this Exhibit. This agreement is the same as the one approved by the OEB for use in the Company's Haldimand Shores Community Expansion Project (EB-2022-0088).² This agreement is typically executed for a term of two years, beginning in the year of construction, allowing Enbridge Gas to return in the year following construction to perform restoration work as required.

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¹ EB-2022-0088, Exhibit G, Tab 1, Schedule 1, Attachment 1; and EB-2022-0088, Decision and Order, August 18, 2022, p. 17

² EB-2022-0088, Exhibit G, Tab 1, Schedule 1, Attachment 2; and EB-2022-0088, Decision and Order, August 18, 2022, p. 17.

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, Tab 1, Schedule 1), directly affected landowners and agencies were invited by letter, and the general public was invited to participate through social media, newspaper advertisements and radio.

10. Enbridge Gas has obtained early access land rights for 53 of the 56 affected properties located along the Project route. Enbridge Gas requires such early access for the purposes of conducting environmental and engineering examinations and surveys, which are necessary for fixing the site of the Project and completing relevant approval processes. The Company has also obtained Easement and Temporary Land Use Agreements for those same 53 properties. /U

11. Regarding the three affected properties for which Enbridge Gas has not been able to secure early access land rights or Easement and Temporary Land Use Agreements to date, Enbridge Gas notes that these properties are adjacent to one another at the end of the Project route and are owned by related parties which are under common control. While correspondence between Enbridge Gas and these related landowners began in January 2022 and has continued, along with a number of in-person meetings since then, negotiations have not progressed to a stage where early access rights have been granted. As such, concurrent with the filing of its amendments to the current Application, Enbridge Gas is filing an application with the OEB under section 98(2) of the *Ontario Energy Board Act, 1998*, for an order /U

authorizing entry onto the properties to complete necessary examinations and surveys.³

12. The Company anticipates that, by the time the OEB provides its decision on the leave to construct Application for the Project, either the OEB will have issued its decision on the early access application or Enbridge Gas will have obtained the necessary early access rights with the remaining landowners. Enbridge Gas will also continue to pursue the necessary Easement and Temporary Land Use Agreements with the remaining landowners on a negotiated basis. However, if leave to construct is granted and by such time the Company has not been able to conclude the required Easement and Temporary Land Use Agreements with these landowners, Enbridge Gas will need to seek leave from the OEB to expropriate such land rights pursuant to section 99 of the *Ontario Energy Board Act, 1998* so that it could complete construction of the Project.

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13. Given the uncertain timelines related to the Project's leave to construct proceeding and any expropriation proceeding that may be needed, the planned November 1, 2024 in-service date for the Project could potentially be impacted. In such a circumstance the Company proposes to employ a temporary contingency plan to ensure Winter 2024/2025 demands are met. The contingency plan would involve the Company installing a temporary tie-in to the east of the properties in question. The temporary tie-in would remain throughout Winter 2024/2025 and would be removed once the land matter is resolved.

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³ EB-2022-0285

D. Construction Monitoring and Follow-up

14. Enbridge Gas has a comprehensive and proven landowner relations program in place. Key elements of this program include complaint tracking and assignment of a land agent to: (i) ensure that commitments made to landowners are fulfilled; (ii) address landowner questions/concerns as promptly as reasonably possible; and (iii) act as liaison between landowners, the pipeline contractor, and Enbridge Gas project personnel.
15. When Project restoration is completed, landowners will be asked by Enbridge Gas to sign an acknowledgement form if satisfied with the restoration. 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

16. Enbridge Gas' preliminary work on the Project has identified the potential required authorizations outlined in Table 1 below

