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Ontario

BY E-MAIL

April 3, 2019

Kirsten Walli
Board Secretary
Ontario Energy Board
2300 Yonge Street, 27th Floor
Toronto, ON M4P 1E4

Dear Ms. Walli:

Re: Enbridge Gas Inc. 2019 Rates Application
OEB File Number: EB-2018-0305

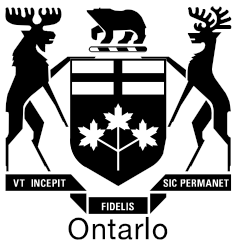
In accordance with OEB's Decision and Procedural Order No. 1, please find attached OEB staff interrogatories in the above proceeding. The attached document has been forwarded to the applicant and to all other registered parties to this proceeding.

Yours truly,

Original Signed By

Khalil Viraney
Project Advisor

Encl.



OEB Staff Interrogatories

Enbridge Gas Inc. 2019 Application

EB-2018-0305

April 3, 2019

Exhibit A – Letters of Comment

A.Staff.1

Following publication of the Notice of Application, the OEB received several letters of comment. Sections 2.1.6 of the Filing Requirements state that distributors will be expected to file with the OEB their response to the matters raised within any letters of comment.

Please file a response to the matters raised in the letters of comment that were also copied to Enbridge Gas Inc. (Enbridge Gas). Going forward, please ensure that responses to any matters raised in subsequent comments or letters that the applicant receives are filed in this proceeding. Please ensure that name and contact information is redacted for public filings. All responses must be filed before the argument (submission) phase of this proceeding.

Exhibit A – Conditions of Service

A.Staff.2

Ref: Exhibit A1/Tab 5/Schedule 2/Pg. 11, Exhibit B1/Tab 1/Schedule 1/Appendix H and Staff Interrogatory #3, EB-2018-0131

In the Conditions of Service, Enbridge Gas notes that to connect an applicant (customer) to the distribution system, Enbridge Gas completes a construction estimate to assess the costs associated with the installation and that applicants may be required to pay a contribution in aid of construction (CIAC) as the share of the costs to make the installation financially feasible.

In response to an OEB staff interrogatory in the EB-2018-0131 proceeding, Enbridge Gas indicated that prior to 2015, Enbridge Gas Distribution provided a threshold of 20 meters for standard residential service connections and customers were required to pay the appropriate CIAC when the service length exceeded the threshold. Since 2015, it has refined its approach to determine feasibility using the “grid method” which uses actuals for each Forward Sorting Area (FSA). Under this approach, Enbridge Gas is able to account for variability in customer circumstances when assessing the CIAC amount for residential infill service connections. The CIAC amount for residential infill customers is now determined by individually estimating the revenue allowance and the service cost estimate which is typically a regionally tailored estimate based on historical data from similar services in the same area (FSA). The amount of service cost in excess of the revenue allowance is the CIAC amount which is recovered from

customers before service installation. The PI of each customer connection is brought to 1.0 under this scenario. Enbridge Gas noted that collection of the CIAC serves to ensure that new customers bear the cost of providing new services without causing undue burden on existing customers, as prescribed by EBO 188 guidelines. For 2017, Enbridge Gas collected over $8 million in contributions as a result of changes to the Conditions of Service.

a) The Conditions of Service do not explicitly explain these changes. Has Enbridge Gas provided this information on its website and is the information easy to locate on the website? Please provide a detailed response.
b) Has Enbridge Gas communicated the change to builders and other business customers that are likely to be impacted as a result of the policy change?
c) In Enbridge Gas' opinion, was it the intent of the OEB in the EBO 188 guidelines that the utility should calculate the PI for every individual customer and bring the PI of each customer connection to 1.0? If that is the intent, please explain why the OEB in its report recommends a PI of 1.0 for the Rolling Project Portfolio and not for individual customer connections (Final Report of the Board, January 30, 1998, EBO 188)?
d) Please provide the amounts collected in CIAC for 2018 as a result of changes to the Conditions of Service where the PI is determined for each infill customer.
e) Union Gas in its Conditions of Service (Exh. A1/Tab 5/Sch. 3/pg.14) still provides customers with 30 meters of service installation at no cost. Why is Union Gas' Condition of Service different from that of Enbridge Gas Distribution? Does Enbridge Gas intend to harmonize the Conditions of Service and calculate the PI for each Union Gas infill customer? If yes, please provide the timeline.
f) Enbridge Gas' existing rates assume a certain number of new customer additions each year and its capital expenditure plan includes certain dollars earmarked for providing infill customer connections. Since these costs are included in current rates, why did Enbridge Gas implement a change to the Condition of Service in a year when its costs and revenues were not examined under a cost of service approach?
g) In its interrogatory response (referenced above), Enbridge Gas notes that upon rebasing, the modified approach to feasibility analysis will benefit ratepayers because the new amounts being added to utility rate base for residential infill customers will be lower than would be the case under the prior approach. Enbridge Gas will now rebase in 2024 and until then no adjustments to rate base will be made. Please provide the benefits that ratepayers will receive in rates until 2023 as a result of the change to the Conditions of Service. Please also explain why it was not appropriate to implement these changes at the time of rebasing?

h) Please provide the total estimated amount that Enbridge Gas is expected to collect from 2017 to 2023 as a result of changes to the Conditions of Service under which residential infill customer are expected to pay a CIAC for connecting to the natural gas distribution system.
i) Has Enbridge Gas received complaints from residential customers or builders after implementing this change to the Conditions of Service? If yes, please provide the number of complaints and the general theme of the grievances.

Exhibit B – Rate Setting Mechanism and Incremental Capital Module

B.Staff.3

Ref: Exhibit B1/Tab 1/Schedule 1/pgs. 6-7

The Enbridge Gas Distribution rate zone has an approved methodology where the gas supply portfolio is updated in rates on an annual basis. Accordingly, gas cost rates have been adjusted for the Enbridge Gas Distribution rate zone to reflect changes to the 2019 gas supply portfolio (i.e. impact of supply mix change, net of price changes that are otherwise captured through the QRAM methodology), as well as changes in contracted storage and associated transported costs. The Ontario Energy Board in its Decision and Procedural Order No. 2 determined that it would not address the cost consequences of Enbridge Gas Distribution's 2019 Gas Supply Plan in this proceeding.

a) Please indicate if the gas cost consequences of Enbridge Gas Distribution's 2019 Gas Supply Plan have been reflected in prior QRAM applications. If yes, please provide details.
b) Please discuss the implications of the gas cost consequences of Enbridge Gas Distribution's 2019 Gas Supply Plan not being addressed in this proceeding.

B.Staff.4

Ref: Exhibit B1/Tab 1/Schedule 1/pgs. 6-7

Enbridge Gas Distribution has modified the heat content reference in rate schedules, from the existing heat content of 38.42 MJ per m^3 to 38.53 MJ per m^3.

Please confirm if there is an impact on 2019 distribution rates as a result of changes to the

heat content of natural gas. If yes, please provide the impacts.

B.Staff.5

Ref: Exhibit B1/Tab 1/Schedule 1/pg. 12

The Enbridge Gas Distribution rate zone average use adjustment reflects the existing OEB-approved methodology to forecast the year over year change in average use consumption for Rate 1 and Rate 6 customers. The methodology relies on regression equations to estimate the underlying historical trend of average use. Driver variables have remained unchanged and coefficients of existing models are re-estimated to include the most recent year of actual data.

a) In the last Enbridge Gas deferral and variance accounts proceeding (EB-2017-0102), the utility acknowledged that the average use model was updated with the 2016 actual value and a diagnostic test indicated that a structural break occurred in 2016 for some models. Please confirm whether Enbridge Gas has rectified the issues identified in 2016. If not, please explain why.
b) Please explain the steps that Enbridge Gas has taken to ensure that the results to estimate the year over year change in 2019 average use are reliable.

B.Staff.6

Ref: Exhibit B1/Tab 1/Schedule 1/pgs. 12-13

The MAADs Decision (EB-2017-0306/0307) accepted an annual adjustment to rates to reflect the declining trend in use. Enbridge Gas has applied existing OEB-approved methodologies for the Enbridge Gas Distribution and Union Gas rate zones to adjust rates to account for changes in average use/normalized average consumption.

a) Please provide the impact on 2019 proposed revenue requirement as a result of adjustments to average use/normalized average consumption.
b) Are these changes captured in the respective deferral and variance accounts?

B.Staff.7
Ref: Exhibit B1/Tab 1/Schedule 1/pg. 18 and Appendix A/pgs. 1-5
In the MAADs proceeding, the applicant indicated that post amalgamation, contracts between Enbridge Gas Distribution and Union Gas will cease to exist. The accounting order with respect to the Purchase Gas Variance Account removed the reference to recording amounts related to Limited Balancing Agreement with Union Gas.

a) Different rate zones still exist for Enbridge Gas Distribution and Union Gas. Please explain how the removal of the amounts relating to the Limited Balancing Agreement will impact the amounts being allocated to customer groups in different rate zones.
b) After the Limited Balancing Agreement is ceased, please explain whether revenues/costs are still tracked between the different rate zones.

