

December 1, 2016

BY COURIER & RESS

Ms. Kirsten Walli
Board Secretary
Ontario Energy Board
Suite 2700, 2300 Yonge Street
Toronto, Ontario
M4P 1E4

**RE: EB-2016-0186 – Union Gas Limited (“Union”) – Panhandle Reinforcement Project –
Argument-in-Chief - CORRECTION**

Dear Ms. Walli,

Union filed its Argument-in-Chief for the above-noted proceeding on November 30, 2016. Please disregard the version received yesterday and replace it with the attached corrected version of the Argument-in-Chief.

Specifically, the corrections include:

- Paragraph 12 – quote referenced in italics updated to reflect what is cited on page 28, lines 19-21 of the Day 1 transcript (dated November 22, 2016); and
- Paragraph 58 – reference to “net carbon zero” targets revised to “net zero carbon” targets

The corrections have been black-lined for ease of reference. The attached will be filed in RESS and copies will be sent to the Board.

Any questions concerning this submission, please contact me at (519) 436-5473.

Yours truly,

[original signed by]

Karen Hockin
Manager, Regulatory Initiatives

Encl.

cc: Zora Crnojacki, Board staff
Mark Kitchen, Union Gas
Charles Keizer, Torys
All Intervenors (EB-2016-0186)

ONTARIO ENERGY BOARD

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

AND IN THE MATTER OF an Application by Union Gas Limited pursuant to s. 90(1) of the Act for an Order or Orders granting leave to construct natural gas pipelines and ancillary facilities in the Township of Dawn-Euphemia, Township of St. Clair and the Municipality of Chatham-Kent;

AND IN THE MATTER OF an Application by Union Gas Limited pursuant to s. 36 of the Act for an Order or Orders for pre-approval of recovery of the cost consequences of all facilities associated with the development of the natural gas pipeline and ancillary facilities referred to as the Panhandle Reinforcement Pipeline Project.

ARGUMENT-IN-CHIEF OF UNION GAS LIMITED

1. This is Union Gas Limited’s (“Union”) Argument-in-Chief in the above-referenced proceeding.
 - A. **Overview**
2. Union is proposing to expand the Panhandle System by replacing approximately 40 kilometres of NPS 16 pipeline with NPS 36 pipeline from Union’s Dawn Compressor Station (“Dawn”) in the Township of Dawn-Euphemia to the Dover Transmission Station (“Dover Transmission”) in the Municipality of Chatham-Kent (“Proposed Pipeline” or “the Project”) and completing related station modifications.¹
3. The Panhandle System represents the primary transmission pipeline asset to transport natural gas primarily from Dawn to the Ojibway Valve Site (“Ojibway”) in Windsor and to feed high pressure distribution pipelines serving residential, commercial and industrial in-franchise markets along its path.

¹ Exhibit A, Tab 3, p.1, Figure 3-1

4. Union is no longer able to meet all firm service requests effective November 1, 2017². Analysis shows that the operational requirements of the Panhandle System will not be met for the Winter 2017/2018 with expected growth to a Design Day demand of 623 TJ/day and no changes to existing facilities. In order to continue to provide service to new general service and contract customers, additional capacity is required on the Panhandle System by November 1, 2017.

5. The Application by Union is brought in response to the immediate need and forecasted market demands and lack of available firm capacity on the Panhandle System. The Application consists of the following requests:
 - (i) Section 90 (1) of the Ontario Energy Board Act (“the Act”) granting Leave to Construct approximately 40 kilometres of NPS 36 pipeline from Dawn to Dover Transmission;
 - (ii) Section 36 of the Act granting pre-approval of the recovery of cost consequences of the Project from ratepayers;
 - (iii) Section 36 of the Act granting an approval to calculate the revenue requirement and resulting rates of the Project based on a 20-year depreciation term; and
 - (iv) Section 36 of the Act granting an approval of an accounting order to establish the Panhandle Reinforcement Project Deferral Account to track any variance between the revenue requirement included in rates for the Project and the actual revenue requirement of the Project.

6. The Proposed Pipeline provides many benefits and is the best alternative for the following reasons:
 1. Provides market assurance in meeting the growing near term firm demands along the Panhandle System for the next five years;
 2. Positions the Panhandle System and the laterals connecting the distribution network to meet the long term growth in the most efficient manner;
 3. Eliminates operating and maintenance costs related to future integrity and other maintenance associated with the existing NPS 16 pipeline between Dawn and Dover Transmission;

² Day 1 Transcript, page 40, lines 3-12

4. The new NPS 36 pipeline will be constructed primarily within Union's existing easement; and
 5. Provides the necessary incremental capacity without the increased reliance on third party gas supply transportation services, which contain price, term and capacity risk at a cost premium.
7. The balance of the argument is organized based on the Issues List as approved by the Board on August 24, 2016. However, because of the nature of the issues and the aspects raised in the proceeding, Union has reordered and in some cases grouped the issues relative to what appears in the Board-approved Issues List.

B. Are the proposed facilities needed?

What is the need?