Table 1: Potential Permits/Authorizations for the Project

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<u>AUTHORITY</u>	<u>PURPOSE</u>
Provincial	
Ontario Energy Board	<p>Pursuant to section 90(1) of the Act, an Order granting leave to construct the Project.</p> <p>Pursuant to section 97 of the Act, an Order 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</p>
Ministry of Transportation	Encroachment permit to cross Hwy 401
Ministry of Heritage, Sport, Tourism and Culture Industries	Archaeological clearance under the <i>Ontario Heritage Act</i> (OHA)
Ministry of Environment, Conservation and Parks	<p>Permitting or registration under the <i>Endangered Species Act</i> (ESA) (2007)</p> <p>Permit to Take Water (PTTW) or Environmental Activity and Sector Registry (EASR) (surface and groundwater) under the <i>Ontario Water Resources Act</i> (1990)</p>
Ministry of Energy	Provision of a letter confirming the procedural aspects of consultation with potentially impacted Indigenous communities undertaken by Enbridge Gas for the Project is satisfactory
Municipal	
County of Essex	
Municipality of Chatham-Kent	

Municipality of Lakeshore	Municipal Consent of proposed alignment, including road occupancy permits for crossings and access off municipal roads
Lambton County	
Other	
Canadian Pacific Railway	Crossing Agreement to cross under railway corridor
Via Rail Canada Inc.	Crossing Agreement to cross under railway corridor
Landowner agreements for easements, temporary working space and/or storage sites	Obtain required Easement agreements Obtain required TLU Agreements
Lower Thames Valley Conservation Authority	Development Permits under Ontario Regulation 152/06 (Regulation of Development, Interference with Wetlands and Alterations to Shorelines and Watercourses), as per the <i>Conservation Authorities Act</i> (1990)
Department of Fisheries and Oceans	Review and authorization under the <i>Fisheries Act</i> (1985) Permitting under the <i>Species at Risk Act</i> (2002)

17. Other authorizations, notifications, permits and/or approvals may be required in addition to those identified above.

18. Enbridge Gas will obtain all required permits, easements, and temporary land use agreements if and as required for the route and location of the proposed facilities prior to the commencement of construction.

INDIGENOUS¹ CONSULTATION

1. Enbridge Gas is committed to developing and implementing processes that support meaningful engagement with potentially affected Indigenous groups (First Nations and Métis). Through these processes, 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 is organized as follows:
 - A. Introduction
 - B. Indigenous Engagement Program Objectives
 - C. Overview of Indigenous Engagement Program Activities
 - D. Ongoing Indigenous Engagement Activities

A. Introduction

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. This correspondence, dated June 29, 2021, is set out in Attachment 1 to this Exhibit.
4. Enbridge Gas received a letter ("Delegation Letter") from the MOE dated August 6, 2021, indicating that there are duty to consult requirements in relation to the Project and that the MOE had delegated the procedural aspects of its duty to Enbridge Gas for the Project. The Delegation Letter identified six Indigenous communities to be consulted in relation to the Project. Additionally, in an email

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*.

dated August 6, 2021, the MOE advised that Enbridge Gas was to engage with Delaware Nation as a best practice based on proximity. A copy of the Delegation Letter is provided in Attachment 2 to this Exhibit.

5. On April 20, 2022, Enbridge Gas provided an updated description of the Project to the MOE reflecting refinements made to the design and preferred route of the Project since the June 29, 2021 letter noted above. This updated Project Description is provided in Attachment 3 to this Exhibit. The MOE responded to Enbridge Gas indicating that no changes are necessary to the direction provided in the Delegation Letter as a result of the refinements to the Project description.

6. On June 6, 2023, Enbridge Gas provided an updated description of the Project to the MOE reflecting changes made to the Project scope. This updated Project Description is provided at Attachment 8 to this Exhibit. /U

7. The Indigenous Consultation Report (“ICR”) was provided to the MOE on June 10, 2022. An updated ICR was provided to the MOE on the date of this filing. /U
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 4 to this Exhibit.

B. Indigenous Engagement Program Objectives

8. 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 5 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.

9. 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, including 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.
10. 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.

C. Overview of Indigenous Engagement Program Activities

11. 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 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.

12. In addition, Enbridge Gas has responded to written and oral questioning from certain Indigenous groups during the course of the OEB proceeding.

/U

D. Ongoing Indigenous Engagement Activities

13. 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.
14. Attachment 6 to this Exhibit contains a summary of Enbridge Gas's Indigenous engagement activities for the Project. Attachment 7 to this Exhibit contains the ICR and associated attachments for the Project.
15. The information presented in the Attachment 6 and Attachment 7 reflects Enbridge Gas's Indigenous engagement activities for the Project up to and including June 4, 2023 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.