B.Staff.8
Ref: Exhibit B1/Tab 1/Schedule 1/pgs. 19-21
The MAADs Decision directed Enbridge Gas to add rate base and depreciation associated with Union Gas' capital pass-through projects to the 2013 OEB-approved rate base and depreciation in determining the eligible incremental capital amount for the Union Gas service territory. Enbridge Gas has therefore proposed to fix the capital pass-through revenue requirement in rates and discontinue the use of capital pass-through deferral accounts, except for the purpose of capturing utility tax timing variances.

a) Please provide further details as to why Enbridge Gas is proposing to amend the capital pass-through deferral accounts so that it only captures a portion of the revenue requirement impact related to the projects.
b) For the capital pass-through projects, please confirm that the variances between Enbridge Gas' revenue requirement adjustment excluding utility tax timing differences in this application and actual revenue requirement excluding utility tax timing differences could be material.
c) Table 6 shows the actual/forecast utility tax timing differences from 2014 to 2018, and table 7 shows the forecast utility tax timing difference for 2019 to 2023. For 2014 to 2018, and 2019 to 2023, please provide a table showing the difference between approved (or forecasted to be approved) and forecasted revenue requirement recorded in the capital pass-through deferral accounts, broken down by the portion relating to tax timing differences and the remaining revenue requirement.

B.Staff.9
Ref: Exhibit B1/Tab 1/Schedule 1/pg. 23

Enbridge Gas has proposed to close the Unbundled Services Unauthorized Storage Overrun Deferral Account (Account No. 179-103) effective January 1, 2019.

a) Please confirm that there is a $0 balance in the account as at December 31, 2018.
b) If not, please indicate the balance in the account and why the account should be closed at this time.

B.Staff.10

Ref: Exhibit F1/Tab 1/Rate Order Working Papers Schedule 10 and Exhibit F1/Tab 2/Rate Order Working Papers Schedule 13

The Rate Order Working Papers shows the change in average use for Enbridge Gas Distribution and the NAC for Union Gas. The average use has increased by 2.3% for Rate 1 customers of Enbridge Gas Distribution and by 1.7% for Rate 6 customers. Similarly, the NAC for Rates 01, 10, M1 and M2 customers of Union Gas has increased in the range of 3.0% to 4.8%.

Please confirm if there has been a gradual increase in the average use/NAC over the past three years in the Enbridge Gas Distribution and Union Gas rate zones.

B.Staff.11

Ref: Exhibit B1/Tab 1/Schedule 1/pgs. 28-29

Enbridge Gas has proposed to build into rates the surplus Dawn-Parkway capacity of 30,393 GJ per day resulting from the 2017 Dawn-Parkway Expansion project. As part of the 2017 Dawn-Parkway proceeding, parties agreed that Union Gas would credit the Lobo D/Bright C/Dawn H Compressor Project Deferral Account (Account No, 179-144) for revenue generated from the 30,393 GJ per day of surplus capacity. Enbridge Gas anticipates that this surplus capacity will be sold long term beginning on November 1, 2018 and for the remainder of the

deferred rebasing period. To account for the incremental project demands and revenue, Enbridge Gas has added 30,393 GJ per day of project demands to the allocation of the 2019 project costs. As revenue of the surplus capacity will be built into 2019 rates, there is no longer a requirement to track the revenue associated with the surplus capacity in the project deferral account.

a) Please confirm whether the surplus capacity has been sold long term as of November 1, 2018. If yes, please provide the total capacity sold, rate and the length of the term.
b) What is the impact on 2019 rates as a result of building into rates the surplus Dawn-Parkway capacity resulting from the 2017 Dawn-Parkway expansion project?
c) Does the revenue of the surplus capacity relate to the entire surplus capacity of 30,393 GJ per day or a portion of it? How does the revenue (rate per GJ) relate to other surplus capacity that Union Gas has sold in the past two years?
d) Has any of the 30,393 GJ per day of Dawn-Parkway surplus capacity been used to reduce the Parkway Delivery Obligation? If yes, please provide details.
e) Has the cost of the 30,393 GJ per day of surplus capacity been allocated to Union Gas customers in order to reduce the Parkway Delivery Obligation?
f) Enbridge Gas has indicated that the revenue of the surplus capacity is built into 2019 rates. Please provide the revenue that has been built into 2019 rates and the associated calculation to show that the revenue is an off-set to the 2019 proposed revenue requirement.

B.Staff.12

Ref: Exhibit B1/Tab 1/Schedule 1/Pg. 29

Enbridge Gas has proposed to maintain the current level of the general service monthly customer charge for the Union Gas rate zone at $21 per month for Rate M1 and Rate 01 and $70 per month for Rate M2 and Rate 10.

Please provide the list of monthly customer charges that have been changed in the current application for Enbridge Gas Distribution and Union Gas rate zones.

B.Staff.13

Ref: Exhibit B1/Tab 1/Schedule 1/pgs. 29-31

In Table 11 (page 31) of the evidence, Enbridge Gas has provided a table that shows the impact of the proposed rate design changes for Union South M1 and Union North Rate 01 customers. The rate impact for a Union South M1 customer consuming 2,200 m^3 under the current approved rate design is 1.9% (Delivery bill impact) and under the proposed rate design it is 2.7%. Similarly, for a Union South M1 customer consuming 40,000 m^3, the rate impact changes from 5.2% to 1.3% using the proposed rate design.

a) Please provide the rate impact on a Union South M1 customer under the two consumption scenarios if the percentage rate impact for those consuming 2,200 m^3 and 40,000 m^3 is the same.
b) Please provide the percentage rate impact on a Union South M1 customer consuming 40,000 m^3 if the percentage rate impact for a customer consuming 2,200 m^3 is held to 2.2%.

B.Staff.14

Ref: Exhibit B1/Tab 1/Schedule 1/pgs. 31-33 and Exhibit F1/Tab 2/Working Papers/Schedule 11

Enbridge Gas has updated the Parkway Delivery Obligation and Parkway Delivery Commitment Incentive costs to reflect the 2019 Rate M12 Dawn-Parkway toll and Dawn-Parkway compressor fuel, based on Union Gas' October 2018 QRAM. The cost impact on the 2019 revenue requirement is $627,000. Schedule 11 of the Working Papers shows the total Parkway Delivery Obligation costs to be $24.723 million.

In the EB-2017-0087 Rate Order Working Papers (Schedule 20), the total Parkway Delivery Obligation costs for 2018 is $24.855 million. Please explain how the cost of $627,000 has been derived in relation to the 2018 amount shown in EB-2017-0087 and the $24.723 million for 2019.

B.Staff.15

Ref: Exhibit B1/Tab 1/Schedule 1/pgs.38-39

Enbridge Gas has proposed to change the Aid to Construction language in Union Gas' Rate M13 General Terms and Conditions (GT&C), effective January 1, 2019. The GT&C outlines the calculation of Aid to Construction payments associated with the capital cost of building a local producer station on Enbridge Gas' system rather than in the customer's contract or a separate precedent agreement. For consistency with other rate classes, Enbridge Gas proposes to move the specific Aid to Construction payment language from the GT&C to the customer's contract and replace it with the description used in the Union Gas Rate M16 GT&C.

a) What type of customers take service under Rate M13?
b) Is there a material difference in the language or the terms with respect to how Aid to Construction will be treated or calculated as a result of the proposed changes? If yes, please explain the changes in the terms.
c) How does Enbridge Gas propose to inform customers who have already contracted for service under Rate M13 of the changes noted above?

B.Staff.16
Ref: Exhibit B1/Tab 1/Schedule 1/Appendices A and B

Enbridge Gas provided two draft accounting orders for each of the three new accounts: Accounting Policy Change Deferral Account (Appendix A, page 34 and Appendix B, page 35), Earnings Sharing Mechanism Deferral Account (Appendix A, page 35 and Appendix B, page 36) and the Tax Variance Deferral Account (Appendix A, page 36 and Appendix B, page 37).

Please explain why there are two draft accounting orders for each of the new accounts.

B.Staff.17
Ref: Exhibit B1/Tab 1/Schedule 1/pgs. 13, 17 and Appendices A and B

a) For the accounts listed in Table 5, where there have been adjustments to existing deferral and variance accounts, please provide a black lined version of the accounting orders showing the change from the original accounting order.

b) Page 13 states that the existing accounting orders have been updated to reflect the applicability of the account to the Enbridge Gas Distribution and Union Gas rate zones. For all existing accounts excluding those listed in Table 5, please confirm that the only change in the accounting orders was to update the naming of the specific rate zones under Enbridge Gas Inc. If not, please provide a black lined version of the accounting orders showing the change from the original accounting order and explain the need for the change.

B.Staff.18
Ref: Exhibit B1/Tab 1/Schedule 1/Appendices A and B
For some variance accounts, the accounts capture the difference between actual revenues/costs and the reference amount, which is the revenues/costs approved in rates. During the deferred rebasing period, specific revenues/costs in the revenue requirement are not forecasted each year, but adjusted by a price cap index instead.

a) Please identify all accounts where the reference amount would be adjusted by the price cap index.
b) For these accounts, please explain how Enbridge Gas proposes to determine the reference amount of the revenues/costs approved in rates. Please explain Enbridge Gas' rationale.

B.Staff.19
Ref: Exhibit B1/Tab 1/Schedule 1/Appendix A/pgs. 33-36 and Appendix B/pg.34-37
For the accounting orders of the new accounts, please revise the accounting orders to include a description of the background of the account, similar to the accounting orders provided for the Enbridge Gas Distribution rate zone (pages 1-32).

