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Enbridge Gas Inc.
500 Consumers Road
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VIA RESS and EMAIL

January 21, 2021

Ms. Christine Long
Registrar
Ontario Energy Board
2300 Yonge Street, 27th Floor
Toronto, Ontario, M4P 1E4

Dear Ms. Long,

Re: EB-2020-0181 – Enbridge Gas Inc. ("Enbridge Gas")
2021 Rates (Phase 2 – Incremental Capital Module)
Interrogatory Responses

In accordance with Procedural Order No. 1, enclosed please find Interrogatory Responses from Enbridge Gas in the above noted proceeding.

Sincerely,

(Original Digitally Signed)

Rakesh Torul
Technical Manager
Regulatory Applications

cc: David Stevens, Aird & Berlis LLP
Intervenors (EB-2020-0181)

ENBRIDGE GAS INC.

Answer to Interrogatory from
The Association of Power Producers of Ontario ("APPrO")

INTERROGATORY

References:

Reference 1 - Exhibit B, Tab 2, Schedule 1, Page 17

Reference 2 - Exhibit B, Tab 2, Schedule 1, Page 19, Table 8, Business Case Summaries for ICM Projects by Rate Zone

Preamble:

Reference 1:
St. Laurent NPS 12 Replacement

"A Leave to Construct application is expected to be filed in December, 2020 for the remaining two phases of the project. For ICM eligibility purposes, each phase of the project has been evaluated individually based on the total in-service capital of that phase. In this application, Enbridge Gas is seeking ICM funding for Phase 3 of the project with a projected in-service date of December 2021.
The Business Case for this project is filed in Table 8 below and will be updated after the Leave to Construct application has been filed with the OEB."

Reference 2:
"Other Options Considered:

- Enbridge Gas will provide more details on the alternatives through an update to the ICM evidence after the Leave to Construct application is filed in December, 2020."

It is APPrO's understanding that at this time, December 21, 2020, the Leave to Construct Application for St. Laurent NPS 12 Replacement has not yet been filed with the OEB.

[1]EB-2020-0192, Exhibit B, Tab 2, Schedule 5, Page 1 of 1, dated 2020-09-02.
[2]EB-2019-0218, Exhibit B, Tab 1, Schedule 3, Pages 1-13, dated 2019-10-07.

Question:

a) How does Enbridge Gas propose that the OEB make an informed decision on whether the test for Prudence has been met when it is unclear what alternatives Enbridge Gas has considered to determine that the St. Laurent NPS 12 Replacement Project ("St. Laurent Project") is the most cost-effective option for ratepayers?

b) If the Leave to Construct Application has been filed for the St. Laurent Project, please provide the OEB proceeding number.

c) If the Leave to Construct Application has not yet been filed for the St. Laurent Project, please provide an estimated date of filing.

d) Absent evidence of the alternatives considered in this application for the St. Laurent Project, together with clear evidence that the St. Laurent Project is the most cost effective option, does Enbridge Gas intend to withdraw this request for ICM funding?

e) If Enbridge Gas does not intend to withdraw this request for ICM funding, at what stage in the process will the parties, including APPrO, be given an opportunity to assess and ask questions about the alternatives considered and the conclusions regarding the most cost effective option?

f) With regards to the Business Cases for the three ICM Projects in Table 8, please provide the cost of each of the alternatives considered.

Response

a) Enbridge Gas expects to file the Leave to Construct Application for the St. Laurent Project (which will request leave to construct approval for Phase 3 and Phase 4) early in 2021. Contained therein will be information on the alternatives Enbridge Gas considered for replacing the St. Laurent pipeline. The Board will be able to make a decision on need and prudence through the regulatory process it follows when determining if it will grant leave to construct. This process typically provides opportunities for interested parties to ask questions and make submissions about relevant items, including alternatives considered and project costs. Enbridge Gas expects that ICM treatment for Phase 3 of this Project will be contingent on leave to construct approval.

[1]EB-2020-0192, Exhibit B, Tab 2, Schedule 5, Page 1 of 1, dated 2020-09-02.
[2]EB-2019-0218, Exhibit B, Tab 1, Schedule 3, Pages 1-13, dated 2019-10-07.

b) The St. Laurent Project (Phases 3 and 4) Leave to Construct Application will be filed in EB-2020-0293. Please see the response to a) above.

c) Please see the response to a) above.

d) No. Please see the response to a) above.

e) Please see the response to a) above.

f) The cost of the alternatives for the London Lines Replacement can be found in EB-2020-0192.[1]

The cost of the alternatives for the Sarnia Industrial Line Reinforcement project can be found in EB-2019-0218.[2]

The cost of the alternatives for the St. Laurent Project will be addressed through the Leave to Construct Application in EB-2020-0293.

[1]EB-2020-0192, Exhibit B, Tab 2, Schedule 5, Page 1 of 1, dated 2020-09-02.
[2]EB-2019-0218, Exhibit B, Tab 1, Schedule 3, Pages 1-13, dated 2019-10-07.

ENBRIDGE GAS INC.

Answer to Interrogatory from
The Association of Power Producers of Ontario ("APPrO")

INTERROGATORY

Reference:

Exhibit B, Tab 2, Schedule 1, Page 27 – Table 8

Preamble:

Sarnia Industrial Line Reinforcement
"The budget of $32.9 million is updated from the EB-2019-0218 filing budget of $30.8 million. The variance between the budget and the leave to construct is due to a change in overhead allocations."

Question:

a) Please provide a detailed breakdown of the budget as calculated in the leave to construct and the budget as calculated for this ICM.

b) Please explain the reason for the increase in budget in detail.

c) Given the budget increase to $32.9 million, is the Sarnia Industrial Line Reinforcement the most cost effective option for ratepayers compared to the alternatives?

Response

a) Please find the project budget as shown in EB-2019-0218 in the table below:

NPS 20 Dow to Bluewater Pipeline
Total Estimated Project Capital Costs
Leave to Construct Application

Category ($000's)	Pipeline	Station	Total
Materials and Equipment	$ 2,858	$ 1,554	$ 4,412
Construction & Labour (incl. Lands)	14,580	3,905	18,485
Contingencies	3,487	1,092	4,579
Interest During Construction	275	70	345
Indirect Overhead	2,239	701	2,940
Total Estimated Capital Costs	**$ 23,439**	**$ 7,322**	**$ 30,761**

Please find below the project budget as filed for EB-2020-0181:

NPS 20 Dow to Bluewater Pipeline
Total Estimated Project Capital Costs
2021 Rates ICM Application

Category ($000's)	Pipeline	Station	Total
Materials and Equipment	$ 2,858	$ 1,554	$ 4,412
Construction & Labour (incl. Lands)	14,580	3,905	18,485
Contingencies	3,487	1,092	4,579
Interest During Construction	275	70	345
Indirect Overhead	3,842	1,200	5,042
Total Estimated Capital Costs	**$ 25,042**	**$ 7,821**	**$ 32,863**

b) The change in costs is due to revised estimates in the indirect overheads allocations. Please refer to Exhibit I.Staff.4 b).

c) Yes, the approved project remains the most cost competitive option as the increased overhead-related costs would apply to all facility-related alternatives assessed. Please see the response to OEB Staff interrogatory at EB-2019-0218, Exhibit I.STAFF.3 a), for additional detail about the alternatives considered.

ENBRIDGE GAS INC.

Answer to Interrogatory from
The Association of Power Producers of Ontario ("APPrO")

INTERROGATORY

References:

Reference 1: Exhibit B, Tab 2, Schedule 1, Page 30 and 31 of 33

Reference 2: EB-2019-0194 – Enbridge Gas 2020 Rates Application – Decision and Order dated May 14, 2020, page 17.

Preamble:

Reference 1:

"Enbridge Gas is proposing to allocate the ICM Project revenue requirement to rate classes based on the most recently approved cost allocation methodology updated for the current year forecast.
[…]

Enbridge Gas proposes to allocate the annual average net revenue requirement with respect to the London Line Replacement Project to Union South rate classes in proportion to the forecast Union South in-franchise design day demands of firm and interruptible customers served by the distribution system excluding customers served directly off transmission lines. This proposed cost allocation methodology is consistent with the allocation of Union South Distribution Demand costs most recently approved by the Board in EB-2011-0210 (Union's 2013 approved cost allocation study). The assets installed with the London Line Replacement Project will be categorized as distribution consistent with the design of the pipeline as described in the EB-2020-0192 (London Line Replacement Project) evidence. The allocation of Distribution Demand costs recognizes distribution lines are designed to meet Union South in-franchise distribution demands on design day.

Enbridge Gas proposes to allocate the annual average net revenue requirement with respect to the Sarnia Industrial Line Reinforcement Project to Union South rate classes in proportion to the forecast Union South in-franchise design day demands. This proposed cost allocation methodology is consistent with the allocation of Other Transmission Demand costs approved by the Board in EB-2011-0210 (Union's 2013

approved cost allocation study). The assets installed with the Sarnia Industrial Line Reinforcement project will be categorized as Other Transmission assets. The allocation of Other Transmission costs recognizes other transmission lines are designed to meet Union South in-franchise demands on design day."

Reference 2:

"The OEB acknowledges that the current cost allocations are outdated …"

Question:

a) Given that the OEB in EB-2019-0194 expressed that the cost allocation methodology in Union's 2013 approved cost allocation study is outdated, please provide an updated cost allocation for the London Lines Replacement Project and the Sarnia Industrial Line Reinforcement Project using the cost allocation methodology in the cost allocation study filed by Enbridge Gas on November 27, 2019 in EB-2019-0194 and in using that cost allocation methodology, provide the following:

    a) The allocation of the annual average net revenue requirement with respect to the London Lines Replacement Project among the different rate classes in the Union rate zone;
    b) The allocation of the annual average net revenue requirement with respect to the Sarnia Industrial Line Reinforcement Project among the different rate classes in the Union rate zone;
    c) The cost allocation factors and the allocation of project revenue requirement to the rate classes for the London Lines Replacement Project;
    d) The cost allocation factors and the allocation of project revenue requirement to the rate classes for the Sarnia Industrial Line Reinforcement Project;
    e) The ICM unit rates beginning in 2021 for the duration of the deferred rebasing period to recover the total revenue requirement of the 2021 ICM projects;
    f) The ICM Bill Impacts associated with the 2021 ICM funding request by rate class.

b) Would using the updated cost allocation model for this ICM rate rider cause any concern for Enbridge Gas with regards to predictability and stability of base gas distribution rates overall.

Response

a) The cost allocation methodology of the London Line and the Sarnia Industrial Line in both EB-2019-0194 (2020 Rates) and EB-2011-0210 (2013 Cost of Service) is the same. The cost allocation methodology in both cases classify the costs of the London Line and the Sarnia Industrial Line as Other Transmission, with the costs being allocated to Union South in-franchise rate classes in proportion to the forecast firm design day demands.

   As part of this proceeding, Enbridge Gas proposes to allocate the revenue requirement of the London Line Replacement Project consistent with the methodology for the allocation of Union South Distribution Demand costs. This is a change from the historical allocation of the London Line using the Other Transmission Demand cost allocation methodology. Please see Exhibit I.LPMA.4 for a description of the change in cost allocation methodology.

   Enbridge Gas proposes to allocate the revenue requirement of the Sarnia Industrial Line Reinforcement Project consistent with the methodology used for the allocation of Other Transmission Demand costs. This is consistent with the historical allocation of the Sarnia Industrial Line.

   a) Attachment 1, column b) provides the cost allocation of the London Line Replacement Project using the 2021 Other Transmission Demand allocation factor. The calculation of the allocation factor is consistent with the cost allocation methodology used in EB-2011-0210 (2013 Cost of Service) and EB-2019-0194 (2020 Rates).

   b) Attachment 1, column d) provides the cost allocation of the Sarnia Industrial Line Reinforcement Project using the 2021 Other Transmission Demand allocation factor. The calculation of the allocation factor is consistent with the cost allocation methodology used in EB-2011-0210 (2013 Cost of Service), EB-2019-0194 (2020 Rates).

   c) Attachment 1, column a) provides the 2021 Other Transmission Demand allocator used for the allocation of the London Line Replacement Project costs.

   d) Attachment 1, column c) provides the 2021 Other Transmission Demand allocator used for the allocation of the Sarnia Industrial Line Reinforcement Project costs.

e) Attachment 2 provides the ICM unit rates updated to reflect the allocation of the London Line Replacement Project costs using the 2021 Other Transmission Demand allocation factor.

f) Attachment 3 provides the ICM bill impacts updated to reflect the allocation of the London Line Replacement Project costs using the 2021 Other Transmission Demand allocation factor.

b) Enbridge Gas does not support a change in the cost allocation methodology of the London Line Replacement Project from that proposed in evidence because of the inconsistency with the classification of the project in the plant accounting records. The proposed cost allocation methodology of the London Line Replacement Project is consistent with the approved treatment of the 2020 Windsor Line Replacement ICM Project which had a similar cost allocation methodology change.

UNION RATE ZONES
Allocation of 2021 ICM Project Revenue Requirement
Updated for Exhibit I.APPrO.3

Line No.	Particulars	London Line Replacement: Other Transmission Demand Allocator (1) ($10^3m^3/d$)	London Line Replacement: Project 2021 ICM Allocation (2) ($000's)	Sarnia Industrial Line Reinforcement: Other Transmission Demand Allocator (1) ($10^3m^3/d$)	Sarnia Industrial Line Reinforcement: Project 2021 ICM Allocation (3) ($000's)	Total 2021 ICM Allocation ($000's)
		(a)	(b)	(c)	(d)	(e) = (b) + (d)
1	Rate 01	-	-	-	-	-
2	Rate 10	-	-	-	-	-
3	Rate 20	-	-	-	-	-
4	Rate 25	-	-	-	-	-
5	Rate 100	-	-	-	-	-
6	Total Union North	-	-	-	-	-
7	Rate M1	30,972	2,443	30,972	495	2,939
8	Rate M2	11,797	931	11,797	189	1,119
9	Rate M4 (F)	4,756	375	4,756	76	451
10	Rate M4 (I)	-	-	-	-	-
11	Rate M5 (F)	59	5	59	1	6
12	Rate M5 (I)	-	-	-	-	-
13	Rate M7 (F)	3,756	296	3,756	60	356
14	Rate M7 (I)	-	-	-	-	-
15	Rate M9	545	43	545	9	52
16	Rate M10	5	0	5	0	0
17	Rate T1 (F)	2,129	168	2,129	34	202
18	Rate T1 (I)	-	-	-	-	-
19	Rate T2 (F)	25,297	1,996	25,297	404	2,400
20	Rate T2 (I)	-	-	-	-	-
21	Rate T3	2,475	195	2,475	40	235
22	Total Union South	81,791	6,453	81,791	1,307	7,760
23	Excess Utility Storage	-	-	-	-	-
24	Rate C1 (F)	-	-	-	-	-
25	Rate C1 (I)	-	-	-	-	-
26	Rate M12	-	-	-	-	-
27	Rate M13	-	-	-	-	-
28	Rate M16	-	-	-	-	-
29	Rate M17	-	-	-	-	-
30	Total Ex-Franchise	-	-	-	-	-
31	Total Union Rate Zones	81,791	6,453	81,791	1,307	7,760

Notes:
(1) Other transmission demand allocation in proportion to forecast 2021 Union South in-franchise firm design day demands.
(2) Allocated in proportion to column (a).
(3) Allocated in proportion to column (c).

UNION RATE ZONES
Derivation of 2021 Incremental Capital Module ("ICM") Rates by Rate Class
Updated for Exhibit I.APPrO.3

Line No.	Particulars	ICM Revenue Requirement (1) ($000s)	2021 Forecast Usage	Billing Units	2021 ICM Rate (cents / m³)
		(a)	(b)	(c)	(d) = (a / b * 100)
	Union South				
	Rate M1 Small Volume General Service				
1	Monthly Delivery Commodity Charge	2,939	3,142,868	10^3m^3	0.0935
	Rate M2 Large Volume General Service				
2	Monthly Delivery Commodity Charge	1,119	1,340,433	10^3m^3	0.0835
	Rate M4 Firm Commercial/Industrial Contract Rate				
	Firm Contracts				
3	Monthly Demand Charge	451	50,008	$10^3m^3/d$	0.9024
	Interruptible Contracts				
4	Monthly Delivery Commodity Charge	-	1,707	10^3m^3	-
	Rate M5A Interruptible Commercial/Industrial Contract Rate				
	Firm Contracts				
5	Monthly Demand Charge	6	521	$10^3m^3/d$	1.0739
	Interruptible Contracts				
6	Delivery Commodity Charge (Avg Price)	-	61,190	10^3m^3	-
	Rate M7 Special Large Volume Contract Rate				
	Firm Contracts				
7	Monthly Demand Charge	356	44,597	$10^3m^3/d$	0.7991
	Interruptible / Seasonal Contracts				
8	Monthly Delivery Commodity Charge	-	80,964	10^3m^3	-
	Rate M9 Large Wholesale Service				
9	Monthly Demand Charge	52	6,040	$10^3m^3/d$	0.8556
	Rate M10 Small Wholesale Service				
10	Monthly Delivery Commodity Charge	0	391	10^3m^3	0.1105
	Rate T1 Contract Carriage Service				
	Firm Contracts				
11	Monthly Demand Charge	202	26,510	$10^3m^3/d$	0.7619
	Interruptible Contracts				
12	Interruptible Transportation Commodity Charge	-	35,053	10^3m^3	-
	Rate T2 Contract Carriage Service				
	Firm Contracts				
13	Monthly Demand Charge	2,400	282,300	$10^3m^3/d$	0.8502
	Interruptible Contracts				
14	Interruptible Transportation Commodity Charge	-	154,339	10^3m^3	-
	Rate T3 Contract Carriage Service				
15	Monthly Demand Charge	235	28,200	$10^3m^3/d$	0.8327
16	Total Union South In-franchise	7,760			
17	Total Union In-franchise	7,760			

Notes:
(1) Exhibit I.APPrO.3, Attachment 1, column (e).

UNION RATE ZONES
Calculation of 2021 ICM Bill Impacts
Sales Service and Direct Purchase Bill Impacts for Typical Small and Large Customers
Updated for Exhibit I.APPrO.3

Line No.	Particulars	Approved - EB-2020-0095 (1) Total Bill ($)	Approved - EB-2020-0095 (1) Unit Rate (cents/m^3)	Proposed - EB-2020-0181 with ICM Total Bill ($)	Proposed - EB-2020-0181 with ICM Unit Rate (cents/m^3)	Total Bill Change ($)	Bill Impact Including Federal Carbon Charge (%)	Bill Impact Excluding Federal Carbon Charge (%)
		(a)	(b)	(c)	(d)	(e) = (c - a)	(f) = (e / a)	(g)
	Small Rate 01							
1	Delivery Charges	486	22.0823	486	22.0823	-	0.0%	0.0%
2	Federal Carbon Charge	129	5.8700	129	5.8700	-	0.0%	0.0%
3	Gas Supply Charges (2)	434	19.7355	434	19.7355	-	0.0%	0.0%
4	Total Bill	1,049	47.6877	1,049	47.6877	-	0.0%	0.0%
5	Sales Service Impact					-	0.0%	0.0%
6	Bundled-T (Direct Purchase) Impact					-	0.0%	0.0%
	Small Rate 10							
7	Delivery Charges	5,173	8.6223	5,173	8.6223	-	0.0%	0.0%
8	Federal Carbon Charge	3,522	5.8700	3,522	5.8700	-	0.0%	0.0%
9	Gas Supply Charges (2)	10,798	17.9968	10,798	17.9968	-	0.0%	0.0%
10	Total Bill	19,493	32.4891	19,493	32.4891	-	0.0%	0.0%
11	Sales Service Impact					-	0.0%	0.0%
12	Bundled-T (Direct Purchase) Impact					-	0.0%	0.0%
	Large Rate 10							
13	Delivery Charges	16,853	6.7411	16,853	6.7411	-	0.0%	0.0%
14	Federal Carbon Charge	14,675	5.8700	14,675	5.8700	-	0.0%	0.0%
15	Gas Supply Charges (2)	44,992	17.9968	44,992	17.9968	-	0.0%	0.0%
16	Total Bill	76,520	30.6079	76,520	30.6079	-	0.0%	0.0%
17	Sales Service Impact					-	0.0%	0.0%
18	Bundled-T (Direct Purchase) Impact					-	0.0%	0.0%
	Small Rate 20							
19	Delivery Charges	90,209	3.0070	90,209	3.0070	-	0.0%	0.0%
20	Federal Carbon Charge	176,100	5.8700	176,100	5.8700	-	0.0%	0.0%
21	Gas Supply Charges (2)	434,137	14.4712	434,137	14.4712	-	0.0%	0.0%
22	Total Bill	700,447	23.3482	700,447	23.3482	-	0.0%	0.0%
23	Sales Service Impact					-	0.0%	0.0%
24	Bundled-T (Direct Purchase) Impact					-	0.0%	0.0%
	Large Rate 20							
25	Delivery Charges	352,156	2.3477	352,156	2.3477	-	0.0%	0.0%
26	Federal Carbon Charge	880,500	5.8700	880,500	5.8700	-	0.0%	0.0%
27	Gas Supply Charges (2)	2,121,246	14.1416	2,121,246	14.1416	-	0.0%	0.0%
28	Total Bill	3,353,902	22.3593	3,353,902	22.3593	-	0.0%	0.0%
29	Sales Service Impact					-	0.0%	0.0%
30	Bundled-T (Direct Purchase) Impact					-	0.0%	0.0%
	Average Rate 25							
31	Delivery Charges	74,392	3.2700	74,392	3.2700	-	0.0%	0.0%
32	Federal Carbon Charge	133,543	5.8700	133,543	5.8700	-	0.0%	0.0%
33	Gas Supply Charges (2)	300,628	13.2144	300,628	13.2144	-	0.0%	0.0%
34	Total Bill	508,562	22.3544	508,562	22.3544	-	0.0%	0.0%
35	Sales Service Impact					-	0.0%	0.0%
36	T-Service (Direct Purchase) Impact					-	0.0%	0.0%
	Small Rate 100							
37	Delivery Charges	322,121	1.1930	322,121	1.1930	-	0.0%	0.0%
38	Federal Carbon Charge	1,584,900	5.8700	1,584,900	5.8700	-	0.0%	0.0%
39	Gas Supply Charges (2)	4,860,393	18.0015	4,860,393	18.0015	-	0.0%	0.0%
40	Total Bill	6,767,414	25.0645	6,767,414	25.0645	-	0.0%	0.0%
41	Sales Service Impact					-	0.0%	0.0%
42	T-Service (Direct Purchase) Impact					-	0.0%	0.0%
	Large Rate 100							
43	Delivery Charges	2,630,588	1.0961	2,630,588	1.0961	-	0.0%	0.0%
44	Federal Carbon Charge	14,088,000	5.8700	14,088,000	5.8700	-	0.0%	0.0%
45	Gas Supply Charges (2)	42,590,563	17.7461	42,590,563	17.7461	-	0.0%	0.0%
46	Total Bill	59,309,151	24.7121	59,309,151	24.7121	-	0.0%	0.0%
47	Sales Service Impact					-	0.0%	0.0%
48	T-Service (Direct Purchase) Impact					-	0.0%	0.0%

Notes:
(1) EB-2020-0095 Settlement Agreement filed October 6, 2020, Exhibit D, Tab 2, Rate Order, Working Papers, Schedule 4.
(2) Gas Supply charges based on Union North East Zone.