/U

Company Name	Address Line 1	City	Province	Postal Code	Tracking	Comments
ENBRIDGE GAS INC.	50 KEIL DRIVE NORTH	CHATHAM	ON	N7M 5M1	1Z4R7V942095379038	
HYDRO ONE NETWORKS INC.	489 BAY STREET, 8TH FLOOR	TORONTO	ON	M5G 2P5	1Z4R7V942097660041	
BANK OF MONTREAL	5750 EXPLORER DRIVE, 3RD FLOOR	MISSISSAUGA	ON	L4W 0B1	1Z4R7V942097076067	
BANK OF MONTREAL	290 QUEENSTON ROAD	HAMILTON	ON	L8K 1H1		Receiver has moved
UNION GAS COMPANY OF CANADA LIMITED	50 KEIL DRIVE NORTH	CHATHAM	ON	N7M 5M1	DUPLICATE	
EDF EN CANADA DEVELOPMENT INC.	53 JARVIS STREET, SUITE 300	TORONTO	ON	M5C 2H2	1Z4R7V942099011079	
ROMNEY ENERGY CENTRE GP INC.ROMNEY ENERGY CENTRE	53 JARVIS STREET, SUITE 300	TORONTO	ON	M5C 2H2	1Z4R7V942098964088	

First Name	Last Name	Company Name	Address Line 1	Address Line 2	City	Province	Postal Code	Tracking
[REDACTED]	[REDACTED]		[REDACTED]		GRANDE POINTE	ON	NOP 1S0	1Z4R7V942097524108
[REDACTED]	[REDACTED]		[REDACTED]		BOWEN ISLAND	BC	VON 1G2	1Z4R7V941495931111
[REDACTED]	[REDACTED]		[REDACTED]		PAIN COURT	ON	NOP 1Z0	1Z4R7V942096956126
[REDACTED]	[REDACTED]		[REDACTED]		BOWEN ISLAND,	BC	VON 1G2	1Z4R7V941492786605
[REDACTED]	[REDACTED]	PAUL DE ROSA FARMS INC.	4630 TECUMSEH LINE		TILBURY	ON	NOP 2L0	1Z4R7V942090674790
[REDACTED]	[REDACTED]	SOIEX FARMS INC.	7372 GRAND RIVER LINE		CHATHAM	ON	N7M 5J7	1Z4R7V942096460143
[REDACTED]	[REDACTED]		[REDACTED]		TILBURY	ON	NOP 2L0	1Z4R7V942099739150
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[REDACTED]	[REDACTED]		[REDACTED]		WHEATLEY	ON	NOP 2L0	1Z4R7V942094912846
[REDACTED]	[REDACTED]		[REDACTED]	[REDACTED]	TILBURY	ON	NOP 2L0	1Z4R7V942094337450
[REDACTED]	[REDACTED]		[REDACTED]		CHATHAM	ON	N7L 5P7	1Z4R7V942090521061
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[REDACTED]	[REDACTED]		[REDACTED]	[REDACTED]	TILBURY	ON	NOP 2L0	1Z4R7V942091102164
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[REDACTED]	[REDACTED]	LALLY SALES & SERVICE LTD.	78 MILL STREET WEST		TILBURY	ON	NOP 2L0	1Z4R7V942091326388
[REDACTED]	[REDACTED]	COUREY CORPORATION	19325 COUNTY RD 46, LAKESHORE, PO BOX 178		TILBURY	ON	NOP 2L0	1Z4R7V942091476994



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1 - 5 of 6



1Z4R7V942095379038

Delivered

Delivered On: Wednesday, August 09 at 13:30 at Inside Delivery



1Z4R7V942097660041

Delivered

Delivered On: Wednesday, August 09 at 12:35 at Receiver



1Z4R7V942097076067

Delivered

Delivered On: Wednesday, August 09 at 9:38 at Front desk



1Z4R7V942091792571

Returned to Sender

Delivered On: Thursday, August 10 at 15:57 at Front desk



1Z4R7V942099011079

Delivered

Delivered On: Wednesday, August 09 at 11:43 at Met Customer



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1 - 5 of 25

-  1Z4R7V942097524108
Delivered
Delivered On: Wednesday, August 09 at 11:56 at Rear door
-  1Z4R7V941495931111
Delivered
Delivered On: Thursday, August 10 at 12:01 at Front door
-  1Z4R7V942096956126
Delivered
Delivered On: Wednesday, August 09 at 18:26 at Front door
-  1Z4R7V941492786605
Delivered
Delivered On: Thursday, August 10 at 12:01 at Front door
-  1Z4R7V942090674790
Delivered
Delivered On: Wednesday, August 09 at 11:18 at Rear door