B.Staff.20
Ref: Exhibit B1/Tab 1/Schedule 1/Appendix A/pg. 33 and Appendix B/pg.34
For the ICM Deferral Account, the main journal entry is to record the difference between the actual revenue requirement for approved ICM projects and the actual revenues collected through ICM rates approved by the OEB. The OEB has developed accounting guidance for ICM/ACMs for electricity distributors in the Accounting Procedures Handbook Guidance, March

2015, topic #13 and 14.

a) Please discuss the applicability of the accounting entries to Enbridge Gas Distribution and Union Gas rate zones and revise the accounting orders as needed.
b) Please indicate how Enbridge Gas plans to track ICM related capital assets and depreciation.

B.Staff.21

Ref: Exhibit B1/ Tab 1/ Sch. 1/ Appendix H/pgs. 6-7, Enbridge Gas Distribution Inc., Fenelon Falls, Decision and Order EB-2017-0147, pgs. 10-16 and Union Gas Limited, 2019 Community Expansion Application EB-2018-0142, Exhibit A/ Tab 1/ pg. 3

The current application appears to reflect the System Expansion Surcharge (SES) framework approved by the OEB in Enbridge Gas Distribution's Fenelon Falls application. The current application does not address a Temporary Connection Surcharge (TCS) proposed by Union Gas in its 2019 Community Expansion application (which application is now in abeyance).

a) Has Enbridge Gas adopted verbatim the SES framework approved by the OEB in the Fenelon Falls proceeding? If not, please identify and explain any differences.
b) Does Enbridge Gas believe that the SES framework approved by the OEB in the Fenelon Falls proceeding is applicable to the former Union Gas rate zones? Please explain.
c) Does Enbridge Gas intended to seek approval of a TCS? Please provide a detailed response.

B.Staff.22

Ref: Exhibit B1/Tab 1/Schedule 1/Appendix F/Pg.31

In Article II (Gas Quality) of Union Gas' Rate M13 General Terms and Conditions, Enbridge Gas has proposed to replace the term "molar percent" with "mole percent" in several places.

a) Why has this change been proposed?
b) Why is the same change not proposed for the General Terms and Conditions applicable to other rate classes (such as on pages 42, 51 and 65)?

B.Staff.23

Ref: Exhibit B1/Tab 1/Schedule 1/Appendix I

The table in Appendix I shows the capacity available for PDO, remaining PDO and annual PDO shift for the period 2016 to 2020.

The remaining PDO (row 18) shows 26 TJ per day for 2017 and 2018 as filed in EB-2016-0245 and 31 TJ per day for the same period in EB-2017-0087. Please explain the reason for the change in the remaining PDO capacity.

B.Staff.24

Ref: Exhibit B1/Tab 2/Schedule 1/pgs.18-19

Enbridge Gas has requested incremental capital funding during the current deferred rebasing period for the Sudbury Replacement project as part of this proceeding. Due to the October 2018 in-service date, the project falls between qualifying for incremental rate treatment under Union Gas' 2014-2018 capital pass-through mechanism and qualifying for incremental rate treatment under the ICM. Given the magnitude of the $95.3 million investment in the Sudbury Replacement project, Enbridge Gas has indicated that incremental funding of the project is required. Union Gas was not able to reprioritize 2018 capital investment in order to fund this investment through existing rates.

a) Does the Sudbury Replacement project qualify for ICM funding under the OEB's ICM/ACM capital funding policy? If yes, please explain.
b) What was the total capital investment of Union Gas in 2018 excluding the Sudbury Replacement project?
c) If the OEB finds that the Sudbury Replacement project does not qualify for ICM funding, how would the decision impact the future capital investment plans of Enbridge Gas?
d) In Exhibit B1/Tab 2/Schedule 1/Pg. 25, Enbridge Gas has indicated that the budget has been updated from the approved filing budget of $74.1 million in EB-2017-0180. Please explain the reasons for the increase in the actual spend and outline the steps that Union Gas undertook to reduce the spending.
e) Please provide the cost components of the Sudbury project that exceeded the initial estimates and corresponding notes explaining the variance.

B.Staff.25

Ref: Exhibit B1/Tab 2/Schedule 1/pgs. 22-24

Enbridge Gas is seeking recovery under ICM for the NPS 30 Don River Replacement Project. The project involves replacement of approximately 0.25 km of NPS 30 XHP on the Don River Bridge crossing with a new NPS 30 XHP under the Don River through the use of trenchless technology. In the EB-2018-0108 leave to construct application the budget for the project was estimated to be $25.6 million. The updated budget is $35.4 million.

a) Please explain the reasons for the increase in the budget. Please provide the cost components of the project that exceeded the initial estimates and corresponding notes explaining the variance.
b) Has Enbridge Gas considered other construction methods or technology that could bring the spending in line with the original forecast?

B.Staff.26

Ref: Exhibit B1/Tab 2/Schedule 1/pgs.25-27

The budget for the Kingsville Reinforcement Project has been updated from the EB-2018-0013 filing budget of $105.7 million to $121.4 million.

a) Please explain the reasons for the increase in the budget. Please provide the cost components of the project that exceeded the initial estimates and corresponding notes explaining the variance.

Exhibit C1 – Utility System Plan and Asset Management Plans

C.Staff.27

Ref: USP - Exhibit C1/Tab 1/ Schedule 1/ pg. 6

In its application, Enbridge Gas has indicated that, “the integration of Enbridge Gas will drive efficiencies and synergies, create new opportunities for growth, and form a stronger platform to deliver superior value and service to customers. Over time the AMP process will integrate the Enbridge Gas Distribution and Union Gas plans into one”.

a) Will Enbridge Gas submit an integrated USP and AMP, covering Enbridge Gas Distribution and Union Gas in one document, by the 2021 filing?
b) Will the integrated document be organized to comply with the RRF Chapter 5 filing requirements defined in Exhibit C1, p. 46, Table 5, col 1?

C.Staff.28

Ref: USP - Exhibit C1/Tab 1/ Schedule 1/ pgs. 7-8

Enbridge Gas Distribution owns and operates 37,600 km of pipelines for the transportation and distribution of gas. It is also owns 91 billion cubic feet (bcf) of regulated storage and operates a total of 134 bcf of storage. Union Gas' natural gas assets include 70,000 km. of distribution, storage and transmission pipelines, 188.1 PJ of natural gas storage capacity and 760,000 horsepower of compression.

a) What overall integrated optimization efficiencies does Enbridge Gas project through optimization of storage and transmission for its in-franchise customers as a result of integration of Union Gas and Enbridge Gas Distribution supply, storage and transportation contracts and storage and transmission assets? Please provide a breakdown by each category including compressor fuel savings.
b) When does Enbridge Gas expect to operate the Enbridge Gas Distribution and Union Gas storage and transmission assets, and supply and transmission contracts on a fully integrated basis?
c) What transmission and storage efficiencies does Enbridge Gas expect to achieve by shifting Enbridge Gas Distribution from a contract customer of Union Gas to an in-franchise integrated operation under Enbridge Gas?

C.Staff.29

Ref: USP - Exhibit C1/Tab 1/ Schedule 1/ pgs. 10-11

Enbridge Gas has indicated that the major contributing factor to Union Gas' recent infrastructure expansion relates to the growth in natural gas production from the Marcellus and Utica shale basins which are within 300 km of Ontario and shippers that are accessing the Dawn Hub. As a result, the flow of natural gas on the Canadian and U.S. pipeline grid is changing and continuing to evolve. Although difficult to forecast, going forward Enbridge Gas

expects further growth along the Dawn Parkway System driven by further demand growth in the U.S. Northeast and Ontario Local Distribution Companies, as well as natural gas fired generation due to Ontario's nuclear refurbishment plan, when executed.

a) How integral will this source of supply be in satisfying Enbridge Gas' in-franchise customer needs in the future?
b) Is the decision to incorporate increasing amounts of Marcellus and Utica supply volumes exclusively driven by the need to acquire the lowest cost gas?
c) Are other factors considered such as the environmental effects of developing these sources of supply?

C.Staff.30

Ref: USP - Exhibit C1/Tab 1/ Schedule 1/ pgs. 12-14

Each year Enbridge Gas completes an annual budget and multi-year Long Range Planning (LRP) process. Prior to 2019, the process was completed separately for Enbridge Gas Distribution and Union Gas. Starting in 2019, the process will be completed for Enbridge Gas as a whole.

The demand forecast is the starting point for the budget and LRP process, and includes a detailed customer and volume forecast. The demand forecast provides inputs into the four main components of the company's financial budget and LRP process (1. Distribution Revenue, 2. Storage and Transportation Revenue, 3. Operating and Maintenance Costs, and 4. Capital Investment). Figure 2 on page 14 provides a process map for the budget and LRP process. The four major components of the process are well defined in the filing but the integration of those four components at the executive level drives the questions below.

a. Are Shared Services including Administrative and General expenses and other Non-commodity Carrying system expenses allocated to the four main budget components?
b. How are the various submissions prioritized at the Budget and LRP Consolidation step in the process? Is there a standardized numerical ranking that allows a direct comparison between each item of the four main budget components? If not, what process is used to approve or reject the various competing expenditures?

C.Staff.31

Ref: Exhibit C1/ Tab 1/ Schedule 1/ Section 4.2/ pg. 35 and Exhibit C1/ Tab 2/ Schedule 1/ pg. 66

Enbridge Gas notes that Enbridge Gas Distribution and Union Gas have unique investment categories. These categories have been mapped in Table 2 to the four general investment categories outlined in Chapter 5 of the Filing Requirements for Electricity Applications. In the Enbridge Gas Distribution AMP, nine asset classes (**Figure 4.1-2**) are used to categorize and manage investment decisions. Each asset class has its own asset class manager and asset class director. Both roles are responsible for understanding the operational risks and opportunities associated with their respective asset class and managing the portfolio of work to ensure risk is managed to the lowest practicable level and optimum value is realized.

a) In order to clarify cost significance of each asset class, please provide a table in which the overall Enbridge Gas Distribution expenditures (Capital and O&M) for each asset class are shown?
b) Please also indicate in the table the predominant Chapter 5 investment category for each asset class (System Access, or System Renewal, or System Service, or General Plant)?