UNION RATE ZONES
Calculation of 2021 ICM Bill Impacts
Sales Service and Direct Purchase Bill Impacts for Typical Small and Large Customers
Updated for Exhibit I.APPrO.3

Line No.	Particulars	Approved - EB-2020-0095 (1) Total Bill ($)	Approved Unit Rate (cents/m^3)	Proposed - EB-2020-0181 with ICM Total Bill ($)	Proposed Unit Rate (cents/m^3)	Total Bill Change ($)	Bill Impact Including Federal Carbon Charge (%)	Bill Impact Excluding Federal Carbon Charge (%)
		(a)	(b)	(c)	(d)	(e) = (c - a)	(f) = (e / a)	(g)
	Small Rate M1							
1	Delivery Charges	411	18.6659	413	18.7591	2.05	0.5%	0.5%
2	Federal Carbon Charge	129	5.8700	129	5.8700	-	0.0%	0.0%
3	Gas Supply Charges	271	12.3205	271	12.3205	-	0.0%	0.0%
4	Total Bill	811	36.8559	813	36.9491	2.05	0.3%	0.3%
5	Sales Service Impact					2.05	0.3%	0.3%
6	Direct Purchase Impact					2.05	0.4%	0.5%
	Small Rate M2							
7	Delivery Charges	4,300	7.1663	4,350	7.2498	50	1.2%	1.2%
8	Federal Carbon Charge	3,522	5.8700	3,522	5.8700	-	0.0%	0.0%
9	Gas Supply Charges	7,392	12.3205	7,392	12.3205	-	0.0%	0.0%
10	Total Bill	15,214	25.3568	15,264	25.4403	50	0.3%	0.4%
11	Sales Service Impact					50	0.3%	0.4%
12	Direct Purchase Impact					50	0.6%	1.2%
	Large Rate M2							
13	Delivery Charges	14,421	5.7682	14,629	5.8517	209	1.4%	1.4%
14	Federal Carbon Charge	14,675	5.8700	14,675	5.8700	-	0.0%	0.0%
15	Gas Supply Charges	30,801	12.3205	30,801	12.3205	-	0.0%	0.0%
16	Total Bill	59,897	23.9587	60,106	24.0422	209	0.3%	0.5%
17	Sales Service Impact					209	0.3%	0.5%
18	Direct Purchase Impact					209	0.7%	1.4%
	Small Rate M4							
19	Delivery Charges	51,584	5.8953	52,104	5.9547	520	1.0%	1.0%
20	Federal Carbon Charge	51,363	5.8700	51,363	5.8700	-	0.0%	0.0%
21	Gas Supply Charges	107,804	12.3205	107,804	12.3205	-	0.0%	0.0%
22	Total Bill	210,751	24.0858	211,271	24.1452	520	0.2%	0.3%
23	Sales Service Impact					520	0.2%	0.3%
24	Direct Purchase Impact					520	0.5%	1.0%
	Large Rate M4							
25	Delivery Charges	402,005	3.3500	407,419	3.3952	5,414	1.3%	1.3%
26	Federal Carbon Charge	704,400	5.8700	704,400	5.8700	-	0.0%	0.0%
27	Gas Supply Charges	1,478,460	12.3205	1,478,460	12.3205	-	0.0%	0.0%
28	Total Bill	2,584,865	21.5405	2,590,279	21.5857	5,414	0.2%	0.3%
29	Sales Service Impact					5,414	0.2%	0.3%
30	Direct Purchase Impact					5,414	0.5%	1.3%
	Small Rate M5							
31	Delivery Charges	34,806	4.2189	34,806	4.2189	-	0.0%	0.0%
32	Federal Carbon Charge	48,428	5.8700	48,428	5.8700	-	0.0%	0.0%
33	Gas Supply Charges	101,644	12.3205	101,644	12.3205	-	0.0%	0.0%
34	Total Bill	184,878	22.4094	184,878	22.4094	-	0.0%	0.0%
35	Sales Service Impact					-	0.0%	0.0%
36	Direct Purchase Impact					-	0.0%	0.0%
	Large Rate M5							
37	Delivery Charges	199,428	3.0681	199,428	3.0681	-	0.0%	0.0%
38	Federal Carbon Charge	381,550	5.8700	381,550	5.8700	-	0.0%	0.0%
39	Gas Supply Charges	800,833	12.3205	800,833	12.3205	-	0.0%	0.0%
40	Total Bill	1,381,810	21.2586	1,381,810	21.2586	-	0.0%	0.0%
41	Sales Service Impact					-	0.0%	0.0%
42	Direct Purchase Impact					-	0.0%	0.0%
	Small Rate M7							
43	Delivery Charges	766,608	2.1295	782,430	2.1734	15,822	2.1%	2.1%
44	Federal Carbon Charge	2,113,200	5.8700	2,113,200	5.8700	-	0.0%	0.0%
45	Gas Supply Charges	4,435,380	12.3205	4,435,380	12.3205	-	0.0%	0.0%
46	Total Bill	7,315,188	20.3200	7,331,010	20.3639	15,822	0.2%	0.3%
47	Sales Service Impact					15,822	0.2%	0.3%
48	Direct Purchase Impact					15,822	0.5%	2.1%
	Large Rate M7							
49	Delivery Charges	3,072,488	5.9086	3,141,530	6.0414	69,042	2.2%	2.2%
50	Federal Carbon Charge	3,052,400	5.8700	3,052,400	5.8700	-	0.0%	0.0%
51	Gas Supply Charges	6,406,660	12.3205	6,406,660	12.3205	-	0.0%	0.0%
52	Total Bill	12,531,548	24.0991	12,600,590	24.2319	69,042	0.6%	0.7%
53	Sales Service Impact					69,042	0.6%	0.7%
54	Direct Purchase Impact					69,042	1.1%	2.2%

Notes:
(1) EB-2020-0095 Settlement Agreement filed October 6, 2020, Exhibit D, Tab 2, Rate Order, Working Papers, Schedule 4.

UNION RATE ZONES
Calculation of 2021 ICM Bill Impacts
Sales Service and Direct Purchase Bill Impacts for Typical Small and Large Customers
Updated for Exhibit I.APPrO.3

Line No.	Particulars	Approved - EB-2020-0095 (1) Total Bill ($)	Approved Unit Rate (cents/m^3)	Proposed - EB-2020-0181 with ICM Total Bill ($)	Proposed Unit Rate (cents/m^3)	Total Bill Change ($)	Bill Impact Including Federal Carbon Charge (%)	Bill Impact Excluding Federal Carbon Charge (%)
		(a)	(b)	(c)	(d)	(e) = (c - a)	(f) = (e / a)	(g)
	Small Rate M9							
1	Delivery Charges	181,783	2.6156	187,577	2.6990	5,795		3.2%
2	Gas Supply Charges	856,275	12.3205	856,275	12.3205	-		0.0%
3	Total Bill	1,038,058	14.9361	1,043,852	15.0195	5,795		0.6%
4	Sales Service Impact					5,795		0.6%
5	Direct Purchase Impact					5,795		3.2%
	Large Rate M9							
6	Delivery Charges	540,647	2.6794	557,906	2.7649	17,259		3.2%
7	Gas Supply Charges	2,486,030	12.3205	2,486,030	12.3205	-		0.0%
8	Total Bill	3,026,677	14.9999	3,043,936	15.0854	17,259		0.6%
9	Sales Service Impact					17,259		0.6%
10	Direct Purchase Impact					17,259		3.2%
	Average Rate M10							
11	Delivery Charges	7,342	7.7688	7,446	7.8793	104		1.4%
12	Gas Supply Charges	11,643	12.3205	11,643	12.3205	-		0.0%
13	Total Bill	18,984	20.0893	19,089	20.1998	104		0.6%
14	Sales Service Impact					104		0.6%
15	Direct Purchase Impact					104		1.4%
	Small Rate T1							
16	Delivery Charges	165,220	2.1921	167,574	2.2234	2,354	1.4%	1.4%
17	Federal Carbon Charge	442,422	5.8700	442,422	5.8700	-	0.0%	0.0%
18	Gas Supply Charges	928,596	12.3205	928,596	12.3205	-	0.0%	0.0%
19	Total Bill	1,536,238	20.3826	1,538,592	20.4139	2,354	0.2%	0.2%
20	Sales Service Impact					2,354	0.2%	0.2%
21	Direct Purchase Impact					2,354	0.4%	1.4%
	Average Rate T1							
22	Delivery Charges	256,683	2.2193	261,140	2.2578	4,457	1.7%	1.7%
23	Federal Carbon Charge	678,921	5.8700	678,921	5.8700	-	0.0%	0.0%
24	Gas Supply Charges	1,424,981	12.3205	1,424,981	12.3205	-	0.0%	0.0%
25	Total Bill	2,360,585	20.4098	2,365,042	20.4483	4,457	0.2%	0.3%
26	Sales Service Impact					4,457	0.2%	0.3%
27	Direct Purchase Impact					4,457	0.5%	1.7%
	Large Rate T1							
28	Delivery Charges	577,642	2.2543	589,802	2.3017	12,160	2.1%	2.1%
29	Federal Carbon Charge	1,504,133	5.8700	1,504,133	5.8700	-	0.0%	0.0%
30	Gas Supply Charges	3,157,015	12.3205	3,157,015	12.3205	-	0.0%	0.0%
31	Total Bill	5,238,790	20.4448	5,250,950	20.4922	12,160	0.2%	0.3%
32	Sales Service Impact					12,160	0.2%	0.3%
33	Direct Purchase Impact					12,160	0.6%	2.1%
	Small Rate T2							
34	Delivery Charges	737,331	1.2443	756,715	1.2770	19,385	2.6%	2.6%
35	Federal Carbon Charge	3,478,327	5.8700	3,478,327	5.8700	-	0.0%	0.0%
36	Gas Supply Charges	7,300,635	12.3205	7,300,635	12.3205	-	0.0%	0.0%
37	Total Bill	11,516,293	19.4348	11,535,678	19.4675	19,385	0.2%	0.2%
38	Sales Service Impact					19,385	0.2%	0.2%
39	Direct Purchase Impact					19,385	0.5%	2.6%
	Average Rate T2							
40	Delivery Charges	1,781,985	0.9009	1,850,239	0.9355	68,254	3.8%	3.8%
41	Federal Carbon Charge	11,610,264	5.8700	11,610,264	5.8700	-	0.0%	0.0%
42	Gas Supply Charges	24,368,698	12.3205	24,368,698	12.3205	-	0.0%	0.0%
43	Total Bill	37,760,947	19.0914	37,829,201	19.1260	68,254	0.2%	0.3%
44	Sales Service Impact					68,254	0.2%	0.3%
45	Direct Purchase Impact					68,254	0.5%	3.8%
	Large Rate T2							
46	Delivery Charges	2,945,626	0.7959	3,068,055	0.8290	122,429	4.2%	4.2%
47	Federal Carbon Charge	21,724,224	5.8700	21,724,224	5.8700	-	0.0%	0.0%
48	Gas Supply Charges	45,596,815	12.3205	45,596,815	12.3205	-	0.0%	0.0%
49	Total Bill	70,266,666	18.9864	70,389,094	19.0195	122,429	0.2%	0.3%
50	Sales Service Impact					122,429	0.2%	0.3%
51	Direct Purchase Impact					122,429	0.5%	4.2%
	Large Rate T3							
52	Delivery Charges	5,699,774	2.0900	5,934,595	2.1761	234,821		4.1%
53	Gas Supply Charges	33,599,482	12.3205	33,599,482	12.3205	-		0.0%
54	Total Bill	39,299,256	14.4105	39,534,077	14.4966	234,821		0.6%
55	Sales Service Impact					234,821		0.6%
56	Direct Purchase Impact					234,821		4.1%

Notes:
(1) EB-2020-0095 Settlement Agreement filed October 6, 2020, Exhibit D, Tab 2, Rate Order, Working Papers, Schedule 4.

ENBRIDGE GAS INC.

Answer to Interrogatory from
The Association of Power Producers of Ontario ("APPrO")

INTERROGATORY

Reference:

Exhibit B, Tab 2, Schedule 1, Page 20 of 33

Preamble:

London Line Replacement

"Construction of 51.5 km NPS 4 and 39 km of NPS 6 dual fed pipeline operating at a maximum operating pressure of 3447 kPa. This 90.5 km replacement pipeline will run from Dawn Hub, 82.1 km east to Komoka Station in addition to adding a second feed comprising of 8.4 km NPS 6 from Strathroy Gate station. This proposed replacement will result in the abandonment of the existing London Lines, which are comprised of the 60 km London South Line and 75 km London Dominion Line. The Project is a replacement of the entirety of the existing London Lines. There are 148 services and 25 stations that will be upgraded and 9 new stations installed to facilitate the new proposed pipeline pressure."

Question:

a) How many gas-fired generators are served by the existing London Lines?

b) How many gas fired generators will be served by the London Line replacement?

Response

a) There are no power-producing gas-fired generators served by the existing London Lines.

b) There are no power-producing gas-fired generators that will be served by the London Lines replacement.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Building Owners and Managers Association, Greater Toronto ("BOMA")

INTERROGATORY

Reference:

Exhibit B/Tab 2/Schedule 1/Page 4 of 33, Footnote 9

Preamble:

System access capital does not include Community Expansion and Compressed Natural Gas.

Question:

a) Please explain why system access capital does not include Community Expansion and Compressed Natural Gas.

Response

a) Community Expansion is excluded for ICM determination purposes as the projects are outside of base rates and have a separate mechanism for cost recovery. Compressed Natural Gas projects with the exception of NGV stations for Enbridge Gas's own fleet are also excluded as they are considered part of the ancillary business and are supported by discrete project specific revenues.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Building Owners and Managers Association, Greater Toronto ("BOMA")

INTERROGATORY

Reference:

Exhibit B/Tab 2/Schedule 1/Page 17 of 33/Paragraph 37

Preamble:

St. Laurent NPS 12 Replacement

…A Leave to Construct application is expected to be filed in December, 2020 for the remaining two phases of the project. For ICM eligibility purposes, each phase of the project has been evaluated individually based on the total in-service capital of that phase. In this application, Enbridge Gas is seeking ICM funding for Phase 3 of the project with a projected in-service date of December 2021. The Business Case for this project is filed in Table 8 below and will be updated after the Leave to Construct application has been filed with the OEB.

Question:

a) What is the status of the Leave to Construct application for the remaining two phases of the St. Laurent NPS 12 Replacement project?

Response

Please see Exhibit I.APPrO.1 a).

ENBRIDGE GAS INC.

Answer to Interrogatory from
Building Owners and Managers Association, Greater Toronto ("BOMA")

INTERROGATORY

Reference:

Exhibit B/Tab 2/Schedule 1/Page 19 of 33

Preamble:

St. Laurent NPS 12 Replacement

All of the remaining phases of the project will be filed in the Leave to Construct application in December, 2020 and will be placed into service between 2021 and 2022. Only Phase 3 of the project is being requested as ICM as part of this Rate application. Phase 3 of the project includes replacement of approximately 9 kms of the pipeline along Lower Section, Montreal to Rockcliffe and Coventry/Cummings/St. Laurent;

Question:

a) Why is only Phase 3 of the project being requested as ICM as part of this Rate application?

b) Will other phases of the project be requested as ICM as part of future Rate applications?

Response

a) The St. Laurent project is a multi phase project that is being completed over several years. As this application is for 2021 rate setting, only projects with an expected in-service date in 2021 are eligible for ICM funding as set out in the "Report of the Board – New Policy Options for the Funding of Capital Investments: The Advanced Capital Module, EB-2014-0219". Phase 3 of the St. Laurent project is the only phase with 2021 expected in-service dates.

b) Enbridge Gas expects to request ICM treatment for Phase 4 of the St. Laurent Project.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Canadian Manufacturers & Exporters ("CME")

Interrogatory

Reference:

Exhibit B, Tab 2, Schedule 1, pages 15 and 17 of 33

At page 17 of 33 of the application, EGI stated "The Business Case for this project is filed in Table 8 below and will be updated after the Leave to Construct application has been filed with the OEB."

Question:

(a) What is the current status of the Leave to Construct Application for Phase 3 of the St. Laurent Project?

(b) Please provide the update to the business case for this project when it is available.

(c) When filing the updated business case, including details of the alternatives considered, please provide the costs of the alternatives in the same manner as requested in CME #2(b).

(d) With respect to this project, please describe how the phases of the St. Laurent project are distinct enough to qualify as 'discrete projects' for the purposes of ICM treatment.

Response

a) Please see Exhibit I.APPrO.1 a).

b) The Business Case for the St. Laurent NPS 12 Replacement Project (Phase 3) will be updated after the Leave to Construct application is filed. Note, however, that the determination of the need for Phase 3 and Phase 4 of the Project will be made in the Leave to Construct proceeding.

c) Alternatives considered will be described in the Leave to Construct application evidence, and will form part of the justification for the St. Laurent Project.

d) As will be explained in the evidence in the Leave to Construct application, Phase 3 of the Project needs to be in-service in order for Phase 4 of the Project to proceed.

Phase 3 is required in order to install smaller diameter intermediate pressure pipelines to ensure continued gas distribution service to existing customers. The purpose of Phase 3 is to move customers currently serviced from the extra high pressure system (which will be replaced in Phase 4 of the Project) onto the intermediate pressure system. These customers are currently served by pipelines that will be abandoned over the course of constructing Phase 3 and Phase 4 of the project. Phase 4 of the Project involves the construction of the pipeline that will replace the existing St. Laurent extra high pressure pipeline.

Phase 3 is a distinct project from the perspective of ICM treatment as its in-service date is expected to be in 2021. The Phase 3 in-service date is separate from Phase 4, as is the work to be completed for Phase 3 of the Project.

Please see Exhibit I.PP.5(b) for further discussion about why the St. Laurent NPS 12 Replacement Project was grouped into four phases.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Canadian Manufacturers & Exporters ("CME")

Interrogatory

Reference:

Exhibit B, Tab 2, Schedule 1, pages 21-24 of 33

At page 21 of 33, EGI stated that "Analysis conducted by Enbridge Gas has shown that the existing London Lines are in poor condition and have several active degradation factors, including loss of containment, shallow depth of cover, and corrosion induced wall loss."

Question:

(a) Please provide this analysis on the record in this proceeding.

(b) Please provide a table showing the costs of each of the alternatives listed on the same basis as EGI has reported the cost of $161.1 million.

(c) Please break out the $161.1 million into the drivers listed at page 24, including material, construction and labour, land costs, contingencies, overheads, abandonment and interest during construction.