8. Union plans its facilities to meet the demands on the coldest day, defined to be the Design Day (or Peak Day). The Design Day demand is defined as the amount of firm demand that Union is committed to supply through its system on a Design Day. The majority of the customers served by the Panhandle System are heat sensitive and their maximum demands occur during the coldest day. The total Design Day demand for the in-franchise market is the sum of the firm demands of Union's in-franchise general service and contract rate customers connected to the system.³ Interruptible in-franchise demands are curtailed on Design Day and are not included in Design Day demand.
9. Over the past five years, there has been an increasing demand for firm service from both existing and new customers served by the Panhandle System. Requests have been received from general service customers, consisting of residential, commercial and small industrial customers, and contract rate customers, with the majority of these requests coming from greenhouse customers in the Leamington-Kingsville area. Market demand for firm service is forecast to exceed the Panhandle System capacity by Winter 2017/2018. Reinforcing the Panhandle System is a necessary investment in order to

³ Approximately 50% of the firm demand served by the Panhandle System is for the general service market. The contract rate market accounts for about 50% of the firm demand served by the Panhandle System. The contract rate demand consists of large commercial, greenhouses, institutional, industrial and power generation customers. The mix is 45% power generation, 30% greenhouse and 25% large commercial, institutional and industrial customers.

attach any customers, even general service customers. Denying service requests will mean new industry, expanding industry or single family homes requiring natural gas cannot be built in the market area served by the Panhandle System.

10. The firm Design Day demand along the Panhandle System is forecasted to grow 19% by 2021 and 37% in total by 2034 with the majority of the growth in the mid-section of the Panhandle System in the Leamington-Kingsville area (approximately 58% by 2021 and 65% by 2034 in that area).
11. The customer desire for firm demand is evident from Union's request for Expressions of Interest as part of the 2016 Leamington Expansion Pipeline Project⁴ to assess the market demands for that project. The Leamington area is one of the areas of growth fed by the Panhandle System. The response to the request far exceeded the capacity that Union could make available through that project. A total of 80 TJ/day of firm demand was requested, of which only 32 TJ/day is to be served by the 2016 Leamington Expansion Project. Union was unable to serve approximately 48 TJ/day of identified firm demand in the Leamington-Kingsville area. In effect, the capacity enabled by the Project already partly taken up by these firm demand requests.
12. At page 28 of the Day 1 transcript, when asked by the Ontario Greenhouse and Vegetable Growers Association ("OGVG") to comment on the fact that despite new capacity created by the 2016 Leamington Expansion build there was still unmet demand in the area, Ms. Caille stated:

"That's correct. For people wanting firm service we had to provide an allocation, because there wasn't sufficient capacity in that pipeline build."
13. Union has also identified incremental demand for firm service across the entire market, including the new Windsor Mega Hospital, the new Gordie Howe International Bridge, CNG facilities for transport fleets and load increases from existing customers. In

⁴ EB-2016-0013

addition, Union has received a number of letters of support from area Mayors and customers including a number represented by OGVG⁵.

14. In addition, many of Union's existing interruptible customers have expressed an interest in converting from their current interruptible service to firm service, which will further increase Design Day demand. Currently there is a significant amount of interruptible demand served from the Panhandle System, equivalent to approximately 20% of the firm Design Day volume. The majority of this demand is greenhouse and power generating customers. Many existing interruptible customers are now looking to contract for firm services and do not want to rely on interruptible services.
15. To forecast future Design Day demand and to identify reinforcement facilities required to support forecast growth on the Panhandle System, Union used historical attachments for general service customers in addition to a load growth forecast for contract rate customers, including the foregoing unfulfilled demand requests from the 2016 Leamington Expansion Pipeline Project. The information was compiled into a 20-year Panhandle Growth Forecast 2015-2034. Growth is expected to occur across the entire Panhandle System and to be predominantly heat sensitive.
16. Since Winter 2012/2013, Design Day demand has increased from 490 TJ/day to a forecasted demand of 565 TJ/day in winter 2016/2017. Design Day forecast demand growth for the Panhandle System is shown below.⁶

⁵ Exhibit A, Tab 5, Schedule 2

⁶ Exhibit A, Tab 5, p.12, Table 5-2

Design Day Forecast Growth

Timeframe	Design Day Requirement (TJ/day)
November 1, 2016 (Post Leamington Expansion ⁷)	565
2017 – 2021 Forecast Growth	106
2022 – 2034 Forecast Growth	99
Total 2034 Design Day Requirements on the Panhandle System	770

17. Including the unmet Leamington-Kingsville demand the accumulative increase in Design Day demand will be approximately 106 TJ/day for the 2017 to 2021 period.

Why can't the need be satisfied with existing facilities?

18. Union's Panhandle System is a high pressure transmission system made up of two pipelines; (i) an NPS 16 pipeline extending from the Dawn Hub to a point at Ojibway in the City of Windsor, and (ii) an NPS 20 pipeline extending from the Dawn Hub to where it connects with the NPS 16 pipeline in the City of Windsor ("NPS 16/20 Junction"). The NPS 16 pipeline connects to two NPS 12 pipelines at its western terminus that cross under the Detroit River and connect with Panhandle Eastern Pipeline Company L.P. ("Panhandle Eastern"), an Energy Transfer Equity L.P. Company, at the International Border ("the Panhandle River Crossing"). The NPS 16 pipeline was installed in the 1950s and the NPS 20 pipeline was installed in the 1970s. The Panhandle System has not seen a major expansion since these pipelines were installed.
19. Union's Panhandle System is the primary transmission pipeline asset that transports natural gas to high pressure laterals that supply Union's distribution network serving residential, commercial, natural gas fired power generation, and industrial customers in

⁷ EB-2016-0013

the Market. Approximately 90% of the demand on the Panhandle System is served from the Dawn Hub on Design Day. The remaining 10% is supplied at Ojibway from Panhandle Eastern.