C.Staff.32

Ref: USP - Exhibit C1/Tab 1/ Schedule 1/ pgs. 37-41

Enbridge Gas' total historical and overall forecasted 10-year spend profile by investment category is provided in Figure 6 of the USP. Similarly, the 10-year spend profile of Enbridge Gas Distribution and Union Gas is provided in figures 7 and 8 respectively. The spending profile of Enbridge Gas Distribution and Union Gas is developed using the current AMP methodologies of the respective companies.

a) How will Enbridge Gas and its customers benefit in terms of costs and rates as a result of the integration of the two AMP methodologies?
b) Would it be reasonable to limit the major capital expenditures for Enbridge Gas Distribution and Union Gas to all but the essential expenditures until the fully integrated USP and AMP programs are filed in 2021?

c) In each of Figures 6, 7 and 8, the Overhead line item comprises nominally 20% of each year's expenditures. Please provide the major cost components of this line item.
d) Please confirm if the Overhead line item includes any OM&A costs. If not, please provide a reference where the associated OM&A costs can be found.

C.Staff.33

Ref: Exhibit C1/Tab 1/Schedule 1/pgs.39-40

Enbridge Gas Distribution's projected spend totals $2.57 billion and $5.17 billion over the five (to 2023) and ten year period (to 2028) respectively. Union Gas' projected spend totals $2.61 billion and $4.93 billion over the five and ten years respectively.

Did the projected spend change as a result of the feedback from the customer engagement process? If no, please provide reasons. If yes, please provide details of the changes and the impact on the specific investment category.

C.Staff-34

Ref: USP - Exhibit C1/Tab 1/ Schedule 1/ pgs. 46-47

Enbridge Gas has indicated that the AMPs were built using guidance from the OEB's filing requirements for natural gas distributors. Further guidance was obtained through the more detailed Chapter 5 of the filing requirements for electric distributors. Table 5 provides the alignment of sections that comprise each of Enbridge Gas Distribution's and Union Gas' AMPs to the Chapter 5 requirements.

Going forward, does Enbridge Gas plan to align Section 5.0 of overall USP to be the same format and content as outlined in Chapter 5 of the filing requirements. In particular to comply with Section 5.3 "Asset Management Process", specifically sub-sections 5.3.1, 5.3.2, 5.3.3 and 5.3.4?

C.Staff.35

Ref: Exhibit C1/Tab 1/Schedule 1/pgs.49-50

The application provides a list of potential ICM projects for Enbridge Gas Distribution and Union Gas for the period 2019 to 2023. In the list of Union Gas projects, there are three projects that are under $20 million.

Project Name	In Service Year	Total In-Service Capital ($ million)
Dunnville Line Reinforcement	2021	$12.7
Byron Transmission Station Reinforcement	2022	$17.9
Parry Sound Reinforcement	2023	$17.3

a) Please explain why these project require ICM funding and why they cannot be funded within the existing capital investment plan.
b) In the Toronto Hydro Electric Systems Ltd.'s three year application for 2012 to 2014 rates (EB-2012-0064), the OEB in its decision regarding the application for ICM funding noted, "the Board does not expect that projects that are minor expenditures in comparison to the overall budget should be considered eligible for ICM treatment. A certain degree of project expenditure over and above the threshold calculation is expected to be absorbed within the total capital budget" (pgs.18-19). Please provide the proportion of each individual project noted above to the overall capital budget for the respective year.
c) Why is it not possible to absorb the costs of the projects noted above considering the quantum of the in-service capital?

C.Staff.36

Ref: USP - Exhibit C1/Tab 1/ Schedule 1/ pg. 53

Another way Enbridge Gas Distribution and Union Gas have historically sought to continually improve is through industry engagement. Key subject matter experts involved in the design and operations of assets are engaged in industry related code committees and industry best practices to better understand compliance requirements, to support the improvement of codes and standards that drive operational safety, and to learn and share best practices from industry peers. Examples include active membership of subcommittees for the Canadian Standards

Association – Oil and Gas Pipeline Systems, Canadian Gas Association and American Gas Association surveys and workshops and participation in AGA peer reviews.

Please provide specific examples of improvements in Enbridge Gas' asset management planning and practices that have occurred as a result of benchmarking against the best practices in the industry? Where possible, please provide specific examples.

C.Staff.37

Ref: AMP - Exhibit C1/Tab 2/ Schedule 1/ pg.19

The AMP states that the Asset Management Program considers all OEB-regulated assets, which have been grouped into nine classes: *Pipe, Stations, Storage, Customer Assets, Fleet & Equipment, Technology & Information Services (TIS), Real Estate & Workplace Services (REWS), Customer Growth*, and *Business Development.*

Investment decisions are categorized and managed on an asset class basis, where each asset class has a unique set of objectives and life cycle management policies that guide decision-making. With an understanding of the asset inventory and the evaluation of condition and risk, resultant strategies are outlined.

From the statements in this Section (i.e. 1.6 "Asset Classes") it is not clear whether the implementation of the asset management process is consistent across the EGD asset classes (i.e. prioritization of assets among the assets classes which would be selected for monitoring as part of the asset management process may not have common basis to allow comparison).

a) Please explain or point to a section in this document which explains the sources used to establish these EGD Asset Classes
b) Customer Growth and Business Development are referred to as assets. Please explain how these are considered to be assets?
c) What are the common basis on which the prioritization of investments across assets classes is achieved (e.g. system/equipment health indexing, common asset registry information, end of life criteria etc.)?

C.Staff.38

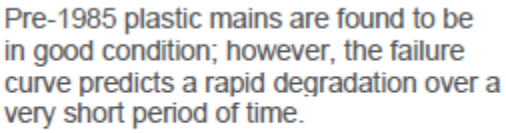
Ref: Exhibit C1/ Tab 2/ Schedule 1/ Section 1.8 – Condition and Strategy Overview, pgs. 20-41

Enbridge Gas Distribution presents series of asset class tables starting on page 20 through to page 41. The heading on the majority tables is "ASSET SUBCLASS AVG. AGE (YR)/CONDITION RISK / OPPORTUNITY MAINTENANCE STRATEGY REPLACEMENT / RENEWAL STRATEGY"

a) Please present the capital values for each of the assets in these tables?
b) Typical End-Of-Life (EOL) criteria would address function/purpose, economy of continued operation, safety, reliability/ risk, and design/ obsolescence). Has Enbridge Gas defined such EOL criteria? If so, does it apply them in determining asset replacement rates? If yes, please explain how this has been done?
c) Corporate values do not appear to be consistently reflected in description of RISK/OPPORTUNITY column. Examples are to be seen on page 20 for "Integrity Mains" and for Distribution Steel Mains. There is no explicit mention of injury/Loss of Life under the Risks/ opportunity. In general, expenditures to prevent injury/loss of life would be expected to receive the highest weighting, with proportionally less financial weighting to reducing other risks such as "relighting customer gas appliances". Would it be possible to show the linkage from Risk/opportunity to the financial weighting applied to risks in order to determine the appropriateness of the balance struck and where proportionate savings have been allocated for lower impact risks? If yes, please present or highlight this?
d) Discussion of risk of injury/loss of life is generally associated with the three risks listed: Safety, Financial and Customer satisfaction. Does the Enbridge Gas asset management policy and strategy fully reflect these risks? If so, please substantiate the linkages.

Emergency Replacement Program: Main repairs or reactive replacements to address leaks and condition issues as identified. The approach depends on the extent of the main's poor condition. Localized poor condition is managed through pipeline repairs. Broader condition issues are managed through more extensive replacement.

e) Failure curve predictions for pre-1985 plastic mains vs/risk/opportunity (pdf p83)



"The maintenance strategy for distribution plastic mains requires a leak survey to be conducted every five years"

Please explain or point to a section in this document which explains:

I. How is the shape of the failure curve referred to above derived and verified?
II. Is the failure curve referred to above qualified through laboratory examination of Enbridge Gas Distribution field samples sufficient to reliably predict rate of progression and ultimate failure? If so, please provide an example of how it is used in the analysis to narrow the uncertainty in the risk?

C.Staff.39

Ref: Exhibit C1/ Tab 1/ Schedule 1/Pg. 42, 43 and 49, and Exhibit C1/Tab 2/Schedule 1/Pg. 19

Enbridge Gas states that the asset categories are used by both Enbridge Gas Distribution and Union Gas to organize and define assets in the respective AMPs. The list of asset categories are provide in Table 3 of the USP. However, the asset classes provide on page 19 of the Enbridge Gas Distribution AMP are different from those identified in Table 3.

a) Please explain the reasons for the differences between the "asset categories" and "asset classes". Where possible, please reconcile the differences.
b) Table 6 in the USP provides a list of potential ICM projects for both Enbridge Gas Distribution and Union Gas. The table also identifies the asset class, in-service year and capital costs. Does Enbridge Gas have a similar table for the base spend? If not, please provide a table showing the base spend in a similar format (if it is not onerous). Please also confirm that Enbridge Gas will be able to provide a similar table for the base spend in the next iteration of its AMP.