Response

a) Please refer to the London Lines LTC application, EB-2020-0192, Exhibit B, Tab 1, Schedule 1, Condition Assessment (Items 12 to 29 for condition discussion and items 30 and 31 for risk assessment results). Enbridge Gas declines to file this evidence into the current proceeding, as any issues related to the purpose and need of the London Lines Replacement Project are being addressed in the LTC proceeding (note that argument has now been filed in that proceeding, and the Board's Decision is pending).

b) Please refer to the London Lines LTC application, EB-2020-0192, Exhibit B, Tab 2, Schedule 5, Summary of Alternatives for the direct capital and abandonment costs. The $161.1 million includes interest during construction and indirect overhead costs

which are not included in the above-noted exhibit as these values would be proportionally comparable for each alternative. Enbridge Gas declines to file this evidence into the current proceeding, as any issues related to the purpose and need of the London Lines Replacement Project are being addressed in the LTC proceeding (note that argument has now been filed in that proceeding, and the Board's Decision is pending).

c) Refer to the table below for a breakdown of the drivers:

London Line Replacement Project
Total Estimated Project Capital Costs
2021 Rates ICM Application

Category ($000's)	Mainline	Stations	Services	Abandonment	Total
Materials	$ 5,616	$ 1,823	$ 125	$ -	$ 7,564
Construction & Labour	77,321	8,221	4,005	19,776	109,323
Contingencies	11,402	1,310	619	2,633	15,964
Interest During Construction	867	142	49	-	1,058
Indirect Overhead	19,307	2,331	973	4,544	27,155
Total Estimated Capital Costs	**$ 114,513**	**$ 13,827**	**$ 5,771**	**$ 26,953**	**$ 161,064**

ENBRIDGE GAS INC.

Answer to Interrogatory from
Canadian Manufacturers & Exporters ("CME")

Interrogatory

Reference:

Exhibit B, Tab 2, Schedule 1, pages 27 of 33

At page 27 of 33, EGI stated "The budget of $32.9 million is updated from the EB-2019-0218 filing budget of $30.8 million. The variance between the budget and the leave to construct is due to a change in overhead allocations. The budget covers all costs related to material, construction and labour, land costs, contingencies, overheads, and interest during construction."

Question:

(a) Please break out the $32.9 million into the drivers listed at page 24, including material, construction and labour, land costs, contingencies, overheads, abandonment and interest during construction.

Response

a) Please see the breakout below for the revised budget of $32.9M:

NPS 20 Dow to Bluewater Pipeline
Total Estimated Project Capital Costs
2021 Rates ICM Application

Category ($000's)	Pipeline	Station	Total
Materials and Equipment	$ 2,858	$ 1,554	$ 4,412
Construction & Labour (incl. Lands)	14,580	3,905	18,485
Contingencies	3,487	1,092	4,579
Interest During Construction	275	70	345
Indirect Overhead	3,842	1,200	5,042
Total Estimated Capital Costs	**$ 25,042**	**$ 7,821**	**$ 32,863**

Please see Exhibit I.APPrO.2 for a comparison between the budget filed in the EB-2019-0218 LTC Application and the updated budget presented in this proceeding.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Canadian Manufacturers & Exporters ("CME")

Interrogatory

Reference:

Exhibit B, Tab 2, Schedule 1, pages 28 of 33

At page 28 of 33 of the application, EGI stated "The projects for which Enbridge Gas is seeking ICM funding address integrity issues, provide for more robust supplies to the system and allow additional customer load to access the system."

Question:

1. Were customers ever consulted about any of these projects in particular, or more generally regarding the need to invest in any of these sections of the systems? If yes, please describe fully what the consultations consisted of and what preferences, if any, were expressed with respect to these projects or segments of system.

Response

Customers were consulted about these types of projects in general through the 2020 Customer Engagement Survey. The survey did not ask about these specific projects.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Environmental Defence ("ED")

Interrogatory

Reference:

Exhibit B, Tab 2, Schedule 1, p. 19

Question:

a) For each of the three proposed projects, please provide Enbridge's forecast of the demand that will be served by the pipelines in question. Please include annual demand, design day demand, and peak hour demand. Please provide Enbridge's forecasts over as long of a period as the information is available.
b) For each of the three proposed projects, please provide the threshold demand figures at which a downsized pipe be sufficient.
c) For each of the three proposed projects, please provide the cost savings from a downsized pipe.
d) If the actual demand turns out to be less than forecast demand, is there any process to reassess the prudence and reasonable of the expenditures in relation to the three ICM projects? Please explain.
e) If there are cost overruns with respect to the process above the budgeted amounts, is Enbridge able to apply to recover those amounts? If yes, in what application and when would such application be filed?
f) Would Enbridge agree to file

Response

a) to c) Enbridge Gas declines to file the information requested into the current proceeding, as any issues related to the purpose and need of the proposed projects are addressed in the LTC proceeding for each of the projects. The Sarnia reinforcement project LTC application was approved by the Board in EB-2019-0218. The London Line Replacement Project is currently before the Board for approval (EB-2020-0192). For the St Laurent Replacement project, please see Exhibit.I.APPrO.1.

d) No, there is no process to revisit Leave to Construct approvals where demand turns out to be less than forecast.

e) and f) As per the Board decision in EB-2019-0194, Enbridge Gas will not be able to seek additional funding beyond the approved amount for ICM projects during the deferred rebasing period. The OEB will review the actual ICM spending against plan in the next rebasing application.[1] Specifically, in the next rebasing application, the OEB will review the ICM spending against plan. Any variance between the actual revenue requirement and actual revenues collected through ICM rates approved by the Board will be recorded in the ICM deferral account. The amount in the ICM deferral account will be reviewed by the Board in a future rate hearing when Enbridge Gas brings forward the account for disposition in a manner designated by the Board.

[1] EB-2019-0194, Decision and Order, dated May 14, 2020, p.13

ENBRIDGE GAS INC.

Answer to Interrogatory from
Environmental Defence ("ED")

Interrogatory

Reference:

Exhibit C, Tab 1, Schedule 1, Page 8

"Enbridge Gas is committed to being part of the transition to a lower carbon economy. Examples of this include support for programs such as Renewable Natural Gas, Compressed Natural Gas, and the integration of gas and electric infrastructures using technology like combined heat and power, geothermal loops and hydrogen storage and blending."

Question:

a) What is Enbridge's assessment of the likelihood that the transition to a lower carbon economy will involve the electrification of at least 50% Ontario's space and water heating in (a) 2030, (b) 2040, and (c) 2050?
b) What is Enbridge doing to assess and consider the likelihood of the scenarios referred to in (a)?

Response

a) Enbridge Gas anticipates some electrification to occur over the long term. However, how much electrification and at what pace is difficult to predict given the cost advantage natural gas has over electricity for customers' heating bills.

b) Please see Exhibit I.SEC.6 h) for more information on assessments Enbridge Gas is currently undertaking.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Environmental Defence ("ED")

Interrogatory

Reference:

Reference: Exhibit C, Tab 1, Schedule 1, Page 8

"Enbridge Gas is committed to being part of the transition to a lower carbon economy. Examples of this include support for programs such as Renewable Natural Gas, Compressed Natural Gas, and the integration of gas and electric infrastructures using technology like combined heat and power, geothermal loops and hydrogen storage and blending."

Question:

a) Please list and describe all of Enbridge's current and planned applications that relate to its commitment to be a part of the transition to a lower carbon economy. Please include potential applications, whether or not they would be filed in the near future.

Response

Enbridge Gas has put forth a number of applications that relate to its commitment to be a part of the transition to a lower carbon economy. Those recent, and current applications include:

1. All previous and current DSM plans, including the anticipated upcoming 2022 and multi-year filings
2. Cap and Trade Compliance Plans
3. Federal Carbon Charge Compliance Plans
2. Low Carbon Energy Project – EB-2019-0294
3. Voluntary Program for Renewable Natural Gas – EB–2020-0066
4. Integrated Resource Planning – EB-2019-0159 and EB-2020-0091

ENBRIDGE GAS INC.

Answer to Interrogatory from
Environmental Defence ("ED")

Interrogatory

Reference:

Exhibit C, Tab 1, Schedule 1, Page 43

"Enbridge Gas is committed to being part of the transition to a lower carbon economy. Examples of this include support for programs such as Renewable Natural Gas, Compressed Natural Gas, and the integration of gas and electric infrastructures using technology like combined heat and power, geothermal loops and hydrogen storage and blending."

Question:

a) Please provide a table with a breakdown of the forecast system access spending each year over 2021 to 2025 by the assert programs listed in table 1 (e.g. CC - Commercial/Bulk-Metered – Conversion; CC - Commercial/Bulk-Metered – New). Please use best efforts. If that level of detail is too granular, please provide a higher-level breakdown. Please also include a column and breakdown for the total over 2021 to 2025.
b) Please provide a table with a breakdown of the forecast system access spending each year over 2016 to 2020 by the assert programs listed in table 1 (e.g. CC - Commercial/Bulk- Metered – Conversion; CC - Commercial/Bulk-Metered – New). Please use best efforts. If that level of detail is too granular, please provide a higher-level breakdown. Please also include a column and breakdown for the total over 2021 to 2025.
c) Please provide a description of all the asset programs under the system access category listed in table 2.
d) Please provide the forecast annual demand (m3) for all system access spending over 2016 to 2020 (actuals, annual and 5-year total) and 2021 to 2025 (forecast, annual and 5-year total.
e) Please provide a breakdown of the demand figures provided in (d) by customer type.
f) Please provide the carbon emissions from burning natural gas in Ontario (t CO2e per m3).

Response

a)

System Access (EGI) ($ Millions)	2021	2022	2023	2024	2025	(2021-2025) Forecast
Compression Stations	5.0	27.7	16.4	1.6	0.0	50.8
Customer Connections	212.4	207.0	219.5	213.3	226.7	1078.9
Distribution Pipe	38.6	41.0	43.3	42.2	44.8	210.0
Distribution Stations	2.1	2.2	1.9	0.9	1.0	8.0
EA Fixed O/H	8.3	8.4	8.5	8.5	8.6	42.4
Growth	2.7	0.0	0.0	0.0	0.0	2.7
Utilization	18.3	18.5	20.0	19.4	20.9	97.2
Grand Total	**287.4**	**304.8**	**309.5**	**286.1**	**302.1**	**1490.0**

Consistent with other Tables in the USP, Overheads are included in the Table above for 2021-2025.

b)

System Access (EGI) ($ Millions)	2016A	2017A	2018A	2019A	2020B	(2016-2020) Total
Customer Connections	154.2	157.0	159.8	190.4	171.1	832.4
Distribution Pipe	30.0	20.7	10.1	26.9	5.5	93.2
Distribution Stations	6.4	2.1	7.3	0.5	1.0	17.2
Growth	0.0	7.8	15.7	0.0	2.1	25.6
Utilization	34.2	26.1	15.9	8.0	22.1	106.3
Grand Total	**224.7**	**213.7**	**208.8**	**225.8**	**201.7**	**1074.7**

Consistent with other Tables in the USP, Overheads are not included in the Table above for 2016-2020.

c) A description of each of the system access asset programs can be found in the Asset Management Plan Section 5, filed at Exhibit C, Tab 2, Schedule 1 – Page references below:
    a. Customer Connections, page 72
    b. Distribution Pipe, page 90
    c. Distribution Stations, page 126
    d. Growth, page 72
    e. Utilization, page 152
    f. Compression Stations, page 191
    g. Transmission Pipe and Underground Storage, page 185

d) to e) The requested information is not relevant to the relief being sought in this proceeding.

f) Please see Exhibit.I.SEC.6 a).

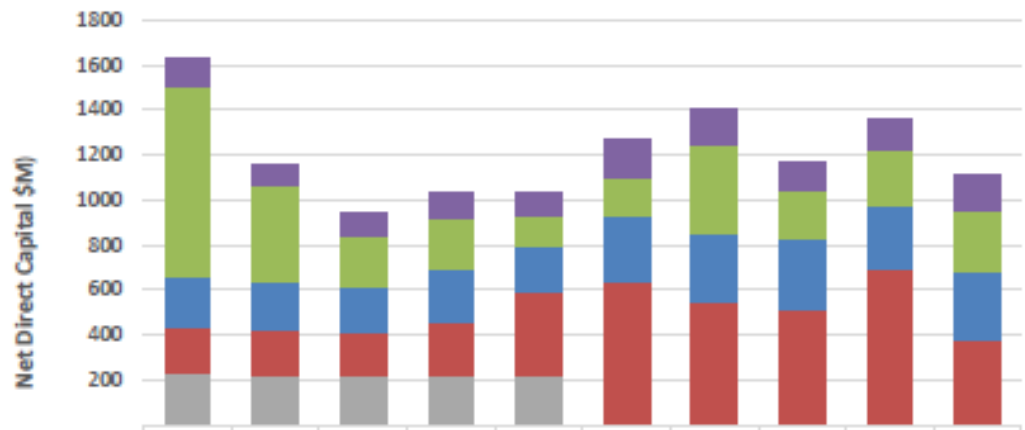
ENBRIDGE GAS INC.

Answer to Interrogatory from
Environmental Defence ("ED")

Interrogatory

Reference:

Exhibit C, Tab 1, Schedule 1, Page 46



	2016A	2017A	2018A	2019A	2020B	2021F	2022F	2023F	2024F	2025F
General Plant	127	91	95	117	101	169	163	119	128	159
System Service	848	429	224	231	135	171	387	217	245	271
System Access	224	213	209	226	202	287	305	310	286	302
System Renewal	199	196	191	239	369	644	551	518	693	380
Overhead	234	227	221	225	224					
Grand Total	1632	1157	940	1038	1031	1270	1406	1163	1353	1112

Question:

a) Please explain why system access is expected to be larger than the previous 5-year average over 2021-2025. Please explain all relevant factors.

b) Please provide a table showing for each year in 2021-2025 the difference between the forecast system access amount and the average system access amount over

2016 to 2020. For each year, please provide an estimated of the difference by the various drivers of the difference.

Response

a) System Access spend is expected to increase over the previous average due to the following factors:

- Years 2021-2025 include overheads which were not previously included within the category. The addition of overheads (~$50-72M per year) in 2021-2025 constitutes most of the variance.
- The Dawn Dehy Expansion investment has significant spend in years 2022 & 2023
- Average increases in Customer Connections of $5M per year due to customer growth and inflation

b) Please see the table below:

System Access ($M)	**2021**	**2022**	**2023**	**2024**	**2025**
Per Exhibit C	287	305	310	286	302
Average Historical Spend	215	215	215	215	215
Variance	**72**	**90**	**95**	**71**	**87**

	Variance	**Explanation**
2021	$72M	$50M in Overheads, $5M for Dawn Dehy Expansion, ~$5M average increase in Customer Connections. Remaining variance from small incremental increases remainder of System Access portfolio.
2022	$90M	$52M in Overheads, $28M for Dawn Dehy Expansion, ~$5M average increase in Customer Connections. Remaining variance from small incremental increases remainder of System Access portfolio.
2023	$95M	$67M in Overheads, $16M for Dawn Dehy Expansion, ~$5M average increase in Customer Connections. Remaining variance from small incremental increases remainder of System Access portfolio.
2024	$71M	$56M in Overheads, $2M for Dawn Dehy Expansion, ~$5M average increase in Customer Connections. Remaining variance from small incremental increases remainder of System Access portfolio.
2025	$87M	$72M in Overheads, ~$5M average increase in Customer Connections. Remaining variance from small incremental increases remainder of System Access portfolio.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Environmental Defence ("ED")

Interrogatory

Reference:

Exhibit C, Tab 1, Schedule 1, Pages 37 & 55 to 58 (Tables 4 and 5)

Tables 4 and 5 list potential ICM projects. Enbridge states at page 37 that it is committed to IRP.

Question:

a) Please provide a copy of tables 4 and 5 which removes the general plant rows and adds the following columns (i) whether an IRP analysis has been undertaken, (ii) whether all IRP alternatives have already been screened out, and (iii) whether the project is driven all or in part by forecast demand growth.
b) For each of projects listed in tables 4 and 5 (excluding general plant projects) please provide a brief description of the primary driver.
c) For each of projects listed in tables 4 and 5 that are driven in whole or part by demand growth, please provide (i) a ten-year demand growth forecast, (ii) the available supply before and after the project, and (iii) a forecast of the supply deficit.
d) For each of projects listed in tables 4 and 5 that are replacement, please provide (i) a ten-year demand forecast, (ii) the threshold at which a smaller pipe can be employed, and (iii) the forecast savings for a downsized pipe.

For each of the above, please provide answers on a best efforts basis with any caveats as necessary. It is understand that these projects are still in development.

Response

a) Please see Enbridge Gas's response at Exhibit I.ED.11 b).

b) The primary driver for the projects in tables 4 and 5 can be found in the Asset Management Plan, filed at Exhibit C, Tab 2, Schedule 1, pages 34-36, Tables 1.9-2 and 1.9-3.

c) and d) The requested information is not relevant to this proceeding. The projects listed in Table 4 and 5 includes projects beyond 2021. Enbridge Gas is not seeking any relief for these projects in this application. Also, please see Enbridge Gas's response at Exhibit I.ED.1 a) to c).

ENBRIDGE GAS INC.

Answer to Interrogatory from
Environmental Defence ("ED")

Interrogatory

Reference:

Exhibit C, Tab 1, Schedule 1, Pages 37 & 55 to 58 (Tables 4 and 5)

Tables 4 and 5 list potential ICM projects. Enbridge states at page 37 that it is committed to IRP.

Question:

a) Please provide equivalent information as is in Tables 4 and 5 for other potential projects that would come into service after 2023.
b) Please provide equivalent information as is in Tables 4 and 5 for other potential projects other than ones for which Enbridge is seeking ICM approval.

Response

a) The potential projects that would come into service after 2023 is provided in the Asset Management Plan ("AMP"), Exhibit C, Tab 2, Schedule 1, Table 1.9-2 and 1.9-3, page 34-35.

b) Enbridge Gas completes several thousand projects a year and it would be too numerous to include all of these projects. For purposes of table 4 and 5, Enbridge Gas has included all materially significant projects greater than $10 million. Further details about forecast projects is set out in the AMP (Exhibit C, Tab 2, Section 1).

ENBRIDGE GAS INC.

Answer to Interrogatory from
Environmental Defence ("ED")

Interrogatory

Reference:

Exhibit C, Tab 1, Schedule 1, Page 65-66

Question:

a) Please provide the Historical Profitability Index - Investment Portfolio and Rolling Project Portfolio from 1990 to today. Please combine the Union and Enbridge figures. Please represent the data in a chart and include a trend line.
b) If the response to (a) shows a declining trend, please explain why and comment on how Enbridge plans to address this going forward.

Response

a) and b) The historical Profitability Index (PI) for Investment Portfolio and Rolling Project Portfolio for the Union and EGD rate zones has been included in the pre-filed evidence at Exhibit C, Tab 1, Schedule 1, Figure 14 and Figure 15. Combining the Union and EGD figure from 1990 to today is a huge undertaking and Enbridge Gas declines to provide these figures as the Company believes that the information requested is not relevant to the relief being sought in this application.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Environmental Defence ("ED")

Interrogatory

Reference:

Asset Management Plan 2021-2025, pp. 34-36
Table 1.9-2 and Table 1.9-3 list the ICM-eligible capital projects by rate zone.

Question:

a) Please provide a copy of tables 1.9-2 and 1.9-3 which adds the following columns (i) whether an IRP analysis has been undertaken, (ii) whether all IRP alternatives have already been screened out, and (iii) whether the project is driven all or in part by forecast demand growth.
b) For each of projects listed in tables 1.9-2 and 1.9-3 that are driven in whole or part by demand growth, please provide (i) a ten-year demand growth forecast, (ii) the available supply before and after the project, and (iii) a forecast of the supply deficit.
c) For each of projects listed in tables 1.9-2 and 1.9-3 that are replacement, please provide (i) a ten-year demand forecast, (ii) the threshold at which a smaller pipe can be employed, and (iii) the forecast savings for a downsized pipe.
d) For each of projects listed in tables 1.9-2 and 1.9-3 where a "network analysis" is mentioned, please provide said network analysis.

Response

a) Enbridge Gas looks forward to more clarity out of the IRP proceeding currently underway as to the Board's expectations for where, when and how IRP needs to be considered.

   To-date, IRP analysis and alternatives have not been specifically scoped for the identified ICM projects that are driven by customer growth. Moving forward, as the IRP Framework issued by the Board is clearly defined, then Enbridge Gas expects to implement the Board's expectations into its project review and implementation processes.

The Primary Driver column in the table below specifies if a project is Growth or Replacement.

b) to d) The Growth projects in tables 1.9-2 and 1.9-3 in the Asset Management Plan have been identified through a robust process that incorporates Hydraulic pipeline modeling, Econometric Forecasting, and confidential customer information. The Replacement Projects have been identified through a similar robust process that reviews asset condition and associated risks. As projects get closer to construction they are reviewed to ensure the project scope is still accurate. The Project is then filed with the Ontario Energy Board through a Leave To Construct application – the LTC process allows for projects to be thoroughly reviewed and vetted by the Board and interested parties. The LTC materials will include information about load forecasts, as well as other relevant information (which may include network analysis and options analysis). Depending on the requirements of the IRP Framework, Enbridge Gas may file such information in different formats in the future.

Enbridge Gas has filed LTC applications for the London Line Replacement and the Sarnia Industrial Line Reinforcement ICM projects for 2021. The LTC application for the St Laurent NPS 12 Replacement ICM project will be filed early in 2021. The filings in those proceedings include relevant information about the purpose, need and alternatives for each of the projects. The Company declines to provide further information in this proceeding about potential future ICM projects.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Environmental Defence ("ED")

Interrogatory

Reference:

Asset Management Plan 2021-2025, pp. 34-36
Table 1.9-2 and Table 1.9-3 list the ICM-eligible capital projects by rate zone.