20. Significant growth in demands in the past few years has utilized the remaining capability of the Panhandle System. Union has made two additions to the Leamington Pipeline System which comes off of the NPS 20 Panhandle Pipeline and feeds into the Leamington area (one expansion in 2013 and one in 2016).⁸ The significant growth has resulted in reduced pressures along the NPS 20 pipeline such that additional looping or laterals from the NPS 20 pipeline into the Leamington-Kingsville market will not yield the necessary capacity to serve new growth without bringing higher pressure gas from Dawn closer to the market. Similarly, incremental imported supply at Ojibway is only suited to efficiently serve demands in the far west end of the market in Windsor (between Ojibway and Sandwich Compressor) and does not provide the increase in pressures along the NPS 20 pipeline that are needed to support growth in the Leamington-Kingsville area. In order to serve firm demand growth, the Panhandle System needs the reinforcement provided by the Project.
21. Hydraulic analysis shows that the operational requirements of the Panhandle System will not be met for Winter 2017/2018 assuming continued growth to a Design Day and no changes to existing facilities. In order to continue to provide service to new general service and contract customers, additional capacity is required by November 1, 2017.

What are the consequences if the Project is not built?

22. A direct consequence of the Project not proceeding is that Union will not be able to provide firm service to General Service customers starting in November 2017.⁹ Furthermore, customers will be forced to use a more expensive alternative and in the case

⁸ EB-2012-0431 and EB-2016-0013

⁹ Day 1 Transcript page 40, lines 3-12

of contract customers such as greenhouses, this will threaten their competitiveness and increase the attractiveness of moving to other jurisdictions.¹⁰

How will the Proposed Project satisfy the need?

23. The Project involves the removal of the existing NPS 16 Panhandle pipeline between Dawn and Dover Transmission and replacing it with a new NPS 36 pipeline. Since the Proposed Pipeline is an upstream transmission reinforcement, one of its key benefits is that it raises the pipeline pressures along the entire NPS 20 pipeline, unlocking additional capability on downstream pipelines by providing those facilities with a higher inlet pressure.

C. Do the proposed facilities meet the OEB's economic tests as outlined in the Filing Guidelines on the Economic Tests for Transmission Pipeline Applications, dated February 21, 2013, as applicable?

24. Stage 1 economics were completed for the Project and results of the Stage 1 DCF analysis are shown at Exhibit A, Tab 7, Schedule 4. The results indicate a cumulative NPV of (\$212) million and a PI of 0.19 over a DCF term of 20 years. For illustrative purposes, the DCF analysis based on the typical 40 year revenue expectation is shown at Exhibit A, Appendix A, Schedule 1.
25. Union undertook a Stage 2 analysis. The Stage 2 analysis considers the estimated energy cost savings that accrue directly to Union's in-franchise customers as a result of using natural gas instead of another fuel to meet their energy requirements. The Stage 2 NPV energy cost savings are estimated to be approximately \$805 million.¹¹
26. There are a number of other public interest factors for consideration as a result of the addition of the Project. Some are quantifiable and others are not readily quantifiable. Quantifiable factors include the GDP, taxes and employment impacts. Other less quantifiable impacts include, but are not limited to, energy choice options and environmental benefits. The construction of the Project will provide direct and indirect

¹⁰ Every acre of greenhouse development creates jobs for five employees, results in significant capital investment of approximately \$700,000 to \$800,000 per acre with spin off consequences for employment elsewhere (Exhibit A, Tab 5, p.19)

¹¹ Exhibit A, Tab 7, Schedule 5.

economic benefits to Ontario estimated at approximately \$296 million.¹² In addition, the construction of this Project will result in additional direct and indirect employment. The Project is estimated to create approximately 3,800 jobs.¹³

27. The table below shows the NPV calculated for the 3-stage economic analysis completed for the Project.

NPV \$ Millions – 20-year Term¹⁴

Stage	NPV
Stage 1	(\$212)
Stage 2	+ \$805
Stage 3	+ 296
Total	+ \$889

D. What are the facilities and non-facilities alternatives to the proposed facilities? Have these alternatives been adequately assessed and are any preferable to the proposed facilities, in whole or in part?

Union's Design and Operational Requirements

28. As set out below, Union considered a number of questions to satisfy the need on both a short-term and long-term basis. Notwithstanding what alternatives are considered, all alternatives must be considered within the same planning paradigm resulting from Union's design and operational requirements and appropriate economic evaluation on a NPV basis. Union's design and operational requirements set the critical parameters that must be considered in evaluating each alternative.
29. With respect to design and operational requirements, the Panhandle System provides firm natural gas requirements of customers while meeting the minimum inlet pressures necessary to supply downstream distribution systems. An acceptable alternative must be

¹² Exhibit A, Tab 7, Schedule 6

¹³ Exhibit A, Tab 7, Schedule 6.

¹⁴ Exhibit A, Tab 7, Table 7-3.

able to maintain these minimum pressure parameters on a Design Day and meet Design Day delivery requirements.