C.Staff.40

Ref: Exhibit C1/ Tab 2/ Schedule 1,Table 3.3-2: "Maturity Level Definitions", Figure 3.3-1: EGD's ISO5500X Maturity Assessment – Current (Performed by KPMG) p 58.

Based on KPMG's assessment, Enbridge Gas Distribution's Asset Management Program is operating primarily within the *Proactive* and *Managed* levels of maturity, as seen in **Figure 3.3-1."**

Maturity Level				
0 (Aware)	1 (Reactive)	2 (Proactive)	3 (Managed)	4 (Leading Practice)
The organization has no / inadequate process(es) in place for asset management.	The organization has identified the need for asset management, and there is evidence of intent to progress it. Policies may be in place, that need updating	The organization has developed an action plan to systematically and consistently achieve asset management requirements, and can demonstrate that these are being progressed with credible and resourced plans in place. There is documentation in place for major processes but no set plans for continual improvement and change management.	The organization has a well-documented asset management program set to systematically and consistently achieve its goals. Documentation outlines an approved process for change management, updating documents and processes, and continual improvement.	The organization's process(es) surpass the standard required to comply with ISO55000x requirements.

Table 3.3-2: "Maturity Level Definitions

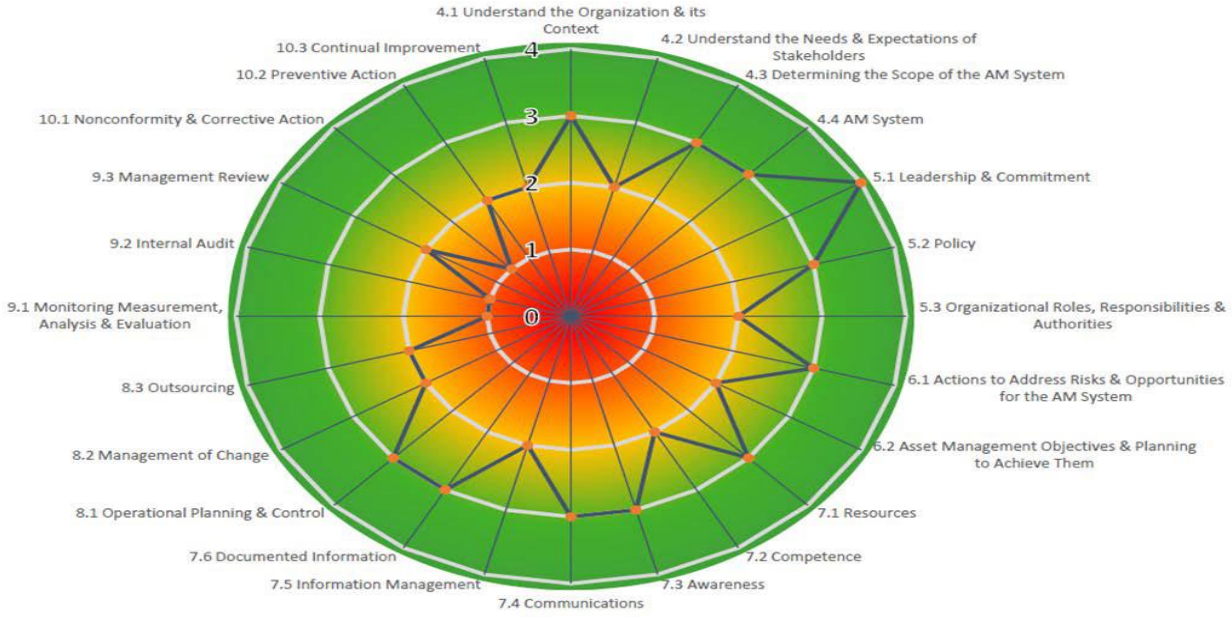


Figure 3.3-1: EGD's ISO5500X Maturity Assessment – Current (Performed by KPMG)

The statement on pg. 58 could be interpreted as Enbridge Gas being between the 2 and 3 level of maturity. Please confirm that this is an accurate interpretation. Also, please confirm that this determination included comparison against the peers in the industry similar to

Enbridge Gas and if, so, please confirm that these companies included some at Maturity Levels 3 and 4 where industry best practices would be expected to be evident?

C.Staff.41

Ref: Exhibit C1/ Tab 2/ Schedule 1, pg. 63

The Enbridge Enterprise Strategic Priorities (**Section 2.2.4**) sets the foundation for all company-wide operations and initiatives. The Asset Management Policy (**Section 4.1.2**) translates the Enterprise Strategic Priorities into the application of asset management at Enbridge Gas Distribution and outlines the high-level goals and principles used to manage assets. Asset Management Strategies (**Section 4.1.3**) supports the policy, and outlines the methods employed for asset management success. Lastly, the Asset Management Core Process (**Section 4.2**) outlines how the identified strategies will be executed.

The alignment of Asset Management Strategies to the Enterprise Strategic Priorities is summarized in **Section 4.1.4**.

Please explain the reason(s) for the asset management policy and asset management strategy being integrated into the same document as the AMP? Generally, accepted best practices asset management policy and strategy could be part of a set of “higher-tier” corporate governance documents which reflect senior management commitments and expectations providing authority to lower tier documents such as the AMP. Are the asset management policy and strategy part of such higher–tier corporate governance or other documentation? If so, please confirm this and identify the “higher-tier” documents.

C.Staff.42

Ref: Exhibit C1/ Tab 2/ Schedule 1/ pg. 90 – Asset Information Management.

Asset data provides the foundation for asset life cycle decision-making, as outlined in Asset Management Strategies (Section 4.1.3). Asset data exists in both structured (from databases residing within information systems), and unstructured (on paper and scanned) forms. Asset information derived from these sources, supported by company and industry knowledge, is leveraged for asset analysis and modeling to:

- Understand condition and predict risk
- Support risk and opportunity assessments
- Inform and support asset health reviews and Engineering Reliability Assessments
- Establish asset inventory and population over time
- Ensure compliance with company policy and regulatory requirements
- Make operational asset decisions, e.g. emergency response
- Ensure safe and reliable operations e.g. core work, maintenance

With the company's growing focus on asset, integrity, and process safety management, there is a need for various groups in Operations, Integrity, and Asset Management to perform analyses based on a common understanding of hazards, asset master data, and a current understanding of the asset condition. Tools and methods to collect, store, manage, and use this data in a consistent and repeatable way are described in Table 4.2-3."

a) The company has indicated that one of the objectives for asset analysis and modeling is to establish asset inventory and population over time. What is the degree of completion of the asset inventory?
b) For the assets in (a) above, what percentage of assets have undergone asset condition assessment?

C.Staff.43

Ref: Exhibit C1/ Tab 2/ Schedule 1/ pg. 93 – Probability of Failure and Asset Health Indices

With respect to asset analytics, Enbridge Gas Distribution has noted that for some asset classes, historic failure data can be combined with structured tacit knowledge and statistical methods to establish a probability of failure based on age and other statistically significant factors. The probability of failure is used to establish an Asset Health Index – a measure of the current health of the asset population and its expected deterioration.

a) Please provide a list of the asset classes for which health indices are available?
b) Please provide an outline of a process describing how the health indices were arrived at and how the health data is combined with maintenance data to determine asset replacement rates?

C.Staff.44

Ref: AMP – Exhibit C1/Tab 2/Schedule 1/Pg.99 and Asset Management Plan (EB-2012-0459, Exhibit B2/Tab 10/Schedule 1/Pg.35)

In 2013, Enbridge Gas Distribution filed an Asset Management Plan (AMP) with the OEB for the first time as part of its Customer IR filing (EB-2012-0459). In that AMP average customer growth for the period 2018 to 2022 was forecasted at an average rate of 40,000 per year. In the current AMP the average customer growth between 2018 and 2028 has been forecasted at approximately 30,000 per year. The table below compares the Customer Growth Capital Costs for the period 2019 to 2022 based on the two Asset Management Plan

Customer Growth Capital Costs ($000)	2019	2020	2021	2022
AMP – EB-2012-0459	105,956	108,137	110,324	112,966
AMP – EB-2018-0305	98,835	102,530	104,681	103,585

a) Please explain how the 25% reduction in customer growth has impacted the customer growth related capital expenditure forecast for the period 2019 to 2028.
b) Based on the table above, there is a minimal reduction in customer growth related capital costs between the two AMPs. Considering the significant reduction in customer growth forecast between the two AMPs, why is there no corresponding reduction in capital costs?
c) How has the change in the Customer Connection Policy of Enbridge Gas that requires every new customer to meet a PI of 1.0 and pay a capital contribution if required, impacted the capital expenditure forecast for the period 2019 to 2023?

C.Staff.45

Ref: AMP – Exhibit C1/Tab 2/Schedule 1/Pg.121

Enbridge Gas has noted that the number of leaks on steel mains have been on an upward trend over the last 11 years. Figure 5.2-11 provides the number of leaks on steel mains from 2007 to 2017.

a) The number of leaks has increase significantly from 2013 to 2017. Does Enbridge Gas have an estimate of how much natural gas has escaped as a result of these leaks?
b) What is the contribution of leaks on steel mains to Unaccounted for Gas over the past

four years?

C.Staff.46

Ref: Exhibit C1/ Tab 2/ Schedule 1/ pg.122 and 131

The evidence indicates that Enbridge Gas Distribution is engaged in a comprehensive, on-going program to measure, quantify and take remedial action to preserve the integrity of its steel mains.