Question:

a) Please provide equivalent information as is in Tables 1.9-2 and 1.9-3 for other potential projects (e.g. ones that may have been excluded because they would not be funded via ICM or would be needed further out in the future).

Response

a) The Asset Management Plan 2021-2025 (AMP) is a snapshot in time of the investments that Enbridge Gas believes are required to meet the needs of customers and maintain the safety and reliability of the system. As such, all known investments are included, provided that purpose, need and timing have been established. Many factors can impact the timing of the investment and it is an ongoing effort to determine the best way to address risks and opportunities in a cost-effective manner.

   The funding mechanism is not part of the process of identifying and evaluating investments. As such, there are no investments that have been excluded from the AMP because they are not ICM-Eligible. In addition to this, all investments with a 2021 spend above two million dollars, or a 2021-2025 spend above five million dollars are included in the Appendix to the AMP. Summaries of the planned projects and capital expenditures detailed in the AMP can be found in the Summary documents at the end of each subsection within section 5 of the AMP.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Environmental Defence ("ED")

Interrogatory

Reference:

Asset Management Plan 2021-2025, p. 48.

Integrated Resource Planning (IRP) impacts have not explicitly been reflected in this asset management plan.

Question:

a) Please provide excerpts of all Board decisions that provide directions to Enbridge regarding IRP, including the rationale and commentary included in the decision.
b) Please reconcile Enbridge's decision not to reflect IRP in its asset management plan with the past Board decisions on IRP.
c) Does Enbridge propose to issue a new AMP following the decision in EB-2019-0159? If yes, how long afterwards?
d) How long would Enbridge require to issue a new AMP that explicitly reflect IRP?

Response

a) Please see EB-2020-0091, Exhibit B, Pages 4-9 (filed October 15, 2002), for a summary of Board decisions with respect to IRP.

b) In the absence of an IRP Framework for Enbridge Gas, the AMP was completed in mid-2020 based on best available information, for the purposes of 2021 Rates. The Board's IRP Framework proceeding is ongoing and the outcomes are not known. Enbridge Gas expects that future versions of its AMP and USP as well as applications to the OEB for Leave to Construct facilities will reflect the IRP Framework ultimately established by the Board for Enbridge Gas.

Please refer also to Exhibit I.SEC.21.

c) and (d). It is not clear whether an OEB decision on the IRP Framework will be available before the next AMP is prepared. Enbridge Gas does intend to reflect the findings and directions from the IRP Framework proceeding into its planning processes as soon as practicable following the end of that proceeding. However, until the IRP Framework is released, Enbridge Gas cannot predict how long it will take to implement the findings and directions, or to prepare (if necessary) an updated AMP.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Environmental Defence ("ED")

Interrogatory

Reference:

Asset Management Plan 2021-2025, p. 74.

Question:

a) Please provide the annual consumption (m3) for the average (i) residential, (ii) commercial, and (iii) industrial customer from 2010 to present (actuals) and to 2030 (forecast).
b) Please provide the response to (a) adjusted for weather.
c) Please discuss any trends over time.

Response

a) to c) Enbridge Gas declines to provide the requested information as the Company believes that the information requested is not relevant to the relief being sought in this proceeding.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Environmental Defence ("ED")

Interrogatory

Reference:

Asset Management Plan 2021-2025, p. 74

Question:

a) Please provide the forecast annual consumption (m3) for the customers to be added in 2020 to 2030 over both rate zones, both on an annual basis and as a cumulative 11-year total.

Response

Enbridge Gas declines to provide the requested information as the Company believes that the information requested is not relevant to the relief being sought in this proceeding.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Environmental Defence ("ED")

Interrogatory

Reference:

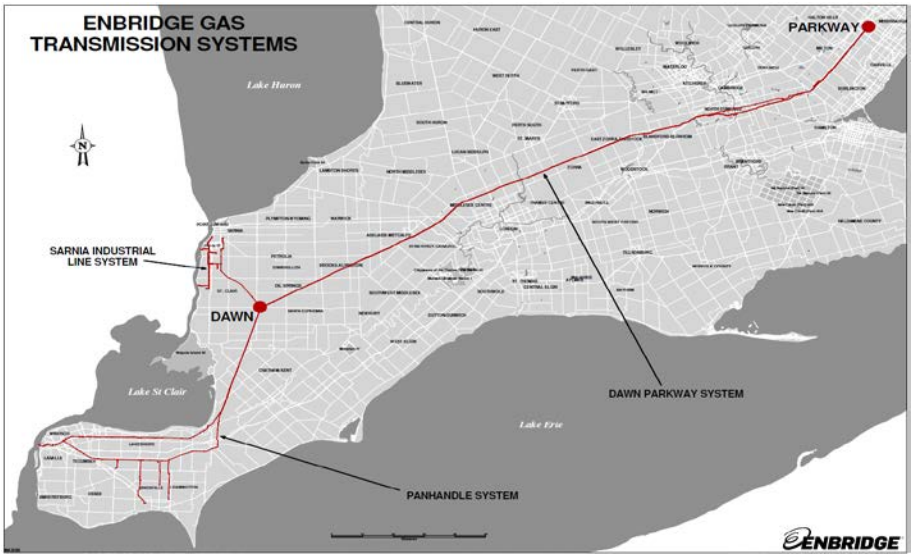
Asset Management Plan 2021-2025, p. 86

Question:

a) Please provide a map of all of Enbridge's gas transmission lines in Ontario.
b) How does Enbridge distinguish between transmission and distribution lines?
c) Please provide a map distinguishing between Enbridge's gas transmission lines in Ontario and its larger distribution lines (e.g. NPS 6 or larger).

Response

a)



b) As set out in Enbridge Gas's Asset Management Plan 2021-2025 ("AMP") at p. 207, Section 5.5.8, the AMP defines transmission pipelines as those connecting compressor stations to custody transfer points or other transmission pipelines and distribution networks and that generally operate at or above 30% Specified Minimum Yield Strength ("SMYS"). An example of a transmission pipeline is the Dawn to Parkway Transmission System.

c) Given the volume of larger size distribution pipelines (NPS 6 & larger) contained within Enbridge Gas's distribution network Enbridge Gas does not maintain a map of the nature requested by ED. A system map containing the level of detail requested would be highly congested and would provide no value to the Board's assessment of Enbridge Gas's ICM Application.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Environmental Defence ("ED")

Interrogatory

Reference:

Asset Management Plan 2021-2025, p. 278

"EGI is cognizant that there may be impacts to customer growth forecasts based on climate/carbon policies"

Question:

a) Please provide all materials (e.g. reports, papers, presentations, etc) prepared or commissioned by Enbridge regarding the potential impacts of climate/carbon policies on (i) Enbridge, (ii) its customers, (iii) the gas market in Ontario, or (iv) load forecasting.
b) Please provide all demand forecasts underlying the USP and AMP.
c) Please quantify how the planning $170/tonne carbon price will impact the demand forecasts underlying the USP and AMP. Please provide updated forecasts taking this into account.
d) Please quantify how the planning $170/tonne carbon price will impact the NPV, PI, and other financial figures for the projects Enbridge is seeking ICM approval for. Please provide updated demand forecasts for those projects taking this into account.
e) Please describe how this may or may not impact the specific ICM requests made in this application.

Response

a) Please refer to Exhibit I.SEC.6 (h).

b) Please refer to Exhibit I.ED.13.

c) Please refer to Exhibit I.SEC.6 (e). Because the federal carbon price increase is proposed but not yet adopted in legislation for implementation, it has not been incorporated into demand forecasts.

d) The project economics for ICM projects are based on what is currently known. Until such time as the increase in the carbon price post 2022 is approved for implementation in Ontario, and relevant details are known, Enbridge Gas is not in a position to evaluate changes to project economics.

e) Please see response to part d).

ENBRIDGE GAS INC.

Answer to Interrogatory from
Environmental Defence ("ED")

Interrogatory

Reference:

Asset Management Plan 2021-2025, p. 278

The AMP states as follows: "EGI is cognizant that there may be impacts to customer growth forecasts based on climate/carbon policies"

In EB-2016-0186 (Panhandle Reinforcement Project), Union Gas stated as follows:

> "Union is proposing the Project at a time of uncertainty resulting from the Ontario Cap and Trade program and the recent issuance of the Ontario government's 5-year (2016-2020) Climate Change Action Plan ("CCAP"). In response to this risk, Union has calculated the revenue requirement and resulting rate impacts of the Project based on a 20-year estimated useful life of the assets rather than the weighted average useful life of approximately 50 years based on Board-approved depreciation rates. Union submits depreciating the asset over a 20-year term better aligns the cost with the timing of reported restrictions and potential elimination of natural gas heating in homes and businesses as noted in the CCAP."[1]

Question:

a) Please describe and quantify how the above-referenced assumptions used in EB-2016-0186 would impact the NPV, PI, and other financial figures for the projects for which Enbridge is seeking ICM approval.

b) Please describe the type and magnitude of changes that would be needed to the USP and AMP to if the above-referenced assumptions used in EB-2016-0186 were applied to Enbridge capital projects going forward. In other words, how would this impact the USP and AMP.

[1] https://www.uniongas.com/-/media/about-us/regulatory/rate-cases/eb-2016-0186-panhandle-reinforcement/UNION_APPL_PanhandleReinforcement_20160610.pdf

Response

a) and b) In its Decision and Order in the Panhandle Reinforcement proceeding (EB-2016-0186), the Ontario Energy Board found that it would be inappropriate to consider a change to the depreciation rate and cost recovery for individual projects or within an IRM term. As a result, the requested analysis is not relevant to the relief being sought in this application.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Energy Probe ("EP")

INTERROGATORY

Reference:

Exhibit B, Tab 2, Schedule 1, Page 2, and Exhibit C, Tab 1, Schedule 1, pages 24 and 59

Question:

a) Considering that the current 2019-2023 multi-year incentive rate mechanism extends to the end of 2023 is Enbridge proposing to maintain separate rate zones for EGD and Union rate zones for 2024 and subsequent years? Please explain your answer.

b) Considering that distributors with a custom IR such as Toronto Hydro and Hydro Ottawa are not eligible for ICM is Enbridge expecting that it would continue to be eligible for ICM for 2024 and subsequent years? Please explain your answer.

Response

a) Enbridge Gas was directed, as part of the MAADs decision[1], to file a proposal for rate harmonization in its next rebasing application. Enbridge Gas is in the process of assessing rate harmonization and will file a proposal as part of the 2024 rebasing application. At this time, Enbridge Gas cannot confirm the rate zones for 2024 and subsequent years.

b) The ICM mechanism was approved as part of the Price Cap rate setting mechanism in the MAADs proceeding[2], which sets out a multi-year incentive rate-setting mechanism (IRM) for the calendar year 2019 to 2023. At this time, Enbridge Gas cannot confirm whether it will propose a similar rate setting mechanism for the next Generation IRM (2024 and beyond). The Company will be filling an IRM proposal as part of its 2024 rebasing application.

[1] EB-2017-0306-0307, Decision and Order dated August 30, 2018, p. 43.
[2] EB-2017-0306/0307

ENBRIDGE GAS INC.

Answer to Interrogatory from
Energy Probe ("EP")

INTERROGATORY

Reference:

Exhibit B, Tab 2, Sch. 1, Pages 4 and 5, Tables 1 and 2

Question:

Please refile Tables 1 and 2 that provide overheads for 2021 to 2025 on the same basis as they are provided for 2016-2020.

Response

Table 1

Capital Expenditures[1] by category (2016-2025) – EGD Rate Zone ($ millions)

Line No.	Category	2016 Actual	2017 Actual	2018 Actual	2019 Actual	2020 Forecast
		(b)	(c)	(d)	(e)	(e)
1	General Plant	82.6	48.1	47.3	70.4	61.0
2	System Access[9]	118.3	109.3	108.9	151.1	126.9
3	System Renewal	109.1	102.2	92.3	110.4	161.8
4	System Service	127.1	20.2	22.9	23.9	25.9
5	Total Overhead	156.4	148.1	140.2	151.6	140.2
6	**Total - EGD Rate Zone**	**593.5**	**427.8**	**411.6**	**507.4**	**515.8**

[1] Capital expenditure shown for 2016-2018, In-Service for 2019-2025.

Line No.	Category	2021 Budget	2022 Budget	2023 Budget	2024 Budget	2025 Budget
		(f)	(g)	(h)	(i)	(j)
1	General Plant	85.0	49.9	87.2	44.4	47.7
2	System Access[2]	139.8	137.0	176.4	136.4	134.1
3	System Renewal	215.7	333.0	169.8	371.9	215.5
4	System Service	43.1	26.5	21.8	31.7	70.9
5	Total Overhead[3]	96.7	114.9	124.1	139.4	114.2
6	**Total - EGD Rate Zone**	**580.3**	**661.2**	**579.3**	**723.7**	**582.4**

Table 2

Capital Expenditures[4] by category (2016-2025) – Union Rate Zones ($ millions)

Line No.	Category	2016 Actual	2017 Actual	2018 Actual	2019 Actual	2020 Fcast
		(b)	(c)	(d)	(e)	(e)
1	General Plant	44.8	42.8	48.0	51.8	28.4
2	System Access[12]	105.6	96.2	83.5	104.4	97.8
3	System Renewal	90.1	94.1	99.4	106.4	191.3
4	System Service	720.5	405.8	201.2	162.1	106.2
5	Total Overhead	77.2	78.6	81.0	83.1	101.7
6	**Total - Union Rate Zones**	**1,038.2**	**717.5**	**513.1**	**507.8**	**525.4**

[2] System access capital does not include Community Expansion and Compressed Natural Gas.
[3] Overheads included with projects costs for 2021-2025
[4] Capital expenditure shown for 2016-2018, In-Service for 2019-2025.

Line No.	Category	2021 Budget	2022 Budget	2023 Budget	2024 Budget	2025 Budget
		(f)	(g)	(h)	(i)	(j)
1	General Plant	45.5	46.5	61.9	57.6	71.9
2	System Access[5]	123.5	270.1	98.6	200.5	99.5
3	System Renewal	268.5	162.5	154.9	273.2	108.2
4	System Service	76.5	100.0	137.5	41.8	132.9
5	Total Overhead[6]	113.4	126.7	139.3	150.6	109.0
6	**Total - Union Rate Zones**	**627.0**	**705.9**	**592.3**	**723.7**	**521.4**

[12] System access capital does not include Community Expansion and Compressed Natural Gas.
[6] Overheads included with projects costs for 2021-2025

ENBRIDGE GAS INC.

Answer to Interrogatory from
Energy Probe ("EP")

INTERROGATORY

Reference:

Exhibit B, Tab 2, Schedule 1, Pages 4 and 5, Tables 1 and 2; Exhibit B, Tab 2 Schedule 1, Page 9, Table 3.

Question:

a) For each Capital Expenditures RZ Table please provide the annual averages and standard deviation for each category.

   • Pre-merger years
   • Post-merger years
   • Total 2015-2025

b) Please compare the computed averages to the Thresholds calculated for each RZ in Table 3 and to the maximum Eligible Incremental Capital in Table 6.

c) Please discuss the significance of the Standard Deviation of Capital Expenditures to the Thresholds and the Maximum Eligible Incremental capital

Response

a) The interrogatory refers to the total period of 2015 to 2025 but the data contained in Tables 1 and 2 corresponds to years 2016 to 2025. The calculated average and the standard deviation by category shown below are based on data corresponding to Tables 1 and 2.

   EGI interprets that the interrogatory refers to the following periods:
   -Pre-merger: years 2016 to 2018
   -Post-merger: years 2019 to 2025
   -Total Period: years 2016 to 2025

Capital Expenditures by category (2016-2025) - EGD Rate Zone ($ millions)

		Average			Standard Deviation		
		Pre-merger 2016-2018	Post-merger 2019-2025	Total 2016-2025	Pre-merger 2016-2018	Post-merger 2019-2025	Total 2016-2025
General Plant		59.3	74.5	69.9	16.5	21.2	21.1
System Access		112.2	166.7	150.4	4.4	26.9	33.8
System Renewal		101.2	268.8	218.5	6.9	116.3	124.0
System Service		56.7	41.2	45.9	49.8	21.2	33.3
Total Overhead		148.2	145.9	147.3	6.6	5.7	6.4
Total - EGD Rate Zone	**(a)**	**477.6**	**592.9**	**558.3**	**82.2**	**71.2**	**91.5**
2021 Threshold - EGD Rate Zone	(b)	567.3	567.3	567.3			
Difference	(a-b)	(89.7)	25.6	(9.0)			
2021 Maximum Elegible Incremental Capital		13.0	13.0	13.0			

Capital Expenditures by category (2016-2025) - Union Rate Zone ($ millions)

		Average			Standard Deviation		
		Pre-merger 2016-2018	Post-merger 2019-2025	Total 2016-2025	Pre-merger 2016-2018	Post-merger 2019-2025	Total 2016-2025
General Plant		45.2	62.1	57.1	2.1	19.0	17.8
System Access		95.1	169.5	147.1	9.1	80.8	75.9
System Renewal		94.5	216.5	179.9	3.8	83.4	89.4
System Service		442.5	126.0	221.0	213.6	42.4	189.7
Total Overhead		78.9	92.4	84.3	1.6	9.3	8.9
Total - Union Rate Zone	**(a)**	**756.3**	**600.5**	**647.2**	**216.1**	**82.4**	**154.5**
2021 Threshold _Union Rate Zone	(b)	474.2	474.2	474.2			
Difference	(a-b)	282.1	126.3	173.0			
2021 Maximum Elegible Incremental Capital		152.8	152.8	152.8			

b) The total average capital expenditure corresponding to the EGD RZ for the entire period (2016 to 2025) is $9.0M lower than the calculated 2021 ICM Materiality Threshold amount. The average pre-merger annual expenditure is $89.7M lower than the calculated 2021 ICM Materiality Threshold amount, and the average post-merger annual expenditure is $25.6M higher than the calculated 2021 ICM Materiality Threshold amount.

The Maximum Eligible Incremental Capital calculated for year 2021 corresponding to the EGD RZ is $13.0M, calculated by taking the difference between the 2021 In-Service Capital Forecast and the calculated 2021 ICM Materiality Threshold amount.

The total average Capital Expenditure corresponding to the UG RZ for the entire period (2016 to 2025) is $173.0M higher than the calculated 2021 ICM Materiality Threshold amount. The average pre-merger annual expenditure is $282.1M higher than the calculated 2021 ICM Materiality Threshold amount, and the average post-merger annual expenditure is $126.3M higher than the calculated 2021 ICM Materiality Threshold amount.

The Maximum Eligible Incremental Capital calculated for year 2021 corresponding to the UG RZ is $152.8M, calculated by taking the difference between the 2021 In-Service Capital Forecast and the calculated 2021 ICM Materiality Threshold amount.

c) The total standard deviation of capital expenditure corresponding to the EGD RZ for the entire period (2016 to 2025) is $91.5M. The pre-merger standard deviation is $82.2M, and post-merger standard deviation is $71.2M. The 2021 forecasted capital expenditure of $580.3M falls within one standard deviation from the average for the total period and the post-merger period, and within two standard deviations from the average for the pre-merger period.

The total standard deviation of capital expenditure corresponding to the LUG RZ for the entire period (2016 to 2025) is $154.5M. The pre-merger standard deviation is $216.1M, and post-merger standard deviation is $82.4M. The 2021 capital expenditure of $627.0M falls within one standard deviation from the average for all periods noted above.

It does not make sense to compare the 2021 Maximum Eligible Incremental Capital, which is relative to the 2021 ICM Materiality Threshold amount, to the standard deviation of capital expenditure over a certain period, which is relative to the average capital expenditure for that same period.

The capital expenditure for any given year depends on the planned portfolio of identified projects over the forecast period, and is not necessarily affected by capital expenditures in previous years, such as comparing averages and standard deviations might suggest. The ICM Materiality Threshold amount is derived using the prescribed formula as part of the MAADs decision, and reflects the amount of capital expenditure EGI should be able to afford using base rates. The ICM Materiality Threshold amount can vary in any given year due to fluctuations in any of the variables (number of years since rebasing, PCI, growth factor). Funding for any capital expenditure projects exceeding the ICM Materiality Threshold amount is subject to additional scrutiny and approval by the OEB.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Energy Probe ("EP")

INTERROGATORY

Reference:

Exhibit B, Tab 2, Schedule 1, Page 4, Table 1; Exhibit C Tab 1Schedule 1 Page 47 Figure 7, EGD Rate Zone Capital Expenditures

Preamble:

The Total Capital Expenditures are shown as $515.8 million in 2020 and 2021 as 580.3 million. In Reference 2, System Plan, the Total 2020 Capital Expenditures are shown as $432 million and 2021 Capital Expenditures are shown as $632 million. The ICM Threshold is $567.3 million

Question:

Please reconcile these amounts.

Response

The values shown in Exhibit B, Tab 2, Schedule 1, Page 4, Table 1 are presented on an in-service capital basis. The values shown in Exhibit C, Tab 1, Schedule 1, Page 47, Figure 7 are presented on a capital expenditure basis.