30. As noted above, beginning in 2017, the existing Design Day demands plus the forecasted growth will exceed the current Panhandle System capacity, and therefore reinforcement is required. As described in Exhibit A, Tab 5, the Design Day demand of the Panhandle System is forecast to grow from 565 TJ/day to 671 TJ/day by 2021. The alternatives, therefore, are required to provide 106 TJ/day of incremental capacity to the Panhandle System to move natural gas to the distribution networks it supplies. The facilities are required to provide incremental capacity to the Panhandle System and to meet the forecasted five year firm Design Day demand growth. Providing incremental capacity for at least five years offers assurance to the Market that capacity will exist to meet the growing needs of residential, commercial and industrial customers and allows Union to confidently attach long-term firm customer loads.

Alternatives Considered

31. Union reviewed and compared a number of alternatives to meet the forecasted demand of the Panhandle System.¹⁵ Union considered and actively pursued various alternatives on a short-term basis. These included:
 - a reverse open season targeted at in-franchise customers holding firm capacity to reduce firm demand or to convert to interruptible contract demand – there were no responses received.
 - discussions with in-franchise power customers in Windsor to determine interest in reducing firm transportation annually or on peak days – no incremental capacity was obtained.
 - holding an RFP to seek additional transportation capacity or supply to Ojibway – one market participant responded and Union contracted for non-renewable supply for 21 TJ/day for the period November 1, 2016 to October 31, 2019 - however, the supply is not incremental to Union's 60 TJ/day at Ojibway post November 1, 2017.

None of these alternatives will satisfy the five-year growth forecast of 106 TJ/day on the Panhandle System.

¹⁵ Exhibit A, Tab 6; Exhibit BStaff.3, Exhibit JT1.24, Attachment 1

32. Furthermore, there are no stand-alone commercial services that can be contracted with a pipeline company or secondary market that would deliver natural gas via the Panhandle System into the in-franchise Market that will eliminate the need for additional pipeline and station facilities.
33. Union also considered alternatives on a long-term basis that could satisfy the 106 TJ/day need. These were affectively summarized in Attachment 4 of Exhibit B. Staff 3 wherein facilities were compared on the basis of facility requirements, cost, in-service date and post 2021 facility requirements. While the capital cost for each were relatively comparable, comparative analysis shows that relative to the Project no alternative satisfies the Design Day demand forecast of 106 TJ/d and also provides a more favourable NPV when considering all of the foregoing factors.
34. For the two particular alternatives that reflect a pipeline solution, these aspects are discussed further below.

A NPS 30 Pipeline from Dawn

35. This alternative consists of constructing a new 40-kilometre NPS 30 pipeline from Dawn to Dover Transmission. The existing NPS 16 pipeline would remain in service. This is unlike the Project which contemplates removing (lift) 40 kilometres of the existing NPS 16 pipeline and replacing (lay) with a new NPS 36 pipeline from Dawn to Dover Transmission. The estimated capital cost of this alternative is \$264.5 million.¹⁶
36. Notwithstanding that the capital costs for the Project and this alternative are virtually the same, the Project is the most viable economic and environmental pipeline alternative. Although the NPS 36 pipeline will require greater material, contractor labour and pipeline removal costs, these costs are offset by land easement savings and the elimination of operating costs related to the existing NPS 16 pipeline. The majority of the new NPS 36 pipeline will be constructed within the existing NPS 16 pipeline permanent easement compared to the new NPS 30 pipeline alternative, which requires new permanent easements for the entire length of the pipeline.

¹⁶ A cost comparison of a new NPS 30 pipeline and new NPS 36 pipeline can be found at Exhibit A, Tab 6, Schedule 1.

37. Also, the Project's lift and lay option has an economic benefit because it eliminates ongoing integrity costs associated with the existing NPS 16 pipeline from Dawn to Dover Transmission. The existing NPS 16 pipeline does not need to be replaced due to integrity issues. However, the removal of the NPS 16 pipeline avoids future integrity costs for the NPS 16 pipeline in the Dawn to Dover Transmission segment, which will become increasingly costly overtime. The lift and lay alternative will avoid ongoing operating and maintenance costs, with a NPV of (\$12) million over 20 years, related to future integrity and other maintenance (class locations, pipeline lowering, etc.) work on the existing NPS 16 pipeline. Based on the above, the Project has a favorable NPV of (\$212) million compared to (\$224) million NPV for the NPS 30 pipeline option.

New Pipeline with Incremental Deliveries at Ojibway

38. The Panhandle System also flows from Ojibway east to the market. Approximately 10% or 60 TJ/day of the demand on the Panhandle System is served through Union's gas supply (to serve sales service customers) delivered at Ojibway on Design Day. Union relies on these firm deliveries in Design Day analysis of the Panhandle System to help reduce the physical transportation needs from Dawn.
39. Imports of natural gas at Ojibway are limited by two particular aspects. First, the amount of natural gas Union can accept from Panhandle Eastern and transport from Ojibway toward Dawn is limited by the operational requirement relating to the minimum daily Windsor area consumption and second, the capacity of the Sandwich Compressor Station located in Tecumseh. Currently, Union has a maximum capability to accept imports of 115 TJ's per day at Ojibway on an annual basis. This is an operational constraint in the summer and is because at an amount greater than 115 TJ/day there is not sufficient demand in the summer in the Windsor area to consume the imported gas and insufficient compression to move the surplus gas past Sandwich toward Dawn. In the winter the maximum amount of firm Ojibway deliveries Union can accept each and every day is 140 TJ/day. Notwithstanding the greater amount in the winter because of higher demand, the 115 TJ/day summer constraint becomes the annual maximum since firm annual receipts greater than that would provide at times of low demand, natural gas to the Windsor area that Union is not operationally able to deliver.