However, according to Enbridge Gas Distribution's analytical models, the projected rate of increase of leaks in its steel pipe is forecasted to grow "exponentially" over the next 40 years (Figure 5.2-13: Steel Mains Leak Projections (2017 – 2057).

a) Is Enbridge Gas anticipating having to commit significantly more financial resources per year to adequately fund the steel main repair/replacement program based on the potential to increase its nominal replacement rate from 9km/year to a higher number (e.g. 18km/year) to align with the "100 years of age" criterion that is noted? If this is the case, when will this higher level of expenditure begin and what is the forecasted magnitude of the increase?
b) Does Union Gas have similar issues? Is Enbridge Gas participating with industry bodies such as the CSA Z662 standards committee and the applicable American Gas Association and Canadian Gas Association committees to address this issue?
c) Is the Enbridge Gas Distribution Steel Main Leak Analytical Model(s) unique to Enbridge Gas Distribution or is it based on an "industry standard" that it applies to its unique pipeline integrity data?
d) Does Union Gas have similar leak forecast data as Enbridge Gas Distribution put forward in Figure 5.2-13: Steel Mains Leak Projections (2017 – 2057)? If yes, please provide the data and a graphical representation.
e) Will Enbridge Gas provide a similar level of detail as Enbridge Gas Distribution when it submits the integrated AMP?

C.Staff.47

Ref: AMP – Exhibit C1/Tab 2/Schedule 1/Pg.140

Isolated steel services are a small population of steel services (numbering approximately

2,200) that are disconnected from the cathodic protection of the original parent steel main. This occurs when poorly performing steel mains are replaced with plastic mains and existing steel services are reconnected to the plastic mains, isolating the services from the cathodic protection received through the original steel main. To remain cathodically protected, these isolated assets are reliant on their coatings and localized anode protection systems. Over time, these localized, sacrificial anodes degrade and no longer protect the service. The lack of cathodic protection over time, coupled with poor coating condition and environmental stressers causes accelerated degradation of isolated steel services and results in accelerated corrosion growth, which can ultimately lead to failure and loss of containment.

a) Has Enbridge Gas considered any other approach apart from replacing poor performing steel mains with plastic mains?
b) What measures has Enbridge Gas taken to slow down or delay the rapid degradation of isolated steel services and accelerated corrosion growth?

C.Staff.48

Ref: AMP – Exhibit C1/Tab 2/Schedule 1/Pg.142

Pre-1977 plastic services refer to Aldyl A vintage plastic using early manufactured resins. These services range in age from 41 to 50 years, and account for 4% of the total services (approximately 84,000). Though Aldyl A services are not subject to the same stressors as Aldyl A mains, their failure modes are identical, with consequences more severe than the typical pinhole failure of steel services. Cracking failures have higher consequences, as sudden cracking produces a higher volume of natural gas released compared to pinhole failures due to corrosion observed in steel services. The GTI study identified that the remaining life of Aldyl A varies between 10 and 50 years. It is expected that when failures do occur, the rapid degradation of Aldyl A services may prove difficult to manage. Further studies are required to identify which stress intensifiers are applicable in the Enbridge Gas Distribution network and how the combined effect of environmental factors affect Aldyl A useful life.

a) Has Enbridge Gas Distribution experienced any failures of Aldyl A services? If yes, please provide details, impacts and number of occurrences.
b) Are there any solutions to prevent the rapid degradation of Aldyl A services?
c) Enbridge Gas Distribution has noted that further studies are required to identify which stress intensifiers are applicable in the distribution network and how the combined effect

of environmental factors affect Aldyl A useful life. When are the further studies expected to be completed and will this issue be addressed in the next AMP?

C.Staff.49

Ref: AMP – Exhibit C1/Tab 2/Schedule 1/Pgs. 146-154

The evidence notes that the most vulnerable risers in the system are copper (AMP) risers which make up approximately 14% of the overall population (approximately 285,000 units), and are subjected to an erosion corrosion method of internal degradation, resulting in either pinholes or cracks. The condition of copper risers is expected to significantly degrade over time with the expected yearly increase in the number of leaks over the next ten years. The current proactive replacement program replaces 4,000 copper risers per year.

a) What would be the total cost of replacing all copper risers within the next two decades?
b) Has Enbridge Gas Distribution estimated the volume of natural gas lost as a result of leaks or cracks in copper risers? Please provide a detailed response.

C.Staff.50

Ref: AMP – Exhibit C1/Tab 2/Schedule 1/Pg.158

Fibre optic monitoring is a key initiative for installation along new construction pipelines. Fibre optic sensing systems operate and serve up information in real time. Incident response capacity and quality is superior to the current practice. Enbridge Gas Distribution has indicated that fibre optic monitoring will allow it to detect and quickly respond to unauthorized third party activity or intrusions. Enbridge Gas Distribution will also have the ability to pinpoint leak locations, improving public safety and reliability.

a) What is the total spend on fibre optic monitoring to-date?
b) What percentage of the pipelines are currently being monitored using fibre optic monitoring?
c) What percentage of the total pipeline does Enbridge Gas Distribution target for installation of fibre optic monitoring?
d) Does the Union Gas rate zone also use fibre optic monitoring on key pipelines?

C.Staff.51

Ref: AMP - Exhibit C1/Tab 2/ Schedule 1/ pg.166

The Telemetry System components connect station components to a network that remotely transmits station performance information to Enbridge Gas' Gas Control group in Edmonton.

a) Will Enbridge Gas operate one gas control centre for Enbridge Gas Distribution and Union Gas? If no, why not? If there will be one gas control centre, where will it be located?
b) What gas control efficiencies does Enbridge Gas expect as a result of integration?

C.Staff.52

Ref: AMP – Exhibit C1/Tab 2/Schedule 1/Pg.234

With respect to storage assets, Enbridge Gas has indicated that the understanding of the current state and condition of the filters, separators, and tanks is based on Subject Matter Advisors input and supported by the in-progress pressure valve and tank inspection program that is under development. Condition assessment of filters, separators, and tanks are currently underway.

Please provide an update on the condition assessment of filters, separators and tanks. If the assessment is complete, please provide the results.

C.Staff.53

Ref: AMP – Exhibit C1/Tab 2/Schedule 1/Pgs. 243-253

Enbridge Gas has several storage wells. Additional reservoirs have been added to the Gas Storage Operation either by acquisition (Chatham D) or operating agreement (Crowland). Enbridge Gas has identified several maintenance and replacement issues with respect to storage operations including gas compressors for storage, yard auxiliary systems, yard valves and actuators, metering system, flow control systems, dehydrators, incinerators, filters, separators, tanks, pipelines, wells and master valves. The total capital spend for storage is estimated to be $180 million for the 10-year period (2019 to 2028).

a) Has Enbridge Gas considered reducing the number of wells or abandon a portion of its storage assets in order to reduce capital spending considering that it now has access to the large storage pool of Union Gas?
b) Enbridge Gas has indicated that most wells at Crowland do not possess a suitable master valve and wellhead, and have only two casings. Many Crowland wells are re-lined, further justifying replacement. Replacement of well assets, especially at Crowland, is expected to be a significant capital request within the scope of the 10-year Asset Management Plan. Since Crowland has an operating agreement, why has Enbridge Gas not considered abandoning this facility?
c) What is the total capital expenditure on the Crowland storage facility for the planned period (2019 to 2028)?
d) Please provide the cost of abandoning the Crowland facility and the associated savings in avoided capital and operating costs?

C.Staff.54

Ref: AMP - Exh. C1/Tab 2/ Schedule 1/ pgs. 252-253 and Exh. C1/Tab 3/Schedule 1/pg. 99

The total spending on Storage is estimated at $180 million from 2019 to 2028 for Enbridge Gas Distribution and $17.9 million for Union Gas.

a) What storage optimization benefits does Enbridge Gas expect to achieve as a result of operating the Enbridge Gas Distribution and Union Gas storage operations on an integrated basis?
b) What benefits would be achieved by deferring all but essential major storage capital and operating and maintenance expenditures until the Enbridge Gas Distribution and Union Gas AMPs are fully integrated?

C.Staff.55

Ref: AMP - Exhibit C1/Tab 2/ Schedule 1/ pg.356

Enbridge Gas Distribution’s Customer Experience Transformation project consists of initiatives that span multiple Customer Information System asset subclasses. The proposed two year project proactively transforms the way Enbridge Gas Distribution does business with its

customers to make customer interactions easier. The project is estimated to provide Enbridge Gas Distribution with O&M savings of approximately $13 million annually. In Year 1 Enbridge Gas Distribution has provided a list of activities that it plans to undertake, one of which is to leverage analytics and Artificial Intelligence (AI) to improve bill estimation.

a) Please provide additional information on how Enbridge Gas Distribution intends to leverage analytics and AI to improve bill estimation.
b) What is the total cost of the Customer Experience Transformation project?
c) Enbridge Gas Distribution has identified O&M savings of $13 million annually. When will Enbridge Gas realize these savings?
d) Does Enbridge Gas intend to implement a similar project for the Union Gas rate zone? Please elaborate on the response.
e) Is Enbridge Gas' intent to use AI in its operations over and above its intent to leverage analytics and AI to improve bill estimation?
f) What other AI activities does Enbridge Gas plan to pursue and when? What productivity improvements does Enbridge Gas expect for each AI activity?