The ICM threshold of $567.3M is relevant to the in-service presentation of the EGD rate zone's capital spend.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Energy Probe ("EP")

INTERROGATORY

Reference:

Exhibit B, Tab 2, Schedule 1, pages 13 and 14, Tables 6 and 7

Question:

a) Please confirm that the Projects in the Union RZ exceed the Maximum Eligible Incremental capital amount of $152.8 million.

b) Please explain why the Sarnia Industrial Line ISA been reduced by only $2.7 million, rather than $15.7 million to remain within the max eligible incremental amount.

c) In order to comply with the ICM rules why cannot EGI phase one or both of the Union RZ projects. Please discuss.

d) Why was the $2.7 million reduction taken from Sarnia Industrial Line Reinforcement instead of London Lines?

e) Please confirm that if the forecast of in-service capital expenditures for the Union Rate Zone was higher by $2.7 million the $2.7 million reduction would not be necessary?

f) Please confirm that under the current regulatory framework Enbridge has an incentive to maximize in-service capital expenditures. If the answer is no, please explain why not.

Response

a) The projects in the Union RZ do not exceed the Maximum Eligible capital amount of $152.8M. The projects in the Union RZ do exceed the Materiality Threshold value of $474.2M for a Maximum Eligible Incremental Capital amount of $152.8M.

b) The Maximum Eligible Incremental Capital is calculated on an individual rate zone basis. As shown in Table 6, the maximum amount for the Union RZ is $152.8M.

The total in-service capital for the London Line Replacement and Sarnia Industrial Line Reinforcement of $155.5M exceeds the Maximum Eligible Incremental Capital by $2.7M, hence the reduction to the total project ICM funding request.

c) The London Line Replacement and Sarnia Industrial Line Reinforcement projects do meet the criteria for ICM funding as set out section 4.1.5 of the "Report of the Board – New Policy Options for the Funding of Capital Investments: The Advanced Capital Module, EB 2014-0219". Each project meets the criteria of materiality, need and prudence. There is no requirement to break the projects into phases.

d) The $2.7M reduction was taken against the Sarnia Industrial Line Reinforcement project instead of the London Line Replacement project based on the size magnitude of the projects. Since both projects are part of the Union South RZ, there is no impact to rate payers by applying the reduction to one project over the other.

e) Confirmed.

f) The capital expenditure is driven by the investment need to continue providing safe and reliable service to existing customers and add new customers. To the extent the in-service capital expenditures exceed the ICM threshold in any year during the deferred rebasing term, Enbridge Gas will bring forward eligible projects for ICM funding in its annual rate application as per the Board's ICM policy[1] and the MAADs decision[2].

[1] EB-2014-0219 Report of the OEB – New Policy Options for the Funding of Capital Investments: The Advanced Capital Module, September 18, 2014
[2] EB-2017-0306/EB-2017-0307 Decision and Order, August 30, 2018, section 5.5.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Energy Probe ("EP")

INTERROGATORY

Reference:

Exhibit B, Tab 2, Schedule 1, Pages 16-17; Exhibit C, Tab 1 Schedule 1, Page 57
Table 4, Potential ICM Projects: EGD Rate Zone

Preamble:

St Laurent project is identified as a four phase project with Phase 3 and Phase 4 in service 2021 and 2022.

Question:

a) Please provide a breakdown of costs, timing and technical information for each of the 4 Phases of the St Laurent Project.

b) Please provide a map showing each of the phases of the St Laurent Project

c) Was either Phase 1 or Phase 2 an ICM project?

d) Why is Phase 3 a discrete ICM project, as opposed to a part of the overall multi-year project? Please discuss.

e) If the capital needed for Phase 3 did not fit within the Maximum Eligible Incremental amount for the EGD RZ, would EGI have included the Project in Base Capital or postponed the Project?

Response

a) Please see the table below for the technical information for the St Laurent Project.

Phase	Investment Code	Segment	Project Start Date	In-Service Date	Facilities Installed	Customers	Facilities Abandoned	Year Abandoned
1	10289	Avenue O Pressure Increase 30 psi to 45 psi	May 2018	May 2018	N/A	29	N/A	N/A
2	10289	Plastic - Tremblay	July 2019	February 2020	123m - 8" PE IP 1.3km - 6" PE IP 142m - 4" PE IP 1.8km - 2" PE IP	179	1.2km - 12" ST XHP 1.2km - 2" ST XHP 776m - 1" & 1.25" ST XHP	2023* 2019
2	10291	Plastic - St. Laurent (Donald to Montreal)	October 2019	August 2020	1.7km - 6" PE IP 11m - 2" PE IP	66	1.7km - 12" ST XHP	2023*
3	10288	Plastic - Lower Section 1	July 2021	December 2021	1.9km - 4" PE IP	186	149m - 12" ST XHP 1.9km - 4" ST XHP	2020
3	10288	Plastic - Lower Section 2	July 2021	December 2021	1.1km - 4" PE IP	44	371m - 12" ST XHP 565m - 4" ST XHP	2020
3	10290	Plastic - Coventry/Ogilvie	July 2021	December 2021	1.5km - 6" PE IP	14	1.5km - 6" ST XHP	2023*
3	10290	Plastic - St. Laurent (Donald to Hwy 417)	July 2021	December 2021	400m - 6" PE IP 261m - 2" PE IP	45	661m - 12" ST XHP	2023*
3	10292	Plastic - St. Laurent (Montreal to Rockcliffe)	July 2021	December 2021	2.3km -6" PE IP 600m - 4" PE IP 122m - 2" PE IP	133	2.9km - 12" ST XHP 122m - 2" ST XHP	2023* 2022
4	10294	Steel - East/West Coventry XHP	April 2022	December 2022	3.2km - 12" ST XHP	1	2.5 km - 12" ST XHP	2023**
4	10293	Steel - North/South - St. Laurent Control to Rockcliffe XHP	April 2022	December 2022	2.4km - 16" ST XHP 6.4km - 12" ST XHP 290m - 6" ST XHP	3	399m - 16" ST XHP 9.5km - 12" ST XHP	2023* 2023***

* Abandonment will take place in 2023 when Phase 4 is completed

** Phase 4 Steel - East/West Coventry XHP once in service allows for the abandonment of 2.5km of NPS 12 ST XHP pipeline. This includes the abandonment of 1.2km of NPS 12 ST XHP pipeline made possible by the installation of the Phase 2 - Plastic - Tremblay facilities

*** Phase 4 Steel - North/South - St. Laurent Control to Rockcliffe XHP once in service allows for the abandonment of 9.5km of NPS 12 ST XHP pipeline. This includes the abandonment of 2.9km of existing NPS 12 ST XHP pipeline made possible by the installation of the Phase 3 Plastic - St Laurent (Montreal to Rockcliffe) facilities, the abandonment of 1.7km of NPS 12 ST XHP pipeline made possible by the installation of the Phase 2 Plastic - St Laurent (Donald to Montreal) facilities and the abandonment of 661m of NPS 12 ST XHP pipeline made possible by the installation of the Phase 3 Plastic - St. Laurent (Donald to Highway 417) facilities

The table below shows the breakdown of the costs for phase 3 and 4 of the St Laurent project.

Item No.	Description	Phase 3 Costs	Phase 4* Costs	Total Costs
1.0	Material Costs	$221,610	$3,870,579	$4,092,189
2.0	Labour Costs	$8,017,112	$15,594,696	$23,611,808
3.0	External Permitting, Land	$7,985	$2,995,470	$3,003,455
4.0	Outside Services	$2,148,263	$10,298,197	$12,446,460
5.0	Direct Overheads	$336,324	$2,520,066	$2,856,390
6.0	Contingency Costs	$1,823,000	$11,293,815	$13,116,815
7.0	Project Cost	$12,554,294	$46,572,824	$59,127,118
8.0	Indirect Overheads	$2,684,019	$10,900,182	$13,584,201
9.0	Interest During Construction	$131,466	$914,264	$1,045,730
10.0	Total Project Costs**	$15,369,779	$58,387,270	$73,757,049

*Phase 4 is a Class 5 cost estimate

**Abandonment costs are not included in the cost estimates. Abandonment costs for Phase 3 are estimated to be $1,851,705 and Phase 4 abandonment costs are estimated to be $6,197,625

b) Please see Attachment 1 for the map for each phase of the St Laurent project.

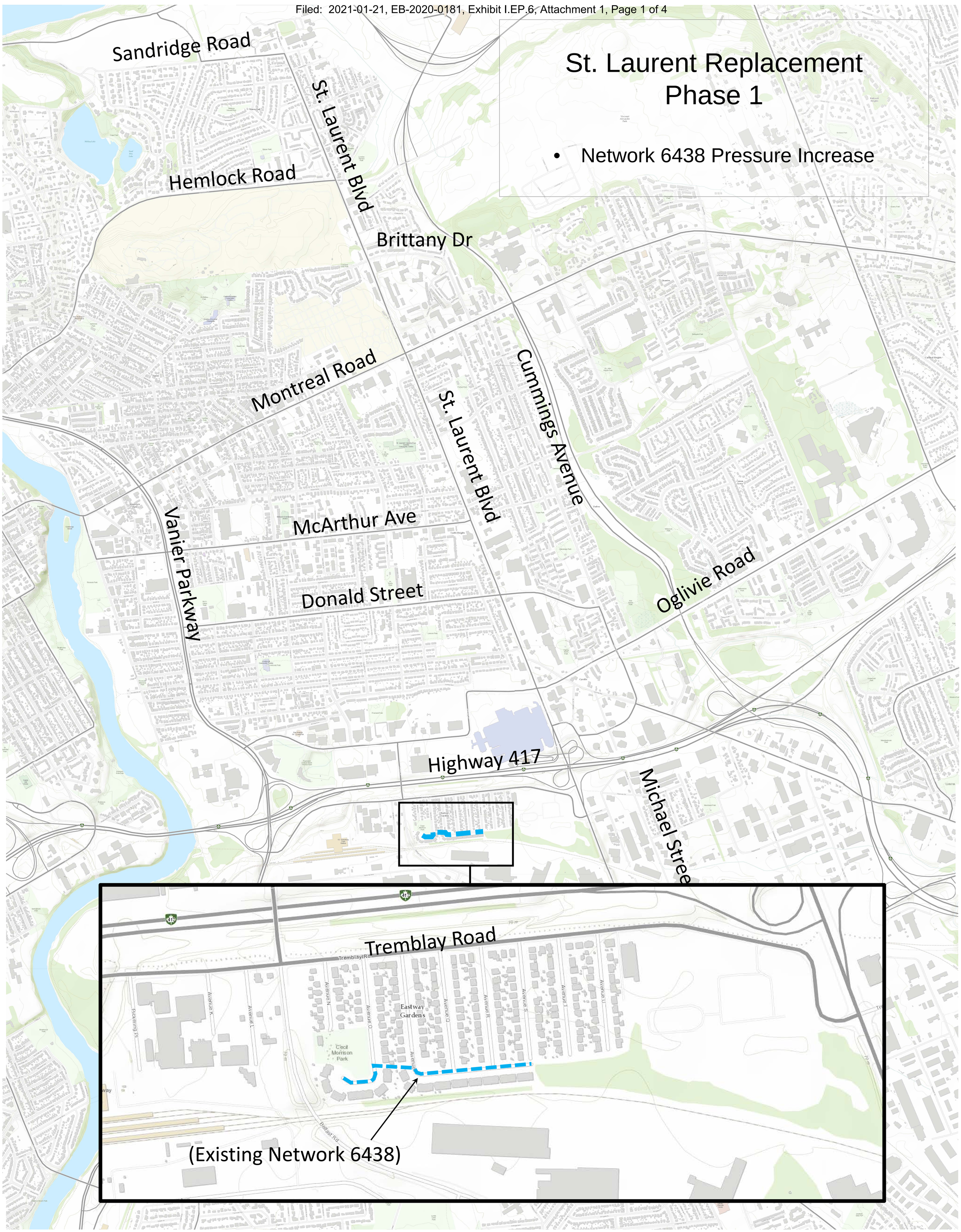
c) No. However, the Board granted leave to construct for the Phase 2 Plastic St. Laurent (Donald to Montreal) segment in the EB-2019-0006 leave to construct proceeding.

d) Please see Exhibit I.CME.1 d).

e) Please see Exhibit I.PP.4 a), e) and Exhibit I.SEC.14 d).

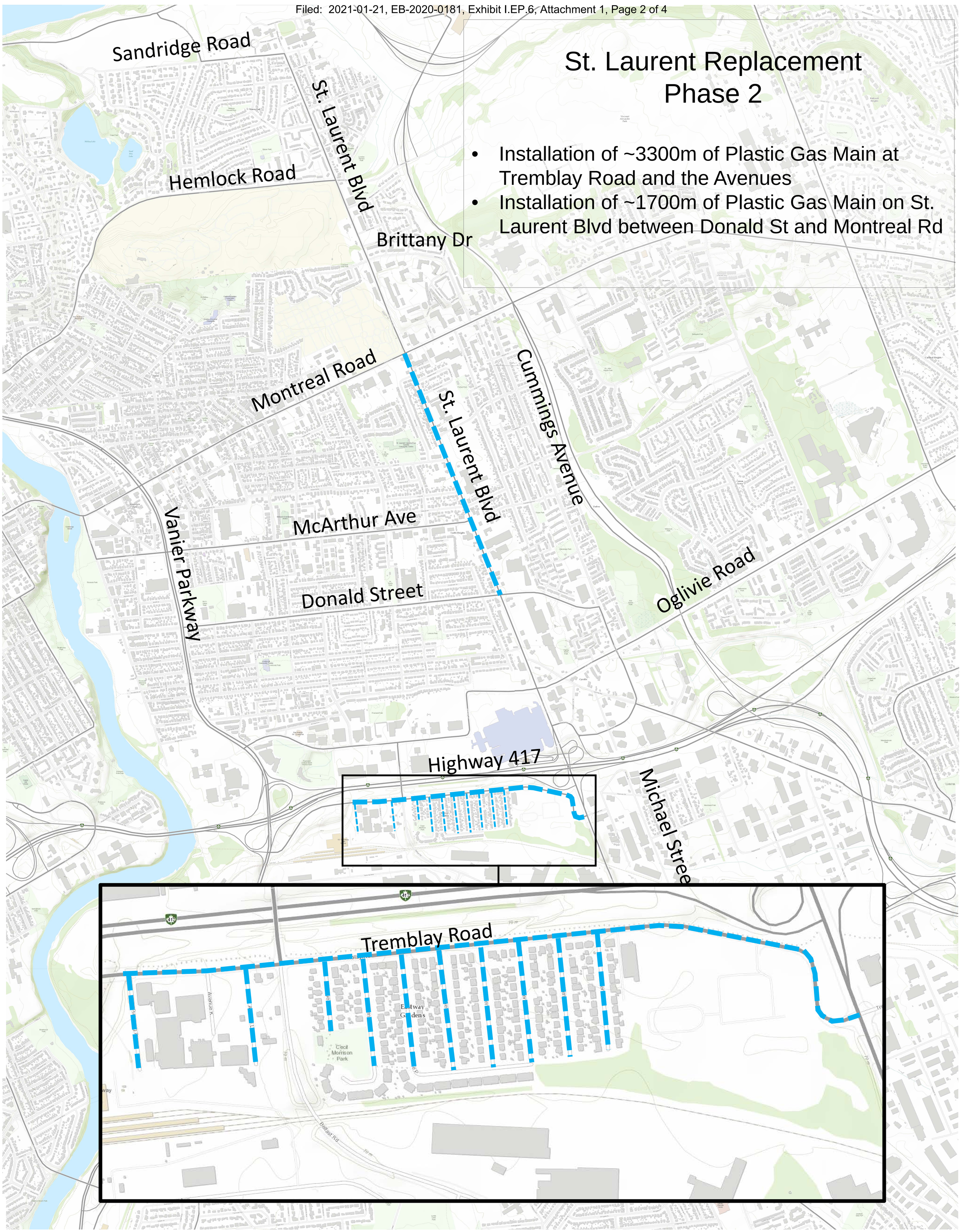
St. Laurent Replacement Phase 1

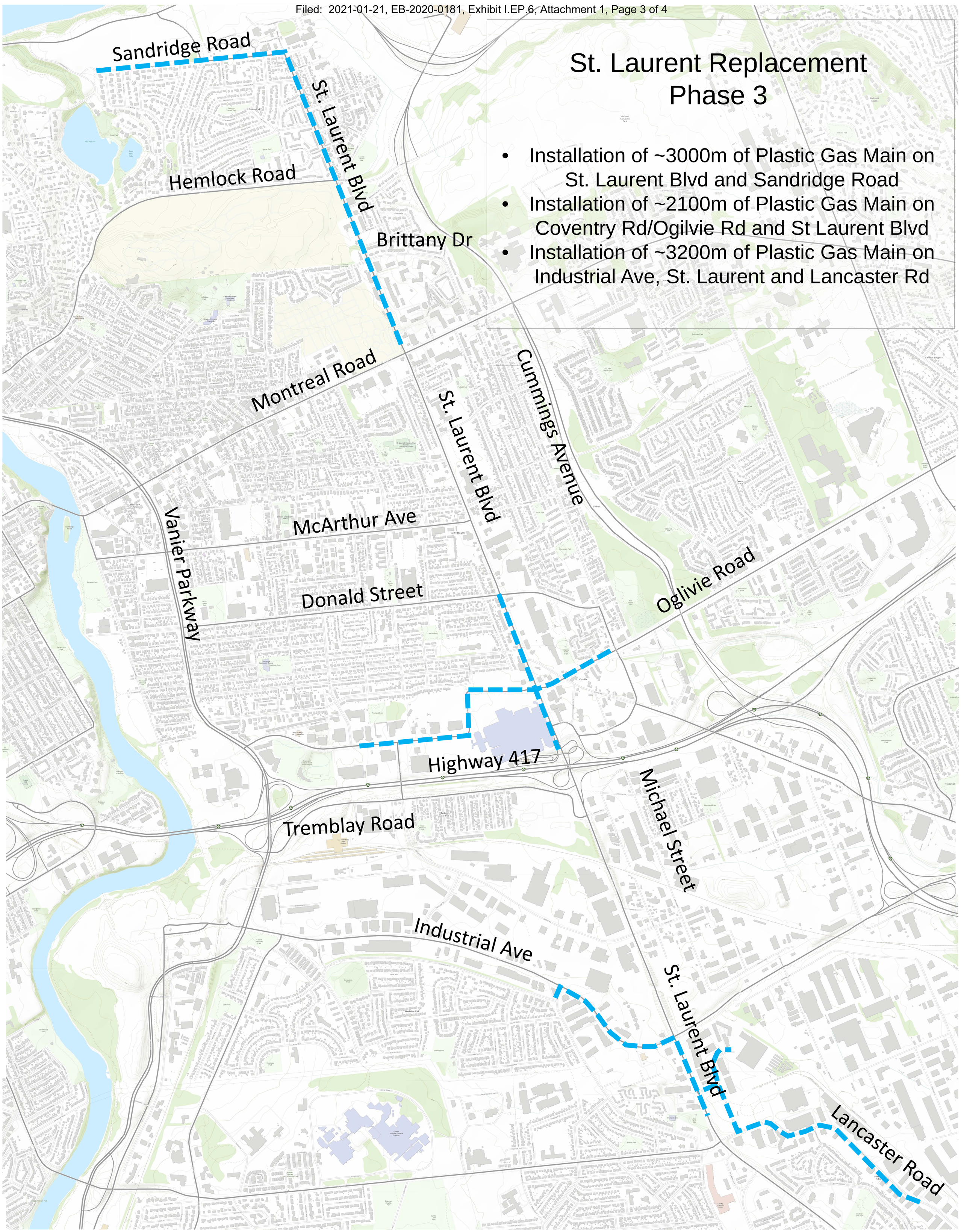
- Network 6438 Pressure Increase

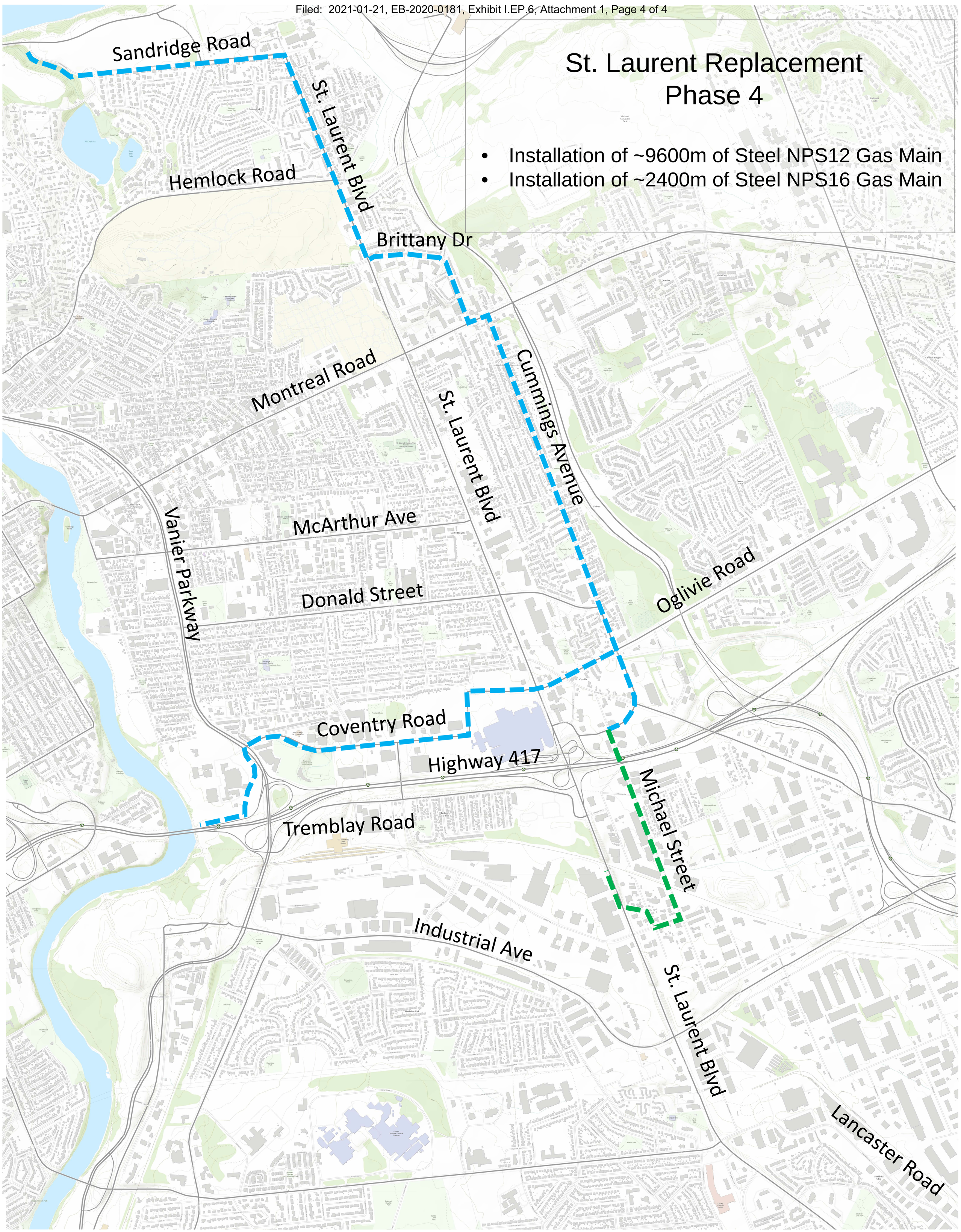


St. Laurent Replacement Phase 2

- Installation of ~3300m of Plastic Gas Main at Tremblay Road and the Avenues
- Installation of ~1700m of Plastic Gas Main on St. Laurent Blvd between Donald St and Montreal Rd