40. The 115 TJ/day is a number based on sound methodology that uses historical data over a significant period of time, adjusted for known operational and market changes, and, as such, must be respected and adhered to. For a further explanation on the basis behind the 115 TJ/day summer constraint please see Exhibit JTI.5 and Exhibit B.FRPO.6 b).
41. Given that Union imports for its in-franchise customers on a design day is 60 TJ/day and C1 capacity is 20 TJ/day, there was a remaining capacity of 35 TJ/day available on Union's Panhandle system. Rover Pipeline has now contracted for that remaining capacity on November 22, 2016 for a term of eight years. Rover Pipeline will be using this capacity to provide its shippers with a delivered service to Dawn. As a result, no further firm capacity is available for imports from Ojibway to Dawn.
42. The second aspect is that Panhandle Eastern is only expected to have 25 TJ/day of capacity available.¹⁷ Panhandle Eastern has a firm limit of 185 TJ/day to export to Union of which Union has 60 TJ, Rover controls 80 TJ/day and other known shippers of 20 TJ/day, leaving 25 TJ/day remaining. Although Panhandle Eastern has a Presidential Permit of 210 TJ/day, it will not provide capacity beyond 185TJ/day in order to avoid system expansion.
43. The implications of these particular constraints are that:
- there is no firm year around capacity available on Union's system to increase Ojibway imports beyond the current 60 TJ/day;
 - even if Union capacity was available, only 25 TJ/day of firm capacity with an Ojibway delivery point is expected to be available on Panhandle Eastern and this is insufficient to meet the 106 TJ/day need;
 - imports alone are not sufficient to satisfy the need since the limitation in serving the Leamington/Kingsville market caused by pressure loss between the NPS 20 pipeline and market remains;¹⁸
 - even if the 34 TJ/day now contracted by Rover was available to be counted on for Union imports, the need would not be satisfied, additional capital facilities would be required and there would be increased market risk for Union's customers.

¹⁷ Transcript, Day 2, p.140.

¹⁸ Undertaking J2.4

44. With respect to the last point above, Union considered the alternative of contracting for an incremental 34 TJ/day of supply at Ojibway. Because, as noted, the incremental supply would not serve all of the incremental demand, the remaining demand would be served from Dawn. Furthermore, the limitation in serving the Leamington/Kingsville area, because of low pressures on the NPS 20 pipeline, continues, meaning that the installation of incremental pipeline and station facilities along the Panhandle System would still be required.
45. The pipeline and station facilities required in addition to 34 TJ/day of firm deliveries at Ojibway are:
- Replace (lift) 27 kilometres (compared to 40 kilometres for the Project) of the existing NPS 16 pipeline from Dawn to the Dover Centre Station and replace (lay) the NPS 16 pipeline with a new NPS 36 pipeline plus upgrade Dawn, Dover Centre and Mersea stations along the Panhandle System;
 - Install approximately 16 kilometres of NPS 12 pipeline from the existing NPS 20 pipeline into the Town of Kingsville and build a new station to serve the distribution network; and,
 - Install approximately 12 kilometres of NPS 6 pipeline looping upstream of McCormick Station in the Municipality of Essex.
46. As a result of significant transmission and high pressure distribution reinforcement required, this alternative has an estimated capital cost of \$235 million.
47. Furthermore, not only are the facilities cost similar to the Project, the incremental supply from Ojibway subjects Union's customers to term, price and availability risk. Union has estimated that, on a forecasted basis, the landed cost of Panhandle Zone supply delivered to Union at Ojibway over a 10 year term (2016 to 2026) is approximately \$0.30/GJ higher than the cost of Dawn sourced supply over the same period. Assuming the additional 34 TJ/d of supply, this would amount to an annual premium of approximately \$3.7 million as compared to the Dawn supplied option, equating to a NPV premium of \$22 million over the 10 year period.¹⁹

¹⁹ The NPV calculation is conservative as it considers only 10 years of gas costs. The NPV premium would be greater with 20 years of gas costs included. See Day 2 Transcript page 91, lines 14-28 and page 92, lines 1-14.

48. Purchasing natural gas supply in the limited market at Ojibway is also not a viable long term commercial option. Natural gas purchases at Ojibway will be subject to significant price and availability risk. Ojibway is not a liquid trading point. Ojibway is a trans-shipment point between two pipeline systems – Panhandle Eastern and Union - with a limited number of counterparties holding transportation to and from Ojibway. Dawn on the other hand is a vibrant market hub with excellent price transparency and is the second most physically traded hub in North America.
49. Similar results apply to scenarios that were also considered during the course of the hearing, where larger imports from Ojibway (should they be available) are contemplated²⁰. In addition to the facilities required as well as the price and availability risk, the greater imports, because of Ojibway's lack of liquidity, have a further detrimental effect on Union's supply portfolio by diminishing gas supply diversity and flexibility.
50. The alternatives presented above serve only five years of Design Day demand growth. However, future growth cannot be ignored. It is important to consider the additional facilities required in 2022 to continue to meet the ongoing expected incremental needs of the Market. Union compared the incremental reinforcement facilities required in 2022 (year 6 of the growth) for the Project and the Ojibway alternative with incremental imports of 34 TJ/day. The comparison below illustrates that the most economic option over the longer term is the Project.