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1Z4R7V942096460143
Delivered
Delivered On: Wednesday, August 09 at 10:02 at Side door



1Z4R7V942099739150
Delivered
Delivered On: Wednesday, August 09 at 11:10 at Met Customer



1Z4R7V942095236165
Delivered
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1Z4R7V942095351174
Delivered
Delivered On: Wednesday, August 09 at 11:10 at Met Customer



1Z4R7V942097484189
Delivered
Delivered On: Wednesday, August 09 at 13:04 at Porch



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Delivered
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Delivered
Delivered On: Wednesday, August 09 at 16:32 at Rear door



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Delivered
Delivered On: Wednesday, August 09 at 11:12 at Front door



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Delivered
Delivered On: Wednesday, August 09 at 10:44 at Front door



1Z4R7V942090563678
Delivered
Delivered On: Wednesday, August 09 at 14:10 at Met Customer



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Delivered

Delivered On: Wednesday, August 09 at 11:37 at Rear door



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Delivered

Delivered On: Wednesday, August 09 at 11:42 at Side door



1Z4R7V942094845508

Delivered

Delivered On: Wednesday, August 09 at 15:46 at Met Customer



1Z4R7V942091324111

Delivered

Delivered On: Wednesday, August 09 at 15:22 at Rear door



1Z4R7V942092161723

Delivered

Delivered On: Thursday, August 10 at 17:39 at Mailbox



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1Z4R7V942094458338

Delivered

Delivered On: Wednesday, August 09 at 17:49 at Front door



1Z4R7V942090313947

Delivered

Delivered On: Wednesday, August 09 at 17:49 at Front door



1Z4R7V942091828550

Delivered

Delivered On: Wednesday, August 09 at 15:39 at Mailbox



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Delivered On: Wednesday, August 09 at 15:10 at Front door



1Z4R7V942090234774

Delivered

Delivered On: Wednesday, August 09 at 11:18 at Rear door

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1 - 2 of 2



1Z4R7V942091326388

Delivered

Delivered On: Wednesday, August 09 at 14:43 at Receiver



1Z4R7V942091476994

Delivered

Delivered On: Wednesday, August 09 at 15:14 at Rear door

Panhandle Regional Expansion Project

Leave to construct application

On June 10, 2022 Enbridge Gas filed a Leave to Construct application with the OEB.

- [Read the Leave to Construct application](#)
- [Notice of Application](#)
- [Interrogatory Responses](#)
- [Exhibit I.TFG.18_Attachment 1](#)
- [EGI_IRR_EGIReply](#)
- [Undertaking Responses](#)
- [Undertaking Response Supplementary \(JT111\)](#)

Enbridge Gas has recently identified potentially material increases to components of the estimated project cost through a competitive procurement process undertaken in parallel with the project application. As such, Enbridge Gas had asked the Ontario Energy Board for a temporary pause in the regulatory review of this project while we reviewed project costs and explored ways to contain, avoid and/or mitigate increases. The OEB granted that pause in December 2022.

Since that time, Enbridge Gas has continued to review potential material increases to components of the estimated project cost, through a competitive procurement process.

In addition, we now have the benefit of better understanding of actual attachments to the Panhandle system in 2022. As a result, we are re-assessing the staging of the project and can confirm that the start of construction will be delayed from 2023 to 2024. We expect that all incremental demand on the Panhandle system for winter 2023/2024 will be accommodated. We are also continuing to advance the project and filed an updated Leave to Construct application with the OEB on June 16, 2023.

Read the [updated application](#)

Read the [Notice of Hearing](#)