C.Staff.56

Ref: AMP – Exhibit C1/Tab 2/Schedule 1/Pgs.364-374

Enbridge Gas has provided information about its Natural Gas for Transportation (NGT) program. Enbridge Gas promotes the use of natural gas to these customers as an alternate fuel source to provide a lower cost and lower emission fueling solution for vehicles such as garbage trucks, light duty vehicles, and transit buses. Enbridge Gas Distribution has two general categories for NGT station types: Large, Mobile and Utility NGT stations and Small NGT stations (also referred to as VRAs).

Enbridge Gas is continually working to promote and grow its NGT business. Business Development's Marketing Solutions team promotes the economic and environmental benefits of using natural gas as a vehicle fueling source through marketing opportunities such as trade shows, industry networking events, and approaching potential customers. Enbridge Gas' NGT station rental rate is based on a regulated rate of return with a Profitability Index of 1.0, with maintenance costs on a fully recoverable basis from the customer. Enbridge Gas currently services 201 external customers and 19 internal Enbridge Gas Distribution sites with NGT stations for fueling fleet.

a) Does Enbridge Gas consider NGT as a core natural gas distribution activity? What is the benefit to distribution ratepayers of the NGT business?
b) Has Enbridge Gas considered separating the NGT business as a non-utility business?
c) Please provide the total costs and revenues of the NGT business for 2017 and 2018.
d) Has Enbridge Gas lost business from external customers within the past three years due to the switch to electric and hybrid vehicles? If yes, please provide details.
e) Have any existing customers informed Enbridge Gas that they will be switching to electric or hybrid vehicles in the near future? If yes, please provide details.
f) How many full-time equivalents are dedicated to the operation and maintenance of the NGT business?
g) Please confirm that the total capital spend on the NGT program for the ten year forecast period is $43 million. What value will distribution ratepayers derive as a result of this capital spend?

C.Staff.57

Ref: AMP – Exhibit C1/Tab 2/Schedule 1/Pgs. 375-377

Enbridge Gas has indicated that it is eligible to request rate recoveries for qualifying incremental capital investments over and above the calculated materiality threshold through the OEB's ICM. The applicant has provided a list of ICM eligible projects in Table 6.1-3. Some of the specific projects are listed below.

Project Name	In Service Year	Total In-Service Capital ($ million)
Kennedy Road Expansion	2022	$21.7
NPS 12 Martin Grove Rd. Main Replacement – Phase 2	2024	$11.8
VPC Core and Shell Obsolescence	2025	$20.0

a) Is it the understanding of Enbridge Gas that any capital spending above the materiality threshold is eligible for ICM funding?
b) In the Toronto Hydro Electric Systems Ltd.'s three year application for 2012 to 2014 rates (EB-2012-0064), the OEB in its decision regarding the application for ICM funding noted, "the Board does not expect that projects that are minor expenditures in comparison to the overall budget should be considered eligible for ICM treatment. A

certain degree of project expenditure over and above the threshold calculation is expected to be absorbed within the total capital budget." (pgs.18-19) Please provide the proportion of each individual project noted above to the overall capital budget for the respective year.

c) Why is it not possible to absorb the costs of the projects noted above considering the quantum of the in-service capital, specifically the NPS 12 Martin Grove Rd Main Replacement?

C.Staff.58

Ref: AMP – Exhibit C1/Tab 2/Schedule 1/Pg. 694-696

In the business case summary for the NPS 20 Don River Relocation there is $4 million budgeted as retirement cost in 2020.

Please provide details about the retirement cost and what are they related to?

C.Staff.59

Ref: AMP – Exhibit C1/Tab 2/Schedule 1/Pgs. 713-748

The AMP provides information and costing for the replacement of pre-1977 plastic mains. The strategy is to increase the replacement rate to approximately 10 km per year over the next ten years. The cost for 2020 replacement is $2.3 million and then increases every year until 2028 when the cost is $10.6 million.

Please explain the reasons for the significant increase in costs considering that the length of replacement is fairly constant over the 2020 to 2028 period.

C.Staff.60

Ref: AMP – Exhibit C1/Tab 2/Schedule 1/Pgs. 859-896

The AMP Fitting Replacement Program is a proactive replacement program to replace copper risers and the AMP fittings that transition plastic services to copper risers. Enbridge Gas

intends to start with 4,000 units per year in 2019 and increasing to 20,000 units per year by 2026 and beyond.

a) Please provide details with respect to retirement costs that are referred to in the business case.
b) The retirement cost starts at $3.6 million in 2019, gradually increasing to $10.5 million in 2028. The retirement costs constitute 30% to 40% of the total capital costs. Please explain the relatively high amounts for retirement costs.

C.Staff.61

Ref: AMP – Exhibit C1/Tab 2/Schedule 1/Pgs. 964-965

The business case for the York Region Reinforcement does not provide the primary issue/concern. The Issue/Concern section is generic and does not explain why the York Region Reinforcement will be required and how the magnitude of the costs are justified.

C.Staff.62

Ref: AMP – Exhibit C1/Tab 2/Schedule 1/Pgs. 1026-1113

The District Station Rebuild Program strategy is to maintain a consistent operational reliability profile and requires the replacement of approximately 20 to 30 district stations per year. Each station in a given year will require a complete rebuild including the removal and replacement of the pressure control components, valves, associated piping and enclosure. Enbridge Gas has schedule one replacement in each year from 2019 to 2028.

a) In each of the years, the cost for the station rebuild includes $1.0 million in retirement costs. Please explain what the retirement costs are and what contributes to the quantum.
b) Is the $1.0 million an estimate for each of the years and what is the reason for the cost being the same in every year, from 2019 to 2028?

C.Staff.63

Ref: AMP – Exhibit C1/Tab 3/Schedule 1/Pgs. 20-21

Union Gas conducted Customer Engagement Research to explore the needs and preferences of customers regarding future initiatives to inform the organization's five year investment plans.

Please detail all changes that Union Gas made to the Asset Management Plan as a result of feedback from the Customer Engagement Research.

C.Staff.64

Ref: AMP – Exhibit C1/Tab 3/Schedule 1/Pgs. 48-49

In 2002, Union Gas developed a software algorithm with the assistance of a third party consultant to aid in risk assessments for the pipelines greater than 30 percent Specified Minimum Yield Strength (SMYS). This software tool processed through an application called the Risk Analyst Tool, uses a number of probability and consequence factors to calculate a Total Risk Score for all pipelines greater than 30 percent SMYS within Union Gas' system. Moving forward, the Risk Analyst Tool will be used on an annual basis to generate updated asset health data for review and assessment.

Does Enbridge Gas intend to use the Risk Analyst Tool along with the software algorithm for assessing Enbridge Gas Distribution assets? If yes, would this require a change to the software algorithm?

C.Staff.65

Ref: AMP – Exhibit C1/Tab 3/Schedule 1/Pgs. 84-85

Minimum Operating Pressure (MOP) verification is the process of reviewing all existing records for a pipeline system and confirming the maximum operating pressure of pipelines that are greater than 30 percent SMYS. While this is not currently mandated by code in Canada, it is required in the United States and is expected to become a requirement in Canada in the future. Given that Union Gas has approximately 2,980 km of pipelines greater than 30 percent SMYS, MOP verification will be a multi-year project requiring a dedicated team to complete the

verifications and determine if any pipeline remediation is required. Spreading the verifications over several years will keep costs down and proactively implement an industry standard, which provides additional support for this program. Starting this program as forecast will mitigate the need for higher expenditures in a shorter time frame to meet these expected future mandated requirements.

a) Please provide the costs (capital and OM&A) of this program for the planned period.
b) The evidence states that the project will require a dedicated team to complete the verifications. How many FTEs and external resources will be required to implement this program?
c) MOP verification is not currently a requirement in Canada. Does Union Gas know when MOP verification will become a requirement in Canada? Is there a possibility that the MOP verification program could be different in Canada as compared to the United States?
d) The Customer Engagement Survey of Union Gas shows than 43% of those surveyed recommend waiting until the regulation is implemented in Canada. Why has Union Gas decided to implement this program when it is not a requirement in Canada and a large portion of its customers are recommending that they wait until the verification is required in Canada?
e) Union Gas has indicated that starting this program earlier will mitigate the need for higher expenditures in a shorter time frame to meet expected future mandated requirements. Union Gas has assumed that when Canadian authorities implement the regulations, they will not give companies enough time to implement this program. Why does Union Gas believe that Canadian authorities will not give companies sufficient time to implement the program when the regulations are put in place?

C.Staff.66

Ref: AMP – Exhibit C1/Tab 3/Schedule 1/Pgs. 126

Union Gas has indicated that it intends to make a major lifecycle replacement as the current version of its billing system (Banner) and underlying technologies will be over 20 years old. The total capital spend on this program is estimated to be $123 million over the ten year planning period.

a) Has Enbridge Gas considered to implement the Enbridge Gas Distribution billing system

for the Union Gas rate zones?

b) What would be the costs and savings of discontinuing the Banner system and implementing the Enbridge Gas Distribution billing system for the entire Enbridge Gas franchise area?

C.Staff.67

Ref: AMP – Exhibit C1/Tab 3/Schedule 1/Pgs. 123-127

Union Gas has a number of Information Technology (IT) applications that provide critical functionality to Union Gas employees and customers by contributing to the support and growth of Union Gas' operations.

a) Has Enbridge Gas completed the review of all Enbridge Gas Distribution and Union Gas IT infrastructure and identified those that can be integrated and the ones that can be discontinued? If yes, please provide details. If no, please provide the estimated timeline of completing the review.
b) Can any of the proposed IT spending projects identified by Enbridge Gas Distribution and Union Gas in the AMP be deferred until the integration of the two utilities? If no, please provide reasons.