²⁰ Exhibit J2.4, Exhibit J2.5

Incremental Reinforcement Facilities Comparison in 2022²¹

<u>Base Facilities</u> <u>2017-2021</u>	Proposed Pipeline	New Pipeline with Incremental Deliveries at Ojibway
Incremental Facilities in 2022	16 kilometres of NPS 12 pipeline from the NPS 20 pipeline into the Town of Kingsville and build a new station to feed the distribution network.	Lift remaining 13 kilometres of existing NPS 16 pipeline and lay NPS 36 pipeline from Dover Centre to Dover Transmission
	12 kilometres of NPS 6 pipeline looping upstream of McCormick Station in the Municipality of Essex.	
Incremental Capital in 2022	\$40 million	\$99 million
Total Capital	\$305 million	\$334 million
Total NPV	\$(239) million	\$(271) million

E. What are the potential short-term and long-term rate impacts to customers? Are these costs and rate impacts to customers appropriate?

51. As detailed at Exhibit A, Tab 7, Schedule 1, the total capital cost of the Project is estimated to be \$264.5 million, consisting of:

- (a) Construction of the Proposed Pipeline at a cost of \$224.0 million; and,
- (b) Station modifications at a cost of \$40.5 million.

52. In comparison to 2016 Board-approved rates per EB-2016-0040 (April 2016 QRAM), the bill impact for the average Rate M1 residential customer in Union South consuming 2,200 m³ per year is an increase of approximately \$8.03 per year. For the average Rate 01 residential customer in Union North consuming 2,200 m³ per year, the bill impact is a decrease of approximately \$1.17 per year. The bill impacts for sales service and direct purchase for Union South in-franchise customers is provided in Table 8-9 of Exhibit A,

²¹ Exhibit A, Tab 6, Table 6-1; Exhibit A, Tab 7, Table 7-2

Tab 8, p.22. The detailed calculation of all in-franchise bill impacts is provided at Exhibit A, Tab 8, Schedule 6.

53. In addition to project cost, Union's reduced depreciation period of 20 years and its proposed change to the cost allocation methodology relating to the Project contribute to the bill impacts.
54. The use of Board-approved depreciation rates for this infrastructure project results in a weighted average useful life of approximately 50 years. The revenue requirement and resulting customer bill impacts would typically be calculated using this depreciation expense.
55. Ontario's Cap and Trade program and the introduction of the Ontario government's Climate Change Action Plan ("CCAP") has resulted in significant risk to the return of any capital invested in natural gas infrastructure over the medium to long term. The uncertainty created by Cap and Trade and the CCAP has driven the need for Union to calculate the revenue requirement and resulting rate impacts based on an estimated 20-year useful life of the Project assets rather than the weighted average useful life of approximately 50 years based on Board-approved depreciation rates. Depreciating the asset over a 20-year useful life better aligns the cost with the timing of the reported restrictions and potential elimination of natural gas heating in homes and businesses.
56. Union's choice of 20 years recognizes the changes being proposed by 2030 when the CCAP indicates changes to the building code will be made for new small buildings "net zero carbon" targets. Depreciating the facilities over 20 years means that the full cost of the investment is recovered by 2037. Although this will have a greater impact on customer delivery rates, Union is left with no reasonable alternative. A comparison of resulting sales service and direct purchase bill impacts of all Union in-franchise South rate classes with Panhandle System demands is provided at Exhibit A, Tab 3, Table 3-1. The bill impacts of other Union South in-franchise, Union North in-franchise and ex-franchise rate classes are not as significant. The calculation of all in-franchise bill impacts using a 20-year useful life and Board-approved depreciation rates is provided at Exhibit A, Tab 8, Schedule 6 and Exhibit A, Appendix B, Schedule 6, respectively.

57. Union has proposed an interim cost allocation methodology for the project costs for the remainder of the IRM term. Union's current Board-approved methodology includes an allocation to ex-franchise Rate C1 and Rate M16 based on firm contracted demands and an allocation to in-franchise rate classes in proportion to the combined Panhandle System and St. Clair System Design Day demands. The interim allocation factors use only the Board-approved Panhandle System Design Day demands, updated to include the incremental Design Day demands of the Project. Union's interim cost allocation proposal also reduces the allocated project costs by incremental project revenue by rate class. Union is proposing this interim allocation for the remainder of the IRM term to ensure the allocation of project costs and rate impacts reflect the principles of cost causality. Please see Exhibit J1.2, Attachment 2 for a detailed summary of Union's cost allocation proposal.
58. Union's proposed interim cost allocation does not include an allocation of costs to ex-franchise rate classes. Accordingly, Union is also proposing to not update the Rate C1 firm long-term transportation rates between Dawn and St. Clair, Ojibway and Bluewater and the Rate M16 west of Dawn demand rate for the Project costs during the IRM term. This interim approach better reflects how ex-franchise Rate C1 and Rate M16 customer use the Panhandle System on Design Day and ensures the allocation of costs and rate impacts reflect the principles of cost causality. Rate C1 and Rate M16 customers are not driving any of the cost of the Project and when they flow on the Panhandle System they flow counter to the flow of the Design Day volumes, providing benefits to the system.