St. Laurent Replacement
Phase 3
• Installation of ~3000m of Plastic Gas Main on St. Laurent Blvd and Sandridge Road
• Installation of ~2100m of Plastic Gas Main on Coventry Rd/Ogilvie Rd and St Laurent Blvd
• Installation of ~3200m of Plastic Gas Main on Industrial Ave, St. Laurent and Lancaster Rd
Sandridge Road
St. Laurent Blvd
Hemlock Road
Brittany Dr
Montreal Road
St. Laurent Blvd
Cummings Avenue
Vanier Parkway
McArthur Ave
Donald Street
Ogilvie Road
Highway 417
Tremblay Road
Michael Street
Industrial Ave
St. Laurent Blvd
Lancaster Road


St. Laurent Replacement
Phase 4
• Installation of ~9600m of Steel NPS12 Gas Main
• Installation of ~2400m of Steel NPS16 Gas Main
Sandridge Road
St. Laurent Blvd
Hemlock Road
Brittany Dr
Montreal Road
St. Laurent Blvd
Cummings Avenue
Vanier Parkway
McArthur Ave
Donald Street
Oglivie Road
Coventry Road
Highway 417
Michael Street
Tremblay Road
Industrial Ave
St. Laurent Blvd
Lancaster Road

ENBRIDGE GAS INC.

Answer to Interrogatory from
Energy Probe ("EP")

INTERROGATORY

Reference:

Exhibit B, Tab 2, Sched 1, Pages 19 to 27

Question:

Please file a table that presents the cost estimates for each of the three ICM projects showing the following items:

- Costs paid to external parties including contractors and consultants
- Costs paid for materials
- Incremental costs of Enbridge Gas employees and vehicle use fuel charged to the project
- Costs expended to date
- All other costs, please specify
- Contingency including explanation of its calculation
- Costs expended to date

Response

Please refer to the table below and note the following:

- Any incremental costs of Enbridge Gas employees are included in the 'Overheads' line

- Fuel costs are included under Labour & Expenses

- Contingency is added to projects based on the amount of direct capital. The percentage included varies from one project to another based on Enbridge Gas's Guidelines, which considers the stage of scope development and risk profile for each project at the time of the cost estimate.

Category ('000's)	St. Laurent NPS 12 Replacement	London Line Replacement	Sarnia Industrial Line Reinforcement
Contractor	-	64,755	12,198
Materials	222	7,564	4,445
Outside Services	2,148	15,938	5,619
Land	8	8,046	252
Labour & Expenses	8,017	617	590
Other	336	224	168
Contingency	1,823	13,331	4,204
Dismantlement	-	22,377	-
Interest During Construction	131	1,057	345
Overheads	2,684	27,155	5,042
Total	15,369	161,064	32,863
Project Spend-to-Date*	221	7,603	1,128

*as of December 31st, 2020

Note that dismantlement costs are shown for the London Line Replacement project which is consistent with the leave to construct application (EB-2020-0192). Dismantlement costs are not included in the in-service capital for ICM determination.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Energy Probe ("EP")

INTERROGATORY

Reference:

Exhibit B, Tab 2, Sched 1, page 20

Question:

a) Please provide separate cost estimate for the new 8.4km NPS6 line from Strathroy Gate Station and the cost of the Strathroy Gate Station.

b) Please explain why the new 8.4 km line and the station are not separate projects from London Lines replacement. How does Enbridge determine what constitutes a project for its project management perspective and what constitutes an ICM project?

Response

a) The forecast capital cost of the new 8.4km NPS6 line is approximately $5.8 million. Please see Exhibit.I.STAFF.1 b) in EB-2020-0192. The cost of the station is approximately $2 million. Please see Exhibit.I.EP.8 c) in EB-2020-0192.

b) The new line and rebuild of the existing station are key features to the pipe design (the pipe size and pressure). The Project, the London Lines Replacement, including the Strathroy Gate Station and NPS 6 line, was designed for replacement capacity of the existing pipelines. The 8.4 km NPS 6 line provides an opportunity to reduce the pipe size by adding a connection to Strathroy Gate Station. A result of adding this feed, modifications are required to Strathroy Gate Station.

A Project is one or more components intended to address an issue with an asset or network that are being put into service at or around the same time. In the case of the London Lines, Enbridge Gas has identified the need to replace the existing London lines due to integrity concerns and several related components are being implemented at or around the same time to effect an integrated solution. Evidence on the purpose, needs and timing of the project was filed in EB-2020-0192.

As set out in section 4.1.5 of the “Report of the Board – New Policy Options for the Funding of Capital Investments: The Advanced Capital Module, EB- 2014-0219”, an ICM project must meet the following criteria: materiality, need and prudence. Each of these criteria is described in the prefiled evidence at Exhibit B, Tab 2, Schedule 1, page 7 to 27.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Energy Probe ("EP")

INTERROGATORY

Reference:

Exhibit B, Tab 2, Schedule 1 Page 28; Exhibit C Tab 3 Schedule 1 Customer Engagement Survey

Question:

a) How much did the Customer Engagement Survey cost?

b) Please provide a Summary Table with the key lessons/preferences learned from EGI residential customers and then specifically relate these to the priorities in the Asset Management Plan.

c) Please identify any differences from the last survey and discuss in some detail how customer preferences have influenced the current AMP.

Response

a) The total cost of the Customer Engagement Survey was $119,250 + HST.

b) The results of the Customer Engagement Survey are summarized in Section 2.4.1 of Asset Management Plan (Exhibit C, Tab 2, Schedule 1) and show that customers are aligned to Enbridge Gas's commitment to a safe, reliable, cost-effective and environmentally responsible provision of natural gas. These are very consistent with Enbridge Gas's strategic priorities and are built into the Value Framework by which investments are assessed for inclusion in the Asset Management Plan.

   The table below describes the findings of the Customer Engagement Survey and some of the specific locations in the Asset Management Plan at which these findings are reflected.

Customer Engagement Finding	Asset Plan Priorities
Strong majorities of both residential (88%) and business customers (77% non-contract & 79% contract) express satisfaction with the natural gas services they receive from Enbridge Gas Inc. (p. 7) When asked if Enbridge Gas Inc. should invest in improving or maintaining levels of natural gas safety, reliability, and customer service, the highest proportion of residential customers would prefer that the organization focus on maintaining current levels (p. 7)	• At Page 84 in the AMP, Enbridge Gas notes that system reinforcements are undertaken to maintain the reliable delivery of natural gas to customers • At Page 109, 122, and 123 in the AMP, Enbridge Gas notes that a proactive approach to the replacement of assets such as vintage steel mains, vintage plastic mains, and copper risers will level expenditures over time and maintain current levels of safety and reliability. • At Page 111 in the AMP, Enbridge Gas notes that by prioritizing the replacement of bare and unprotected steel pipelines, the opportunity for corrosion leaks is reduced, maintaining levels of safety and reliability. • At Page 167 in the AMP, Enbridge Gas notes that the practice of proactively replacing the regulator during the meter exchange lowers risks related to failures (financial, operational reliability, and safety). • At Page 205-6 in the AMP, Enbridge Gas notes that ongoing inspection and maintenance of well casings helps to maintain the existing levels of safety and reliability.
Safety, reliability, and affordability are rated as being highly important customer outcomes by business and residential customers. (p. 7)	The following examples are consistent with customer input and with Enbridge Gas's asset management approach which seeks to balance risk, performance and cost.

	• At Page 114 of the AMP, Enbridge Gas notes that, except where there are unusual circumstances that affect the risk or reliability profile, newer steel mains are performing well. • At Page 137 of the AMP, Enbridge Gas identifies a hybrid strategy for determining if components at a Station with Auxiliary Equipment should be replaced or if the overall condition of the station warrants a rebuild. • At Pages 196-7 in the AMP, Enbridge Gas describes several strategies related to the maintenance and replacement of compressors to maintain the reliability of the system in a cost-effective manner. • At Page 200 in the AMP, Enbridge Gas describes the proactive replacement of components based on condition and obsolescence to maintain the operational reliability of the dehydration assets.
Replacing Pipelines and Equipment (In general): Over half (58%) of residential customers would prefer to spread costs evenly over time, even if it means higher rates now. (p. 8)	• At Page 109 in the AMP, Enbridge Gas notes that a proactive approach to steel main replacements will level expenditures over time and maintain current levels of safety and reliability. • At Page 145 in the AMP, Enbridge Gas notes that the proposed replacement rate for District Stations will spread cost and maintain the reliability of this population over time.

Replacing Older Pipelines: Half (52%) of residential customers would prefer to replace older pipelines all at one time, knowing that for one project example this would translate into an increase of $3 in their natural gas bill per year. One quarter (25%) of customers would prefer to replace older pipelines in phases, which would cost customers an increase of 50 cents in the first year and rise to an increase of $3.50 per year, in five years. Around one in four residential customers 'do not have a strong opinion' or 'don't know' which option they prefer. • Preferences for non-contract business customers are evenly split between the two options, with one third of customers preferring to replace older pipelines all at once (36%), while another one third (35%) preferring to replace older pipelines in phases. Contract customers are more likely to prefer to replace pipelines in phases (49%), compared to replacing this pipe all at one time (34%).	• At Page 110 in the AMP, Enbridge Gas notes that where a targeted replacement project has been identified, Enbridge Gas will plan to replace the pipe in a single phase. • At Page 227 in the AMP, Enbridge Gas describes some specific and significant investments that are required to meet the evolving needs of employees and customers. Where these major projects are identified, Enbridge Gas will plan to complete them in a single phase.
Bare and Unprotected Pipes: Among legacy Union Gas customers, slightly more than half (58%) of residential customers, half (49%) of contract business customers, and less than half (41%) of non-contract business customers would prefer that the replacement of bare and unprotected pipes be prioritized, which would increase customer bills by $1 for residential customers and 0.2% for business customers. On the other hand, one in five (21%) residential customers would prefer that these pipes remain in place until they would normally be replaced, 37% of non-	• At Page 111 in the AMP, Enbridge Gas describes the Bare Steel Replacement program that will prioritize the replacement of these pipelines to be completed within the timeframe of this AMP.

contract customers and 28% of contract customers would prefer the same.	
Maintenance Operations: The vast majority of residential (75%), non-contract business (68%), and contract business customers (69%) would prefer that investments in renovating older buildings and building new ones be spread evenly over a longer period of 10 years as opposed to delaying these investments until they can no longer be avoided and funded more quickly, which could cost more in the long run.	• At Pages 224-5 in the AMP, Enbridge Gas describes how improvement programs are spread out over a number of years in order to maintain buildings in good repair and make continual improvements to their fitness for purpose.
Fleet Upgrade and Maintenance: Similarly, a majority of residential (76%), non-contract business (69%) and contract business customers (66%) would prefer that investments for improving fleet vehicles, equipment, and tools be spread out evenly over a longer period of 10 years, compared to delaying such investments until they can no longer be avoided and have to be funded more quickly, which could cost more in the long run	• At Pages 232-4 of the AMP, Enbridge Gas describes the investment strategies that will see investments spread evenly over a period of time in the Fleet & Equipment Asset Class.

c) The previous survey (customer engagement survey, conducted in 2017) was completed by the separate legacy utilities using different survey instruments and methodologies and as a result these survey results cannot be combined. While there are some high-level areas of comparison, these are limited as a result of the varying methods. Please note the following areas of comparison:

- Overall satisfaction with utility service, as well as key satisfaction metrics and customer outcomes were rated similarly in the current and previous surveys among varied customer groups. One area of difference is customer interest in *minimizing the impact on the environment,* which was rated lower by legacy Union Gas residential customers in the 2017 survey. However, as indicated in the current survey results, this is ranked third among residential customers in the more recent survey and is included in Enbridge Gas' key priorities.

- Preference for prioritizing the replacement of bare and unprotected pipes among legacy Union Gas customers has increased compared to 2017 giving further support for the Bare and Unprotected Steel Pipe Replacement Program.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Energy Probe ("EP")

INTERROGATORY

Reference:

Exhibit B, Tab 2, Schedule 1, page 29: Exhibit C, Tab 1, Schedule 1, Page 57, Table 5 Potential ICM Projects: Union Rate Zones

Preamble:

The Sarnia Industrial Line Reinforcement Project is not identified as a potential ICM Project in the EGI System Plan.

Question:

a) Please confirm the incremental revenue requirement over the 2021 to 2023 period for the Sarnia Industrial Line Reinforcement is forecast to be $3,992,000.

b) Please confirm the Project and will generate in excess of $5,821,000 of incremental revenue over that same period.

c) Given the incremental revenue generated, please explain why the project qualifies as an ICM Project and it is appropriate to seek to recover the Sarnia incremental revenue requirement in the amount of $3,992,000 through ICM relief over the 2021 to 2023.

Response

a) Not confirmed. Please see Exhibit B, Tab 2, Schedule 1, page 29, Table 9, Line 3, Column (d). The total forecast revenue requirement over the 2021 to 2023 period for the Sarnia Industrial Line Reinforcement is $3,922,000.

b) Please see Exhibit I.STAFF.4 c).

c) Please see Exhibit I.OGVG.1.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Energy Probe ("EP")

INTERROGATORY

Reference:

Exhibit B, Tab 2, Schedule 1, Appendix E, pages 1, 2, and 3

Question:

What are the total revenues that Enbridge expects to collect from ratepayers for 2021, 2022, and 2023 with the ICM riders for each of the three projects? If they are different than the sum of amounts shown in Line 16 on pages 1, 2, and 3, please explain the reasons.

Response

Enbridge Gas expects to collect the sum of the 2021, 2022 and 2023 revenue requirement for each project through the proposed ICM unit rates over the January 1, 2021 to December 31, 2023 period.[1] The 2021, 2022 and 2023 total revenue requirement and revenue is summarized in Table 1.

Table 1
Total Incremental Revenue Requirement by Rate Zone

Line No.	Particulars ($000's)	Revenue Requirement 2021	2022	2023	Total Revenue 2021-2023
		(a)	(b)	(c)	(d)=(a+b+c)
	EGD Rate Zone				
1	St. Laurent NPS 12 Replacement	(703)	1,068	1,063	1,428
	Union South Rate Zone				
2	London Line Replacement	(6,408)	12,966	12,799	19,357
3	Sarnia Industrial Line Reinforcement	(1,482)	2,707	2,697	3,922
4	Total Incremental Revenue Requirement	(8,593)	16,741	16,559	24,707

[1] Proposed ICM unit rates are filed at Exhibit B, Tab 2, Schedule 1, Appendix G. The unit rates were derived to recover the total revenue shown at Table 1, column (d) over the January 1, 2021 to December 31, 2023 period.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Energy Probe ("EP")

INTERROGATORY

Reference:

Exhibit C, Tab 1, Schedule 1, page 39

Question:

a) Does the eligibility for ICM funding during the IR term affect the trade-offs between capital and O&M? Please discuss.

b) Please provide a numerical comparison of the impact on earnings of spending $10 million in capital instead of $10 million in O&M including all assumptions.

Response

a) No, the eligibility of ICM funding does not affect the trade-offs between Capital and O&M. Projects are selected based on the Asset Management process outlined in section 4.1 of the USP, at Exhibit C, Tab 1, Schedule 1, regardless of their eligibility as ICM projects. Projects subject to Leave to Construct applications must be approved by the Board. Typically, that process will include consideration of alternatives to the proposed project.

b) Tables 1 and 2 illustrate the utility earnings impact, over the deferred rebasing period, of a one-time $10 million O&M expenditure made in 2021, as compared to a one-time capital addition to rate base made in 2021. The annual impact would be included in the utility earnings subject to sharing.

TABLE 1

Utility Earnings Impact of a $10 million O&M Expenditure

($000's)	2021	2022	2023
O&M	10,000	-	-
Income before income taxes	(10,000)	-	-
Income taxes	(2,650)	-	-
Utility earnings (or income applicable to common equity) impact	(7,350)	-	-

TABLE 2

Utility Earnings Impact of a $10 million Capital Expenditure

($000's)	2021	2022	2023
Capital expenditure	10,000		
Rate base impact	5,386	9,756	9,513
Cost of capital			
Long-term debt	146	264	258
Short-term debt	3	6	6
Common Equity	174	315	308
	323	586	571
Depreciation	122	244	244
Interest on long-term debt	146	264	258
Interest on short-term debt	3	6	6
Income before income taxes	(271)	(514)	(507)
Income taxes	(119)	(226)	(215)
Utility earnings (or income applicable to common equity) impact	(152)	(288)	(293)

The illustrations above utilized the following assumptions:

- Revenues are fixed (i.e. not dependent on the categorization of the expenditure as O&M or capital), and do not cover the cost for O&M or capital expenditure
- A corporate income tax rate of 26.5%.
- The capital expenditure was assumed to be added to rate base in June 2021, with depreciation commencing the following month.
- The capital expenditure was assumed to be added to the EGD rate zone coated and wrapped steel mains asset category with a depreciation rate of 2.44%
- The capital expenditure would qualify for Class 51, with a CCA rate of 6%, for tax purposes.

- Financing of the capital expenditure rate base impact was based on Enbridge Gas's 2019 actual capital structure:

Capital Structure	Component %	Cost Rate	Return Component
Long-term debt	60.90%	4.45%	2.71%
Short-term debt	3.10%	2.04%	0.06%
Common equity	36.00%	8.98%	3.23%
	100.00%		6.01%

ENBRIDGE GAS INC.

Answer to Interrogatory from
Energy Probe ("EP")

INTERROGATORY

Reference:

Exhibit C, Tab 1, Schedule 1, Page 44

Preamble:

"Enbridge Gas's projected spend totals $6.3 billion over the next five years; the projected annual spend ranges between $1.1 billion to $1.4 billion within the five year profile. System Renewal and System Access are Enbridge Gas's highest asset investment categories at $2.8 billion and $1.5 billion over the five years, respectively."

Question:

Please provide the estimate of the impact on rates for a typical residential customer of the $6.3 billion projected spend. Please list all assumptions.

Response

During Enbridge Gas's current Incentive Regulation ("IR") framework (2019 - 2023), the Company's rates and revenues are decoupled from costs, including projected capital spend. The revenue requirement of Enbridge Gas's annual capital spend is funded through base rates, which are escalated annually by the Price Cap Index (PCI), except when the capital spend of a distinct project exceeds the ICM materiality threshold in a given year. That is, it is expected that Enbridge Gas manage its capital spend within the Board approved rates for the current IR term (with no incremental bill impact for customers), except where a distinct project qualifies for recovery under the Board's ICM policy.

The bill impacts of the $6.3 billion of capital spend over the next five years is not relevant to the relief sought in this proceeding. As noted above, most of the capital spend over the five-year period will be supported by the Company's base rates. The bill impacts for 2021 ICM eligible projects are provided at Exhibit B, Tab 2, Appendix H and Appendix I for the EGD and Union rate zones, respectively.