C.Staff.68

Ref: AMP of Enbridge Gas Distribution and Union Gas

a) Please identify any capital spending that has been deferred or cancelled as a result of implementing Demand Side Management (DSM) initiatives in the ten year capital plans of Enbridge Gas Distribution and Union Gas.
b) Will the integrated AMP identify specific projects that were deferred or cancelled as a result of implementing DSM or other carbon reduction initiatives?
c) Enbridge Gas Distribution has provided a more comprehensive AMP with details about asset condition and the AMP process as compared to the AMP of Union Gas. Please confirm that the integrated AMP will use the approach of Enbridge Gas Distribution.

C.Staff.69

Ref: AMP of Enbridge Gas Distribution and Union Gas

Enbridge Gas has provided separate comprehensive AMPs for the Enbridge Gas Distribution rate zone and Union Gas rate zones.

a) What incremental costs did Enbridge Gas incur in developing the USP and the two AMPs submitted in this proceeding? Please segment your response into the following categories:
    I. Direct in-house Labour and Overheads
    II. Consulting and Contractor Costs
    III. Direct Shared Services Costs
    IV. Indirect Costs (Admin & General, indirect Shared Services, Audit)
b) What additional costs will Enbridge Gas incur to fully integrate the Enbridge Gas Distribution and Union Gas AMPs? Please use the same categories.
c) What additional costs will Enbridge Gas incur to maintain and update the USP and the integrated AMP going forward? Please use the same categories.

C.Staff.70

Ref: AMP – Exhibit C1/Tab 3/Schedule 1/Pg. 161

In its AMP, Union Gas has identified a Compressed Natural Gas (CNG) project along Highway 401. The objective of the project is to provide the reliability and attractive pricing that is critical for the many fleets that regularly use the Highway 401 corridor to make long-term CNG adoption decisions for their operations. In addition, construction and operation of new CNG fueling stations by third parties is also expected to occur and Union Gas will need to provide the gas distribution facilities (e.g. mains, service and meter stations). Union Gas intends to build three stations at an estimated cost of $9 million in 2018.

a) Please list the benefits that distribution customers will receive as a result of Union Gas' CNG initiatives for transportation services.
b) Has Union Gas considered operating the CNG services as a non-utility business?

C.Staff.71

Ref: AMP – Exhibit C1/Tab 3/Schedule 1/Pg. 173 (AMP ID 2375)

In its AMP, Union Gas has provided information about the Owen Sound Transmission Reinforcement project. The project has been planned as pressure will reach minimums in 2025 on a design day. Union Gas has noted that the project will allow for the addition of five years' in-franchise growth. The estimated cost of the project is $52 million.

a) Please provide the additional capacity that the reinforcement project will add downstream.
b) Please clarify whether the project is classified as a transmission reinforcement as suggested from the title or a distribution reinforcement.
c) Will the reinforcement project require a capital contribution? If yes, what quantum of the costs will be borne by Enbridge Gas ratepayers?

C.Staff.72

Ref: AMP – Exhibit C1/Tab 3/Schedule 1/Pg. 174 (AMP ID 863)

In its AMP, Union Gas has provided information about a second Owen Sound Transmission Reinforcement project. The project has been planned to serve in-franchise growth and to add EPCOR, a new utility that will serve the area of South Bruce. Reinforcement of the Owen Sound Transmission System is required between Durham Gate and Owen Sound Transmission Station. Union Gas has noted that the project will allow for the addition of five years' in-franchise growth and meet the needs of EPCOR. The estimated cost of the project is $58 million.

a) Please explain how this project is related to the earlier Owen Sound Reinforcement Project (AMP ID 2375). Please clearly explain the dependencies between the two projects.
b) Please provide the additional capacity that the reinforcement project will add downstream.
c) Please clarify whether the project is classified as a transmission reinforcement as suggested from the title or a distribution reinforcement.
d) Will the reinforcement project require a capital contribution? If yes, what quantum of the costs will be borne by Enbridge Gas ratepayers?

C.Staff.73

Ref: AMP – Exhibit C1/Tab 3/Schedule 1/Pg. 176

Based on the current forecast for in-franchise general service and contract growth in the Panhandle Transmission System market, Union Gas has identified the need to reinforce the Panhandle Transmission System for the 2026 to 2027 winter operating season. Union Gas has proposed to extend the NPS 36 pipeline an additional 14 km from the Dover Transmission Station towards the Comber Transmission Station. The total estimated expenditure for the project is $112.6 million from 2024 to 2027.

a) When did Union Gas last reinforce portions of the Panhandle Transmission System? Please provide a brief summary of the completed project.
b) Union Gas has noted that the proposed reinforcement will supply natural gas to four large power generation plants and a number of greenhouses in the Chatham-Kent and Leamington-Kingsville areas. What portion of the additional capacity will be consumed by contract customers and greenhouses?

C.Staff.74

Ref: AMP – Exhibit C1/Tab 3/Schedule 1/Pg. 180

Union Gas has identified further expansion of the Sarnia Industrial Line as one of the proposed projects in the AMP. The system reinforcement is required to serve forecasted industrial contract rate growth in the Sarnia market. The total estimated expenditure for the project is $65 million from 2018 to 2021.

a) How many contract rate customers are expected to receive additional supplies as a result of the proposed expansion?
b) Will any contract rate customers make a capital contribution or contribute through a higher rate or demand charge to receive additional supplies? If not, please explain why.

C.Staff.75

Ref: AMP – Exhibit C1/Tab 3/Schedule 1/Pgs. 196-197

Union Gas has identified replacing the London Line which will extend from Dawn to just south of Komoka Transmission Station, a distance of 75 km. Union Gas has indicated that the condition of the London Lines is generally poor and indicative of a pipeline reaching end of life. Union Gas has further noted that there are currently multiple outstanding leaks located along these lines and sections of the line have been abandoned due to condition.

a) Please explain what abandonment of a section of the line means. Is it not maintained anymore or is not used for providing service?
b) There are currently multiple outstanding leaks. Does Union Gas have an estimate of the natural gas that is lost annually due to leaks in the London Line? If reliable information is not available, please provide a best estimate.

C.Staff.76

Ref: AMP – Exhibit C1/Tab 3/Schedule 1/Pg. 204

Union Gas has identified the Windsor distribution line for replacement. The replacement will address the integrity and operational risks with the Windsor Line. Based on the integrity concerns and the significant effort and resources spent on repairing leaks on the line, the Windsor Line has been deemed a high risk and has therefore been identified as requiring replacement. The project includes the replacement of the entire 65 km Windsor Line. The existing line is a combination of NPS 10 and NPS 8 and will be replaced by an NPS 6 pipeline at an estimated cost of $88 million. The project will be constructed in 2020.

a) Union Gas has noted that the Windsor Line has used significant resources to repair leaks. What was the total spend on repairing leaks on the Windsor Line in the past five years (2014 to 2018 inclusive)?
b) Why is the proposed line a NPS 6 versus the original NPS 8 pipeline?
c) How much future growth will the NPS 6 pipeline provide as opposed to a NPS 8 pipeline?
d) What is the estimated difference in costs if a NPS 8 pipeline is considered for the project?

Exhibit D – Customer Engagement Research

D.Staff.77

Ref: Exhibit D1/Tab 1/Schedule 1/Pgs. 19-20

With respect to customer concerns among large volume customers, 24% mentioned costs associated with new natural gas service as a concern.

a) Please confirm whether Enbridge Gas probed this concern any further and provide further information on this issue if available.
b) Is this concern related to the PI calculation completed for every new infill customer and requiring a CIAC to complete the connection to the distribution system?

D.Staff.78

Ref: Exhibit D1/Tab 1/Schedule 1/Pg.22

Slightly more than half (56%) of large volume customers believe that increasing rates by 1.5% over the next five years to keep up with aging infrastructure costs to maintain the current level of reliability and safety is reasonable (14%) or necessary (42%), compared to four in ten (40%) who would oppose it.

Did Enbridge Gas probe the results further to understand why 40% of the respondents would oppose an increase in rates to cover costs associated with aging infrastructure?

D.Staff.79

Ref: Exhibit D1/Tab 2/Schedule 1/Pg. 56

The Union Gas survey found that three in four (74%) of residential participants find the price for distributing gas “reasonable” with 21% who find it “very reasonable”. Nearly one in five (17%) find it “somewhat unreasonable” and just 6% find it “very unreasonable”.

Is there any significant difference in the results among those who are on Equal Billing Plan and those who are not?

D.Staff.80

Ref: Exhibit D1/Tab 2/Schedule 1/Pgs. 75-95

In its survey, Union Gas sought feedback on a number of trade-offs and also tried to gauge customer perception for additional spending that was quantified as a rate impact for customers. For example, the impact of maintenance capital spending is $1 per year for residential customers, renovating older buildings was 50 cents a year per residential customer, information technology spending was $3 a year per residential customer, replacement of bare and unprotected pipes would cost $1 a year per residential customer, website enhancements for $1 a year per residential customer, research spending on new technologies costing $3 per year per residential customer and other such spending initiatives.

a) Were the respondents provided information on the possible cumulative rate impact of all these initiatives? If no, why not?
b) Did Union Gas gauge the perception of customers on the cumulative spending and how supportive they were if all the proposed initiatives were implemented?