F. Does the project meet the capital pass-through mechanism criteria for pre-approval to recover the cost consequences of the proposed facilities?

59. Union is seeking approval of the recovery of the cost consequences of the Project as part of this proceeding because it meets the capital pass-through criteria as determined in Union's 2014-2018 Incentive Regulation Mechanism ("IRM") proceeding (EB-2013-0202). Given the magnitude of the Project, Union is not able to proceed with the development of the Project without reasonable certainty of cost recovery.

60. The intent of the capital pass-through mechanism (“CPM”) in Union’s Board Approved 2014-2018 IRM is to adjust rates during the IRM term to reflect the associated impacts of significant capital investments made throughout the IRM term. Such investments are considered “not-business-as-usual”. “Not-business-as-usual” refers to capital expenditures that are significant and cannot be managed within Union’s Board-approved capital budget.
61. The key components of the CPM are:
- Any qualifying project must exceed two financial thresholds, related to both revenue shortfall and capital cost;
 - Any qualifying project will be subject to a full regulatory review, either in a Leave-to-Construct proceeding or in a rates proceeding, but prior to being included in rates; and,
 - Any qualifying project will be subject to both annual revenue requirement true-ups during the IRM term and an end-of-term qualification assessment.

The Project meets each of the criteria as follows:

Criterion	Applicability
i) A minimum increase, or a minimum decrease, of \$5 million in net delivery revenue requirement for a single new project (the “Rate Impact Threshold”).	The net revenue requirement associated with the Project using the parameters outlined in the EB-2013-0202 settlement agreement is \$0.1 million in 2017 and \$16.1 million in 2018, as provided at Exhibit A, Appendix B, Schedule 1. As part of this application, Union is proposing a 20-year useful life of the Project assets for depreciation expense purposes which results in a net revenue requirement of \$4.8 million in 2017 and \$25.6 million in 2018 as provided at Exhibit A, Tab 8, Schedule 1.
ii) The capital cost of the Project must exceed \$50 million.	The capital cost of the Project is \$264.5 million.
iii) The Project is outside the base rates on which the IRM is set.	The Project was not included in 2013 base rates.

<p>iv) The Project must be needed to serve customers and/or to maintain system safety, reliability or integrity, and cannot reasonably be delayed, and is demonstrated to be the most cost effective manner of achieving the Project's objective relative to the reasonably available alternatives.</p>	<p>Please see Exhibit A, Tab 5 with respect to the need for the Project. Please see Exhibit A, Tab 6 regarding the alternatives considered.</p>
<p>v) The Project will be identified to stakeholders and the Board as soon as possible, including in that year's IRM stakeholder review session where practical.</p>	<p>The Project was identified during:</p> <ul style="list-style-type: none">• Union's April 2015 Stakeholder meetings• EB-2015-0237 Natural Gas Market Review proceeding• Union's April 2016 Stakeholder meetings
<p>vi) The Project will be subject to a full regulatory review; for any project that requires leave-to-construct approval of the Board, the full regulatory review in which the applicant must demonstrate need, safety or reliability purposes, and economic viability prior to inclusion in rates will be conducted in that proceeding.</p>	<p>The Project is subject to leave-to-construct approval, and there will be a full regulatory review within the present case.</p>
<p>vii) Union will allocate the net revenue requirement using EB-2011-0210 Board-approved cost allocation methodologies. Any party, including Union, may take any position with respect to the proposed allocation for any particular capital project during review of the Project, or its rate impacts, by the Board.</p>	<p>Union has proposed an interim cost allocation during the IRM term for the Project that is different than the EB-2011-0210 Board-approved cost allocation methodologies. Union's proposal is described further in Exhibit A, Tab 8.</p>
<p>viii) The project will include a deferral account request to capture any differences between the forecast annual net delivery revenue requirement and the actual net delivery revenue requirement for each year of the IRM for which the project is included in rates.</p>	<p>The request for a deferral account is included at Exhibit A, Tab 8, Schedule 8.</p>

62. At page 167 of the Day 1 transcript, Board member Spoel sought clarification as to how Union's 20-year depreciation rate proposal fits within the context of the IRM settlement agreement. Specifically, at lines 22-24, member Spoel raised the appropriateness of calculating a rate adjustment that is "based on something other than using the 2013 Board-approved depreciation rates?"
63. Throughout Day 1 of the hearing, Union's panel addressed how the IRM settlement agreement, specifically the criteria for capital pass-through treatment, aligns with the proposal to calculate the revenue requirement and resulting rate impacts for the Project based on an estimated 20-year useful life rather than the weighted average useful life of approximately 50 years based on Board-approved depreciation rates.
64. At page 34 of the Day 1 transcript, Union confirmed that consistent with the IRM settlement agreement, Union did apply Board-approved depreciation rates to determine whether the Project met the capital pass-through criteria (filed at Exhibit A, Tab 8, pp.3 - 4). At page 35, lines 3-6, Union also confirmed the Project did in fact meet the capital pass-through criteria using Board-approved depreciation rates.
65. In particular, under the Settlement Agreement one of the criteria for the Y Factor treatment requires that a "minimum increase, or a minimum decrease, of \$5 million in net delivery revenue requirement for a single new project (the "Rate Impact Threshold")". For purposes of determining the Rate Impact Threshold, the Settlement Agreement provided a definition of "delivery revenue requirement for any year", which includes a number of factors, including the depreciation expense calculated using 2013 Board-approved depreciation rates. With respect to the Y Factor provision of the Settlement Agreement, the use of the 2013 depreciation rates related explicitly to the calculation of the threshold for capital pass through. Once the threshold has been established, there is no provision of the settlement agreement that precludes Union from using a different depreciation expense for rate recovery purposes.