The bill impacts for ICM eligible projects during the remainder of Enbridge Gas's IR term (2022 and 2023) will be filed with the annual rates application in future years when qualifying ICM projects for those years are determined. Please see Exhibit C, Tab 1, Schedule 1, page 56 for a list of potential ICM projects during the current IR term.

For 2024 and later, all revenues and costs (including capital spend) will be subject to Board approval as part of a rebasing proceeding in 2024 and an approved rate making framework established for 2025 and later.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Energy Probe ("EP")

INTERROGATORY

Reference:

Exhibit C, Tab 1, Schedule 1, Page 46, Figures 6,7 and 8

Preamble:

Historical capital expenditure profiles for 2016-2019 and 2020 budget do not include associated overheads in the project costs. The associated overheads are identified as a separate category.

Question:

a) Please explain the changes in the allocation of overhead costs for 2021-2025.

b) Specifically how are overhead costs calculated and added to project costs in each Capex category?

c) Please provide an illustrative example for the St. Laurent Project.

Response

a) Overhead costs continue to be allocated to all projects as they have in the past. Enbridge Gas has aligned the approach with an updated Overhead Capitalization policy as noted in Exhibit I.LPMA.7. As approved in the Decision and Order for EB-2018-0305, overheads are allocated to all regulated capital projects in both the EGD and Union rate zones.

b) Overheads are calculated based on the following 3 categories:

Indirect Capitalization – Overhead costs that can be linked to the creation of capital and support the production or construction of an asset however cannot be directly associated with any particular asset or working group. Examples include Engineering, Finance and Procurement support.

Direct and Indirect Burdens - HR pension and benefits associated with employees charging time directly and indirectly to capital projects will be capitalized directly to projects. A rate is applied to the salaries and wages capitalized to allocate the appropriate amount of HR pension and benefit costs to capital projects.

Interest During Construction - Overhead costs are calculated by taking the total overheads capitalized in the categories listed above and allocating the costs to projects using a weighted allocation based on the project's capital expenditure.

c) Please see the example below for the St. Laurent NPS 12 Replacement Project (Phase 3):

	Budget
Direct Capital	$12,554,294
Overheads:	
Indirect capitalization	$2,684,019
Interest During Construction	131,466
Total Capital	$15,369,779

ENBRIDGE GAS INC.

Answer to Interrogatory from
Energy Probe ("EP")

INTERROGATORY

Reference:

Exhibit C, Tab 1, Schedule 1, Pages 55-57, Tables 4 and 5

Question:

a) Please list the criteria and weightings used to produce the lists of Potential ICM Projects in Tables 4 and 5.

b) Please confirm the listed projects have an in-service horizon of 3 years. Is this the planning horizon?

c) Are ICM projects incremental and discretionary, as opposed to part of base capital?

d) How are priorities between ICM projects determined? Please discuss.

e) Please provide the annual ICM project plan budgets based on Figures 12 and 13 and compare to the current ICM thresholds

Response

a) The criteria are defined in Exhibit C, Tab 2, Schedule 1, Table 6.1-1. For Enbridge Gas to consider proposing an investment as a Potential ICM project, it must meet the criteria identified therein.

b) The listed projects have an in-service horizon of three years because that is the timeline for the current incentive regulation period during which the incremental capital module is available.

   It can be seen from Exhibit C, Tab 2, Schedule 1, Table 1.9-2, Table 1.9-3 and Figures 6.2-1 thru 6.2-21 that the planning horizon is longer than three years.

c) As noted in part a), ICM projects are discrete projects that reflect the asset class strategies and are necessary to meet the needs of customers and maintain the

safety and reliability of the system. They are not by their nature different to those projects which are in the base capital.

d) Project priorities are not different as a result of the potential for ICM treatment. Projects result from asset class strategies, including the need to meet customer and stakeholder needs (customer connections, reinforcements, relocations), maintain the safe and reliable delivery of natural gas (replacements, integrity), and maintain the supporting infrastructure (real estate, technology, and fleet). Enbridge Gas's objective is to address these needs within the materiality threshold. However, if projects are necessary in a particular year and cannot be accommodated within the materiality threshold, ICM treatment is requested.

e) The projects listed in the referenced tables are contained in the AMP Appendix (Exhibit C, Tab 2, Schedule 1, Appendix 1). In this appendix, the annual budget for each project can be found.

The ICM threshold is compared to the in-service capital for the current year and a comparison to capital expenditure would provide an inconsistent picture – particularly if the capital expenditure for all other investments (those not eligible for ICM treatment) was not also included.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Energy Probe ("EP")

INTERROGATORY

Reference:

Exhibit C, Tab 1, Schedule 1, Asset Management Plan, Page 38

Question:

Is Enbridge seeking OEB approval of its Asset Management Plan (AMP)? If the answer is yes, please explain if Enbridge considers OEB approval of the AMP as pre-approval of the capital expenditures included in the plan.

Response

Enbridge Gas is not seeking approval of its Asset Management Plan (AMP). Enbridge Gas has filed the AMP in support of its request for ICM funding as per the Board ICM policy[1].

[1] EB-2014-0219 Report of the OEB – New Policy Options for the Funding of Capital Investments: The Advanced Capital Module, September 18, 2014.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Energy Probe ("EP")

INTERROGATORY

Reference:

Exhibit C, Tab 1, Schedule 1, Asset Management Plan, Page 185

Question:

Does the AMP include capital expenditures for unregulated storage? If the answer is yes, please explain and provide amount.

Response

The AMP does not include capital expenditures for unregulated storage.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Federation of Rental-housing Providers of Ontario ("FRPO")

Interrogatory

Reference:

Exhibit B, Tab 2, Schedule 1, Page 4-5, Tables 1 and 2

Preamble:

The referenced tables show overheads as a separate line item and then incorporated into the other capital categories. We are interested in understanding the impact of these overheads in base rates, the evolution of the overhead impact since that time and the effect of ICM on capital spending.

Question:

For each of the respective Legacy companies/current Rate Zones, please provide the amount of revenue requirement that was generated from capitalized overheads for the purposes of ratemaking on a percentage and actual basis.

a) For each year since 2016 actual to forecast 2025, please provide the amount of revenue requirement generated from capitalized overheads.
b) For each year since the introduction of ICM and subsequent years, and for each category of spending in the table, please break out the spending that is generated from ICM and non-ICM.

Response

a) Enbridge Gas does not believe that this question has any relevance to this proceeding where Enbridge Gas is seeking approval for ICM funding for three projects for 2021.The costs for these projects are fully burdened and include the overheads allocated. The OEB in its Decision and Order for the 2019 Rates application accepted Enbridge Gas's inclusion of overheads in the determination of project revenue requirement:

The OEB approves the inclusion of indirect overheads in the ICM project costs. The OEB accepts Enbridge Gas' explanation that the ICM funding request is based on fully burdened costs, unlike a leave to construct application. Whether costs provided as part of a leave to construct proceeding should be inclusive of indirect overheads or not is out of scope of this proceeding. The OEB has never previously excluded indirect costs from ICM funding, and therefore the OEB considers Enbridge Gas' approach consistent with the OEB's policy for ICMs.[1]

b) Please refer to the tables below:

EGD Rate Zone

Line No.	Category	2019 Actual	2020 Forecast	2021 Budget	2022 Budget	2023 Budget	2024 Budget	2025 Budget
1	General Plant	70.4	61.0	102.4	60.7	111.8	55.2	59.7
2	System Access	151.1	126.9	167.6	164.6	223.7	167.6	165.7
3	System Renewal	110.4	139.4	246.8	403.7	215.8	461.5	268.3
4	System Renewal – ICM including overhead		29.3	13.0				
5	System Service	23.9	25.9	50.5	32.2	28.0	39.4	88.7
6	Overheads	151.6	133.3					
7	Total Capital	507.4	515.8	580.3	661.2	579.3	723.7	582.4

UG Rate Zone

Line No.	Category	2019 Actual	2020 Forecast	2021 Budget	2022 Budget	2023 Budget	2024 Budget	2025 Budget
1	General Plant	51.8	28.4	55.6	56.8	78.8	72.4	91.1
2	System Access	104.4	97.8	121.9	328.5	126.3	252.8	125.7
3	System Access – ICM including overhead			28.8				
4	System Renewal	106.4	191.3	203.6	197.6	210.3	345.9	136.4
5	System Renewal – ICM including overhead			124.0				
6	System Service	91.4	27.1	93.1	123.0	177.0	52.5	168.2
7	System Service – ICM including overhead	84.0	95.5					
8	Overheads	69.8	85.3					
9	Total Capital	507.8	525.4	627.0	705.9	592.3	723.7	521.4

[1] EB-2018-0305, Decision and Order , Page 29, dated September 12, 2019.

Please note that no ICM projects are shown beyond 2021 as the materiality threshold to determine ICM eligibility for future years has not been calculated.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Federation of Rental-housing Providers of Ontario ("FRPO")

Interrogatory

Reference:

Exhibit B, Tab 2, Schedule 1, Page 4-5, Tables 1 and 2

Preamble:

We are interested in understanding what factors, condition rating or otherwise have contributed to the step change in spending for System Renewal.

Question:

Please confirm that the average actual spend for System Renewal from 2016-2019 for Enbridge was $104M and for Union was $98M and that the average forecast or budgeted spend for 2020-2025 for Enbridge Rate Zone is $295M and Union Rate Zone is $235.

a) Please list all of the condition rating changes made by the merged company that contributed to the step increases in System Renewal spending.
    i. Please provide documentation of these rating changes identifying the drivers of the change (e.g., Code, regulation, improved diagnostics, etc.)

b) Please list all of the economic assessment changes made by the merged company that contributed to the step increases in System Renewal spending.
    ii. Please provide documentation of these economic assessment changes identifying the drivers of the change.

Response

When comparing the noted expenditures/forecasts, it is important to note that the 2016-2019 capital expenditures in Exhibit B, Tab 2, Schedule 1, Page 4-5, Tables 1 and 2 do not include overheads whereas the in-service capital for 2020-2025 does include overheads.

For charts that reflect these in a consistent manner, please refer to Exhibit I.SEC.13.

a) The increases are consistent with replacement appropriate to an aging transmission and distribution system.

   Higher spend levels in the EGD Rate Zone in 2021, 2022 and 2024 are consistent with specific replacement projects identified in Exhibit C, Tab 2, Schedule 1, Table 1.9-2, most significantly the SCOR Meter Area Upgrade (Phase 1), the St Laurent Replacement (Phases 3 and 4), NPS 20 Lakeshore Replacement (Cherry to Bathurst) and K701/2/3 Reliability – Replacement noted therein.

   Higher spend levels in the Union Rate Zones in 2021, 2023 and 2024 are consistent with specific replacement projects identified in Exhibit C, Tab 2, Schedule 1, Table 1.9-3, most significantly the London Lines Replacement, Panhandle Line Replacement, and the Dawn Plant C Compression Lifecycle.

   The condition of the assets has not changed as a result of the merger of the companies. Rather, both companies had included these assets for replacement as a result of obsolescence and condition in previous AMPs and the projects are considered necessary to maintain the safe and reliable transmission and distribution of natural gas to customers in Ontario.

b) There have been no changes to System Renewal expenditures as a result of economic assessments.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Federation of Rental-housing Providers of Ontario ("FRPO")

Interrogatory

Reference:

Exhibit B, Tab 2, Schedule 1, Page 6

Preamble:

EGI evidence states: *"System access investments are additions and modifications (including asset relocation) to the Enbridge Gas distribution system that the utility is obligated to perform in order to provide a customer or group of customers with access to natural gas services via the distribution and transmission systems. System Access capital expenditures are driven mainly by Customer Growth, Natural Gas Vehicles (NGV) and third party driven rebillable relocation projects."*

Question:

Please provide the guiding decision, directive or other order that obligates the utility to provide service for NGV.

a) Please provide the forecast for NGV spending incorporated into the System Access category for each of the years presented.

Response

The NGV program was developed in response to a federal and provincial government incentive program. For legacy EGD, the NGV program was approved by the OEB as part of its predecessor Consumers' Gas Company 1986 Rates proceeding (EBRO 403). For legacy Union, the NGV program was approved by the OEB as part of the 1990 Rates proceeding (EBRO 456).

a) Please refer to Exhibit B, Tab 2, Schedule 1, Appendix A, Table C, Line 4 and Table D line 1 for the NGV forecast included in the System Access category.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Federation of Rental-housing Providers of Ontario ("FRPO")

Interrogatory

Reference:

Exhibit B, Tab 2, Schedule 1, Page 32 and
EB-2020-0067, EGI Reply Submission, Attachment 1, Page 1

Preamble:

EGI evidence in this proceeding states: "*The ICM unit rates presented in Appendix G were prepared assuming an implementation date in rates of January 1, 2021. Following the Board's Decision in this proceeding, Enbridge Gas will file a draft rate order including updated ICM unit rates to reflect recovery of the total revenue requirement of the projects for the deferred rebasing period beginning with the implementation date if different than January 1, 2021*."

Question:

Using a presentation similar to the attachment referenced from EB-2020-0067, please provide the rate impacts from Appendix G if implemented April 1, 2021 and separately, if implemented July 1, 2021 in conjunction with other approved or planned rate changes for 2021.

Response

Please see Attachment 1.

ENBRIDGE GAS INC.

Forecast Timing of 2021 Rate Changes and Deferral and Variance Account Disposition

Line No.		Residential Customer Impact (1) EGD	Union South	Union North West	Union North East	Forecast Effective Date (2)	Customer Type	Proposed Deferral and Variance Account Disposition Method	Period	2021 Timing Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)	(s)	(t)
	Approved Rate Changes																				
1	2021 Rates - Phase I	1.99	9.06	10.44	10.76	21-Jan	All customers	N/A	N/A												
2	January 2021 QRAM (3)	16.59	21.75	70.02	24.73	21-Jan	All applicable customers	Prospective	12 months												
	Proposed Rate Changes																				
3	2021 Federal Carbon	47.08	43.23	43.23	43.23	Apr-21	All customers	N/A	N/A												
4	*2021 Rates - Phase II - April Implementation (4)*	*0.12*	*2.96*	-	-	*Apr-21*	*All customers*	*N/A*	*N/A*												
5	*2021 Rates - Phase II - July Implementation (4)*	*0.14*	*3.25*	-	-	*Jul-21*	*All customers*	*N/A*	*N/A*												
	Proposed Deferral and Variance Account Disposition																				
6	2017/2018 DSM Deferrals (5)	10.80				Apr-21	All other customers	One-time adjustment	One month												
7			26.62	(9.49)	(9.49)	Apr-21	Union general service	Prospective	Six months												
8	2019 Deferrals (6)	0.74				Jul-21	All other customers	One-time adjustment	One month												
9			4.97	(61.53)	(5.94)	Jul-21	Union general service	Prospective	Three months												
	Not Yet Filed																				
10	2021 QRAM (7)	---------- TBD ----------				Apr-21 (8)	All applicable customers	Prospective	12 months												
11	2019 DSM Deferrals	---------- TBD ----------				TBD	All customers (9)	One-time adjustment	TBD												

Notes:

(1) Based on annual consumption of 2,400 m³ for the EGD rate zone and 2,200 m³ for the Union rate zones. Customer impact for rate changes represent annual amounts, customer impact for deferral and variance account disposition represent temporary billing adjustment amounts.

(2) Forecast effective date may be updated from original application to reflect the current procedural timing.

(3) January 2021 QRAM bill impacts exclude rate adjustments.

(4) Residential customer impact will reflect an April 1, 2021 or July 1, 2021 implementation date, not both.

(5) Disposition period and bill impact represented as originally proposed by Enbridge Gas in its Application. As set out in Enbridge Gas's Reply Submission dated 2020-11-12, paragraph 25, Enbridge Gas supports the recommendations of certain intervenors to uniformly dispose of balances over a period of three months effective April 1, 2021 (as a one-time adjustment disposed of in three equal installments from April to June for EGD rate zone customers and contract class customers in the Union rate zones and prospectively from April to June for general service customers in the Union rate zones), subject to the Board's direction.

(6) Residential customer impact reflects a January 1, 2021 effective date.

(7) Applicable to customers for which Enbridge Gas manages gas supply and/or transportation and storage needs.

(8) Effective April 1, 2021 and each subsequent QRAM (July 1, 2021, and October 1, 2021)

(9) Beginning with deferral dispositions effective October 1, 2021 at the earliest, Enbridge Gas expects it will be able to adopt a common disposition approach and disposition period between the EGD and Union rate zones once integrated systems and process are implemented.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Federation of Rental-housing Providers of Ontario ("FRPO")

Interrogatory

Reference:

Exhibit C, Tab 1, Schedule 1, page 8

Preamble:

EGI evidence states: *"Enbridge Gas is committed to ensuring the proper governance structure and management oversight to enable the Company to invest capital in the most efficient and effective way to meet the Company's obligations, ensure safety, and maximize the value of investments."*

We would like to understand better this statement as it pertains shareholder return and ratepayer impact.

Question:

Please provide the definition of "maximizing the value of investments".

a) What is the expected outcome of the maximization i.e., lower ratepayer costs, higher shareholder profit, etc.?
b) What is the "maximize the value" mandate from the governance structure to those in management who oversee the capital programs?
c) How is that mandate incorporated into the capital program?
d) What financial incentives are in place for management to maximize rate base?

Response

a) As described in Exhibit C, Tab 2, Schedule 1, p. 61, Enbridge Gas has established various value measures that are used to determine the total value that an investment will yield. These include factors such as employee and contractor safety, operational disruption, and environmental risk and remediation. The value of the investment is the difference between the net present value of the cost of the investment and the value derived from that investment through the various value

measures. The expected outcome of the optimization is a set of investments with the highest value with a capital expenditure constraint equal to the materiality threshold.

b) With respect to those that manage capital programs, maximizing value comes through early identification of the purpose, need, and timing of various investments; through clear characterization of the value of the investment (costs and benefits); and through execution of the project or program of work.

c) The maximization of value in the capital portfolio comes through the optimization process and the many reviews with internal stakeholders to make sure that projects are properly prioritized and that resources are available for execution.

d) See Exhibit I.FRPO.11 b).

ENBRIDGE GAS INC.

Answer to Interrogatory from
Federation of Rental-housing Providers of Ontario ("FRPO")

Interrogatory

Reference:

Exhibit C, Tab 1, Schedule 1, page 9-10

Preamble:

EGI evidence states: *"In addition, Enbridge Gas owns and operates approximately 312.7 PJ underground gas storage facilities (199.4 PJ regulated & about 113.3 PJ unregulated)…*

Question:

Please confirm that while the price of storage services from non-utility storage is not regulated, the non-utility is regulated.

Response

In its EB-2005-0551 NGEIR Decision, the Board determined it would cease regulating the prices of services in the storage market for customers other than in-franchise customers and that EGD and Union should retain regulated, cost-based rates for storage used by in-franchise customers.[1] In accordance with the Decision, 199.4 PJ of storage space is reserved to provide service to in-franchise customers at cost-based rates. The remaining 113.3 PJ of Enbridge Gas's storage space is used to provide services that are sold at market prices that are not regulated by the Board.

Though the services are sold at market prices for the unregulated portion of Enbridge Gas's storage space, the Board retains jurisdiction over other aspects of the storage operations (for example, approval is required to store gas in a designated gas storage area).

[1] EB-2005-0551 Natural Gas Electricity Interface Review Decision with Reasons dated November 7, 2006, p. 71 and p. 77.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Federation of Rental-housing Providers of Ontario ("FRPO")

Interrogatory

Reference:

Exhibit C, Tab 1, Schedule 1, page 28-31

Preamble:

We would like to understand better the approach to economic analysis and discounted cash flow (DCF) as it pertains to System Renewal.

Question:

Please provide a detailed description of the economic analysis that underpins the Capital Budgeting and LRP Process.

a) Please ensure the description provides the company's approach to decision making on maintaining, renewing or refurbishing vs. replacement of assets.
    i) Please include how the company approaches factors such as costs to extend life, risk of failure, probability, safety, etc.
    ii) Please describe how the analysis incorporates ratepayer impact.

Response

a) System Renewal projects are assessed and evaluated as per the Asset Management Core process as described in Exhibit C, Tab 2, Schedule 1, Section 4.2.
    i. Enbridge Gas makes decisions about the maintenance, renewal and refurbishment of assets through the various asset class strategies that are described in Exhibit C, Tab 2, Schedule 1, Section 5.

    ii. Enbridge Gas calculates the ICM materiality threshold annually and uses this as the capital constraint in Cooperleaf C55 (the asset investment planning tool) to ensure that optimized projects are within the rates approved by the OEB.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Federation of Rental-housing Providers of Ontario ("FRPO")

Interrogatory

Reference:

Exhibit C, Tab 1, Schedule 1, page 39, paragraph 76 and page 51, paragraph 94

Preamble:

EGI evidence states: *"In developing the asset management plan, Enbridge Gas considers ongoing O&M expenses and capital investments. In many cases it may be possible to continue to spend O&M dollars to extend an asset's useful life. However, as the condition of the asset degrades over time, O&M expenditures increase to the point that there is no economic benefit to continuing to operate the asset and renewal investment becomes the preferred option.*
…
Enbridge Gas uses a Risk Management Process that is consistent with ISO 31000. A variety of Risk Assessment techniques are used that are appropriate to the decision that is to be made, the quality of information that is available, the immediacy of the need, and the nature of the risk. In many cases the risk assessment is progressive, starting with a relatively quick qualitative assessment which can evolve to a more quantitative assessment if there are multiple treatments to be considered."