G. Do the facilities address the OEB Environmental Guidelines for Hydrocarbon Pipelines as applicable?

66. The Board's Environmental Guidelines for Hydrocarbon Pipelines are addressed at Exhibit A, Tab 10 of Union's evidence and a copy of Union's Environmental Report for the Project is provided in Exhibit A, Tab 10, Schedule 1. The Environmental Report concludes that, with the implementation of the recommendations set out therein, on-going communication and consultation, and adherence to permit, regulatory and legislative requirements, the potential adverse residual environmental and socio-economic impacts of the Project are not anticipated to be significant.
67. The Environmental Report was completed in June 2016 by Stantec Consulting Limited. It was prepared so as to identify potential impacts and related mitigation measures for construction of the proposed NPS 36 pipeline and removal of the existing NPS 16 pipeline. The Environmental Report was provided to the Ontario Pipeline Coordination Committee ("OPCC") for review on June 6, 2016. In addition, copies were sent to all affected municipalities, conservation authorities, various First Nations and the Métis Nation of Ontario and two public information sessions were held.
68. The Environmental Report identifies various mitigation measures to minimize the impacts of the Project on the environment. By following its standard construction practices and implementing the recommendations and mitigation measures identified in the Environmental Report, Union anticipates that the construction and operation of the Project will have negligible impacts on the environment. The cumulative effects assessment completed as part of the Environmental Report indicates that no significant cumulative effects are anticipated from development of the Project.
69. Among the recommendations from the Environmental Report that Union will adhere to is the implementation of compliance and effects monitoring to ensure that mitigation and protection measures are effectively carried out.²²

²² Exhibit A, Tab 10, Schedule 1, section 5.1

H. Are there any outstanding landowner matters for the proposed facilities with respect to routing and construction matters? For greater clarity, landowners include parties from whom permits, crossing agreements and other approvals are required. Is the form of easement agreement offered by Union or that will be offered by Union to each owner of land affected by the approved route or location appropriate?

70. Pursuant to Procedural Order 4, these issues did not form part of the oral proceeding.

I. Are the proposed facilities designed in accordance with current technical and safety requirements?

71. To reinforce the Panhandle System, Union will construct approximately 40 kilometres of NPS 36 pipeline from Dawn to Dover Transmission. Union will also undertake station modifications at Dawn, and at the Mersea Gate Station, Dover Centre Station and Dover Transmission. Exhibit A, Tab 9 of Union's evidence describes the design, installation and testing of these proposed facilities. For the proposed pipeline in particular, Union will use a "lift and lay" construction process whereby the existing NPS 16 pipeline will be lifted and removed, and the new NPS 36 pipeline will be installed in the same easement, except where pipeline abandonment sections are required.

72. All design, installation and testing of the proposed pipeline and station modifications will be completed in accordance with the requirements of Ontario Regulation 210/01, Oil and Gas Pipeline Systems under the *Technical Standards and Safety Act, 2000*. This regulation governs the installation of pipelines in the Province of Ontario. The design also meets or exceeds the requirements of the Canadian Standards Association ("CSA") Z662-15 Standard in accordance with the Code Adoption document under the Ontario Regulations.

J. Has there been adequate consultation with Indigenous communities with respect to any Aboriginal or treaty rights that may be adversely impacted by the proposed facilities? Has there been adequate consultation with other potentially affected parties?

73. As stated at Exhibit B.Staff.11, Union will continue to consult with all potentially affected First Nations Reserves and Métis Nation of Ontario to provide up-to-date project information as requested. There have been no new issues or concern raised from this consultation.

K. If the OEB approves the proposed facilities, what conditions, if any, are appropriate?

74. As stated at Exhibit B.Staff.12, Union accepts the Board's proposed Conditions of Approval for the Project.

L. Conclusion

75. Union is not able to meet all firm service requests effective November 1, 2017. This is because significant growth over time has reduced pressures along the NPS 20 pipeline resulting in insufficient capacity to serve incremental growth. The Project remedies this deficiency by providing the increased pressure along the entire NPS 20 to unlock additional capacity. The Project, unlike the alternatives considered by Union, does this at the most favourable NPV and without incurring added supply price and availability risk.

76. The proposed in-service date for the Project is November 1, 2017. In order to facilitate efficient project development and meet its proposed in-service date, Union respectfully requests the Board issue its approval by no later than mid-March, 2017.

All of which is respectfully submitted, this 30th day of November, 2016.

UNION GAS LIMITED
By its Counsel Torys LLP

[original signed by]

Charles Keizer