We would like to understand how this approach works practically using two actual projects.

Question:

Please file the engineering/economic assessment for the Kirkland Lake Lateral Replacement.

a) Please ensure the actual and forecast O&M spends are included and categorized (cathodic protection, leak detection and repair, aerial monitoring, etc.).
b) Please ensure all qualitative and quantitative assessments are included.

Response

Enbridge Gas is not seeking any relief for the project specified in this question in this proceeding. Enbridge Gas declines to provide the requested documentation.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Federation of Rental-housing Providers of Ontario ("FRPO")

Interrogatory

Reference:

Exhibit C, Tab 1, Schedule 1, page 39, paragraph 76 and page 51, paragraph 94

Preamble:

EGI evidence states: *"In developing the asset management plan, Enbridge Gas considers ongoing O&M expenses and capital investments. In many cases it may be possible to continue to spend O&M dollars to extend an asset's useful life. However, as the condition of the asset degrades over time, O&M expenditures increase to the point that there is no economic benefit to continuing to operate the asset and renewal investment becomes the preferred option.*
…
Enbridge Gas uses a Risk Management Process that is consistent with ISO 31000. A variety of Risk Assessment techniques are used that are appropriate to the decision that is to be made, the quality of information that is available, the immediacy of the need, and the nature of the risk. In many cases the risk assessment is progressive, starting with a relatively quick qualitative assessment which can evolve to a more quantitative assessment if there are multiple treatments to be considered."

We would like to understand how this approach works practically using two actual projects.

Question:

Please file the engineering/economic assessment for the London Lines Replacement.

a) Please ensure the actual and forecast O&M spends are included and categorized (cathodic protection, leak detection and repair, aerial monitoring, etc.).

b) Please ensure all qualitative and quantitative assessments are included.

Response

a) and b) Please see Exhibit I.CME.2 a).

ENBRIDGE GAS INC.

Answer to Interrogatory from
Federation of Rental-housing Providers of Ontario ("FRPO")

Interrogatory

Reference:

Exhibit C, Tab 1, Schedule 1, page 58

Preamble:

EGI evidence includes the 2021 Dawn Parkway Expansion Project (Kirkwall-Hamilton NPS 48) as a System Service Investment with an In Service Date of 2022.

We would like to understand what demand forecast contributed to the timing for In Service of 2022.

Question:

Please provide the demand forecast that drove this timing.

a) Please confirm that Enbridge currently has an Open Season in progress for Dawn Parkway capacity starting in 2023.
b) Please file the Open Season package.
c) Please reconcile the start date for capacity available in the Open Season with the In Service Date of 2022 for the Kirkwall – Hamilton expansion.

Response

a) Confirmed.

b) Please refer to the following website for the Open Season package. https://www.uniongas.com/storage-and-transportation/newsroom/open-seasons/2020/nov-24-2020

c) The 2022 in-service date for the Dawn Parkway Expansion Project (Kirkwall-Hamilton NPS 48) set out in the Asset Management Plan was the best information available at the time of its preparation. However, the 2022 in-service date for that

Project is no longer valid or relevant as the OEB subsequently approved Enbridge Gas's request to withdraw its application for Leave to Construct the Project without conditions.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Federation of Rental-housing Providers of Ontario ("FRPO")

Interrogatory

Reference:

Exhibit C, Tab 2, Schedule 1 EGI Asset Management Plan, page 19 and 45

Preamble:

EGI evidence states: *"The amalgamation of the legacy utilities included alignment of roles across both organizations. A new asset management reporting structure was set up with asset manager roles aligned to new processes, asset class hierarchies, governance roles and functional department support. A matrix approach to asset management enables the coordinated activity of defining an optimized and approved portfolio of work."*

We would like to understand this structure and incentives aligned with the strategy.

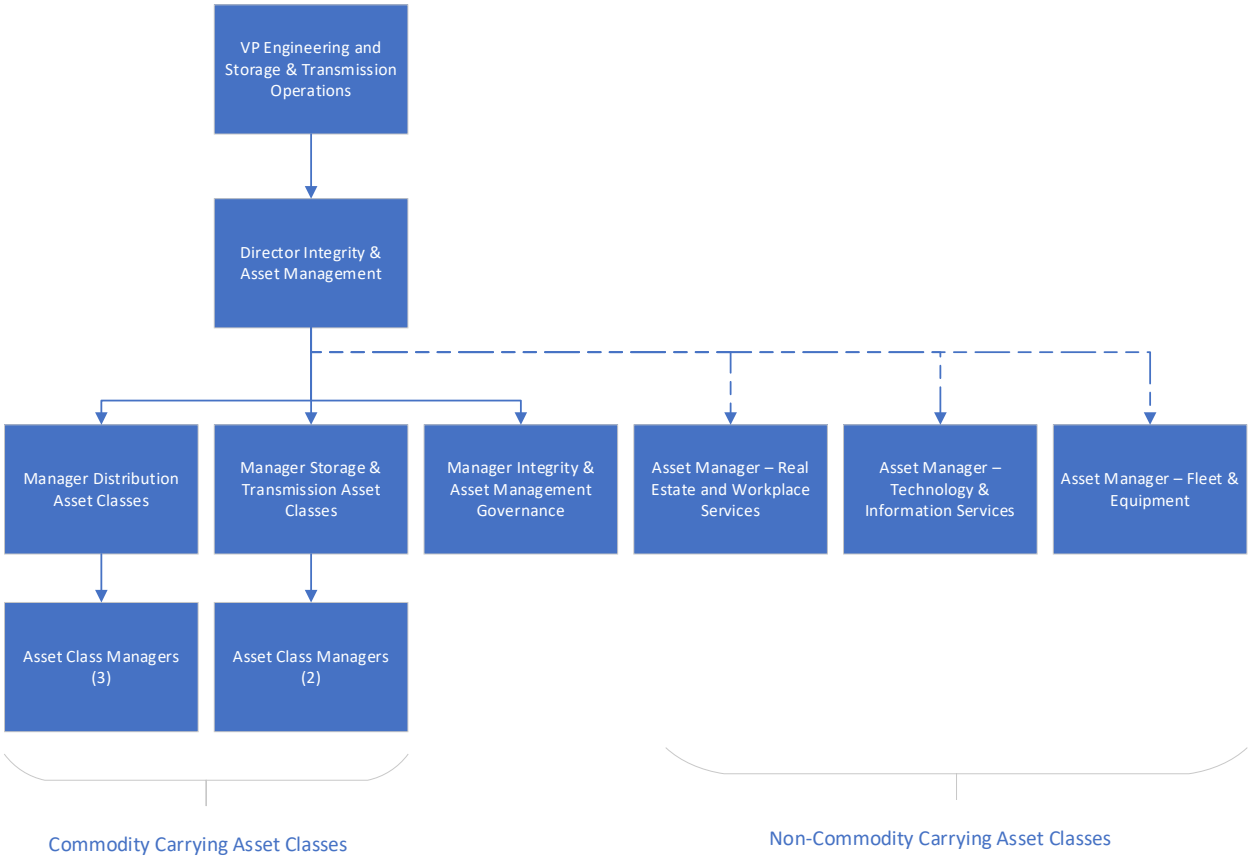
Question:

Please provide an organizational chart showing the new asset management reporting structure.

a) Please indicate who has decision-making authority for investment decisions.
b) Please provide the financial incentive metrics that are included in compensation for those with decision-making authority.

Response

The elements of this structure are described in the AMP at Exhibit C, Tab 2, Schedule 1, page 52-53 and are depicted in the organization chart below:



a) As noted in the AMP at Exhibit C, Tab 2, Schedule 1, page 19 there is a matrix approach to asset management with processes and governance to provide for clear decision making. The elements of this structure are described at Exhibit C, Tab 2, Schedule 1, page 52-53 and include the role of functional groups in identifying the need for investments and executing work, the role of asset managers in defining strategies for asset classes, and the role of asset management governance in setting out the processes and controls to support the decision making.

Many of the investments in the Asset Management Plan are mandatory or compliance related, consistent with the definitions in Exhibit C, Tab 2, Schedule 1, Table 4.1-3. As such their inclusion in the AMP is driven by process rather than by an individual decision maker. Where investments are driven by risk and opportunity, the decision as to which investments to include is driven through the optimization process as described Exhibit C, Tab 2, Schedule 1, Page 252-253 and in Exhibit I.FRPO.5 c). The portfolio of investments is ultimately approved by the Vice-President Engineering and Storage & Transmission Operations.

The Asset Management Plan is a dynamic plan, responding to changing needs of the assets and emergent issues. As shown in the AMP at Exhibit C, Tab 2, Schedule 1, Figure 4.2-2 there is a process for approving emergent work. These investments are initially brought forward by an Asset Manager and, through discussion with other Asset Managers and Asset Management Governance there is a determination as to whether the investment can be funded or must be moved into the next planning period. If significant changes to plan are required either in terms of risk reduction or capital cost then the decision is escalated to the Director of Asset Management or the Vice-President Engineering and Storage & Transmission Operations.

b) Financial incentives are tied to the achievement of the Strategic Priorities, which are outlined in the AMP at Exhibit C, Tab 2, Schedule 1, Figure 2.2-2.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Federation of Rental-housing Providers of Ontario ("FRPO")

Interrogatory

Reference:

Exhibit C, Tab 2, Schedule 1 EGI Asset Management Plan, page 24

Preamble:

EGI evidence states: *"Customer stations assets are inspected through field condition survey assessments to identify the existence of boot style regulators…*

We would like to understand the issue with boot style regulators.

Question:

What is the issue with boot style regulators?

a) When was the issue discovered?
b) What is EGI's approach to a station when it is determined to have boot style regulators?

Response

a) Boot style regulators have been approved by Engineering for many years at Enbridge Gas and there is no issue with boot style regulators that is of concern to Enbridge Gas. In 2014, Enbridge Gas evaluated the design practice of utilizing boot style regulators in series in an operator/monitor or monitor/operator configuration for over pressure protection (OPP) and determined that this can introduce the risk of the OPP device being susceptible to the same failure mechanisms as the pressure control device in the event of a pressure control failure. Condition findings of boot style regulators are described in the AMP at Exhibit C, Tab 2, Schedule 1, Section 5.3.6.2, page 143:

> The system station replacement programs are informed by condition surveys to reduce the risk of any issues observed. For example, boot-style regulators which

> use a combination of a flexible “boot” element and gas pressure to regulate downstream flow and pressure may be more susceptible to higher failure rates due to their design. This type of regulator station design has demonstrated susceptibility to failures caused by debris, particulates, hydrates and sulfur deposits. Adopting a new design philosophy to use alternative regulator models or including filtration minimizes the potential for downstream over-pressure events.

b) Enbridge Gas's approach to boot style regulators is to ensure that the maintenance procedures are appropriate for the current design and to determine if the OPP is adequate for a safe and reliable solution in the station. If there is a concern to public safety, a modification will be made to ensure the safe and reliable delivery of natural gas.

   Enbridge Gas's strategy around boot style regulators is one of the conditions that is targeted and is described in Exhibit C, Tab 2, Schedule 1, Section 5.3.6.4, page 144 that states:

> This strategy mitigates risks associated with station condition and legacy station designs. Risks can be significant; one station may supply gas to hundreds of customers, and accordingly, all downstream mains and services can be affected by a failure. Stations are identified through regular inspections, information collection and condition methodology. This strategy will maintain the station population’s current average condition and operational reliability, ensure operational capacity to meet current demands and minimize process safety risk.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Federation of Rental-housing Providers of Ontario ("FRPO")

Interrogatory

Reference:

Exhibit C, Tab 2, Schedule 1 EGI Asset Management Plan, page 24

Preamble:

We would like to understand better the Utilization Condition and Strategy Overview for the Measurement Systems.

Question:

What type of meter(s) are involved in the category that refers 200, 400 and >400?

a) What is the failure modality of these meters and how is it predicted?
b) What is the "financial opportunity to remove group of meters that have been sampled multiple times".

Response

Meter Size	***Meter Type***
200 & 400	Diaphragm
400 up to 1000	Diaphragm / Ultrasonic / Rotary
> 1000	Ultrasonic / Turbine

a) Enbridge Gas has a robust meter exchange/ compliance sampling program that samples meters up to 1000 CFH annually, according to Measurement Canada's requirements, and it replaces meters annually before they fail based on age, condition, and compliance sampling results. The latter is based on Measurement Canada's S-S-06—Sampling Plans for the Inspection of Isolated Lots of Meters in Service: http://www.ic.gc.ca/eic/site/mc-mc.nsf/eng/lm04356.html. The meter exchange program predicts meter failures through a sampling program. If meters in the sample fail, then the whole population of meters from which the sample was drawn are planned for proactive replacement. This practice allows Enbridge Gas to maintain a healthy meter population, while exercising its due diligence under the *Electricity and Gas Inspection Act*.

Meters may occasionally fail due to external factors such as third party damage. In rare cases, meters may also malfunction for example they do not register, fog up, or may have a premature component failure. In the unlikely event that this occurs, Enbridge Gas promptly corrects the issue, as it is the Company's obligation under the *Electricity and Gas Inspection Act* (section 16.1): https://laws-lois.justice.gc.ca/eng/acts/E-4/page-2.html?txthl=owner%E2%80%99s+owner#s-16 to keep meters in good repair. Based on historical averages of random failures Enbridge Gas has an annual estimated budget for these meter exchanges.

All other meters (Rotary, turbine and ultrasonic meters) have Electronic Volume Correctors and/or built-in electronic capabilities that allow Enbridge Gas to quickly identify an issue, electronically and remotely (telemetry).

b) Enbridge Gas' analysis and prediction tools allow the Company to pro-actively remove meters that are reaching the end of life expectancy. Enbridge Gas can gauge the actual performance of meters and compare that to the expected performance. If meters are not performing as expected, Enbridge Gas will proactively remove the subject meters prior to failures. If meters fail there is a financial risk: repair costs, relighting costs, loss of revenue, and possible damage. Replacing meters that have been sampled several times mitigates the possible financial loss. As well, for meters that are extended several times, the extension period becomes shorter meaning more frequent inspections. Eventually it becomes financially advantageous to replace the meter.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Federation of Rental-housing Providers of Ontario ("FRPO")

Interrogatory

Reference:

Exhibit C, Tab 2, Schedule 1 EGI Asset Management Plan, page 26

Question:

We would like to understand better the implications of the issues addressed under the heading of Underground/Below Ground/Internal Piping Systems.

Please provide EGI's report assessing this issue.

a) What are EGI's obligations in reporting issues or risks identified on customer-owned piping?
b) What proactive steps has EGI encouraged for customers with customer-owned piping?

Response

The grouping of Underground/Below Ground/Internal Piping Systems covers three EGI owned Sub-Asset Classes: Service Extensions, Multi-Family Building Services, and Bulk Meter Headers. These assets are part of the robust Meter Exchange Program (MXGI) (see Exhibit I.FRPO.13) but because of their unique configuration their asset health is also verified through Integrity surveys.

a) There are several components to ensuring the safety of Customer Owned Assets. Certified installers have the duty of ensuring installations meet code, appliances are connected/commissioned, and are in safe operating order. The customer has the duty for inspections, and continued maintenance of their equipment to ensure safe operations. The utility has a duty to inspect a customer's piping system and appliances to ensure correct installation before supplying Gas. Enbridge Gas reports incorrect installations or code violations to the TSSA. Enbridge Gas adheres to O. Reg. 212/01. Clause 7 addresses 'Initial in Service' and Clause 16 covers 'Re-Inspection'. Clause 16 outlines a quality assurance inspection program to ensure customer installation and use of piping and appliance complies with the regulation. Re-Inspection occurs when Enbridge Gas conducts a meter exchange or when Enbridge Gas is required to interrupt that gas supply to the customer as a result of planned or unplanned work at the customer's location or related to Enbridge Gas' assets.

b) Enbridge Gas sends monthly bill inserts that remind customers about the safe use of Natural Gas. Enbridge Gas's website also contains information on Natural Gas safety:

https://www.enbridgegas.com/Using-Natural-Gas
https://www.enbridgegas.com/Safety
https://www.enbridgegas.com/Builders-and-contractors

ENBRIDGE GAS INC.

Answer to Interrogatory from
Federation of Rental-housing Providers of Ontario ("FRPO")

Interrogatory

Reference:

Exhibit C, Tab 2, Schedule 1 EGI Asset Management Plan, page 32 and page 65

Preamble:

EGI evidence states: "*To optimize the 1,251 Union rate zone and 863 EGD rate zone investments, the asset investment planning tool (C55) was used. The capital constraint values were used to set an overall constraint and the optimal capital timing was determined for proposed investments.*
…

"With value framework and solution planning work complete, portfolio optimization is performed in C55, creating a work plan that optimizes the timing and solutions of all capital projects to maximize the total value of the portfolio. Investments across the entire organization are optimized to determine the highest total value that can be achieved with constraints on annual net direct capital and with available resources."

We would like to understand the determination of the capital constraints input into the model and the optimization process for highest total value.

Question:

Please describe the process for determination of the overall constraint and provide the values used for each of the components in the determination.

a) Please define the highest total value (greatest amount of capital employed, greatest percentage of ICM availability, highest opportunity for return, etc.).
b) Please describe the process for optimization to the highest total value and contributing values for each year.

Response

Please refer to Exhibit C, Tab 2, Schedule 1, page 252, Section 6.1.2 Capital Considerations for the process Enbridge Gas used for the determination of the capital constraint used in optimization.

a) Portfolio optimization utilizes value, defined as the net present value of an investment, composed of value measure components (identified in Exhibit C, Tab 2, Schedule 1, page 59, Section 4.1.4 Risk and Review, Table 4.1-4). The optimization attempts to achieve the highest total value in the portfolio of investments while constraining the total capital expenditure. Because a single value is optimized, there is not a highest total value.

b) Please refer to Exhibit C, Tab 2, Schedule 1, page 65, Section 4.2.3 Portfolio Optimization for the optimization process.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Federation of Rental-housing Providers of Ontario ("FRPO")

Interrogatory

Reference:

Exhibit C, Tab 2, Schedule 1 EGI Asset Management Plan, page 32, Figure 1.9-1

Question:

We would like to understand what ICM Compression Station work is scheduled for 2022 in the EGD Rate Zone.

Please provide a description of the work, the cost estimate, and its eligibility for ICM.

Response

Please refer to Enbridge Gas's Asset Management Plan at Exhibit C, Tab 2, Schedule 1, Table1.9-2, pages 34-35 for a list of ICM-eligible capital projects in the Compression Station asset class scheduled for 2022 in the EGD rate zone. The descriptions of work and cost estimates can be found in the Asset Management Plan at Exhibit C, Tab 2, Schedule 1, Appendix 7 (Compression Stations section), pages 332-346. Enbridge Gas is not seeking any relief for any of these projects in this proceeding.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Federation of Rental-housing Providers of Ontario ("FRPO")

Interrogatory

Reference:

Exhibit C, Tab 2, Schedule 1 EGI Asset Management Plan, page 37

Question:

We would like to understand the criteria for "in-flight".

Is the model set to finish investment once started?

a) How does the model handle new information that may arise as preliminary engineering, environmental or other assessments yield information that point to a superior solution?
    i) What updates and iterative approaches are in place to ensure that the company is not spending "good money after bad"?

Response

An in-flight investment is a project that has begun to incur capital. The model is set to finish the investment once started; however, exceptions can be managed where the remaining capital can be paused, and timing options evaluated.

a) As new information arises on an investment, the solution and forecast are updated as required. These details are part of subsequent portfolio reviews. As forecast updates are made, they are reviewed by the respective Asset Manager who ensures the investment aligns with the lifecycle strategies of the asset class.

    i) Project managers and Asset managers review significant changes to project scope and cost as these have implications for other investments. Incremental costs may be due to scope changes, more detailed project planning, or a combination of both. Where additional scope is added to the investment, it must be demonstrated to bring incremental value.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Federation of Rental-housing Providers of Ontario ("FRPO")

Interrogatory

Reference:

Exhibit C, Tab 2, Schedule 1 EGI Asset Management Plan, page 42

Preamble:

EGI evidence states*: "Replacing Pipelines and Equipment (in general): Over half of residential customers (58%) prefer to spread costs evenly over time, even if that means higher rates now. Preferences among business customers are similar to residential customers. Contract business customers are slightly more likely to prefer to spread costs evenly over time."*

We would like to understand how customers were informed to provide this preference.

Question:

Please provide the base survey questions and what information customers were provided to inform their responses.

Response

The base survey questions are contained in the Customer Engagement Study Exhibit C, Tab 3, Schedule 1, pages 25-26.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Federation of Rental-housing Providers of Ontario ("FRPO")

Interrogatory

Reference:

Exhibit C, Tab 2, Schedule 1 EGI Asset Management Plan, page 45

Preamble:

EGI evidence states: *"Strategy and Planning: the governance framework used to align Asset Management Plans and decision-making within the enterprise's overall strategic objectives at the lowest total cost of ownership"*

Question:

Please describe how the lowest total cost of ownership is incorporated.

a) Please describe how this criterion interacts with "highest total value that can be achieved" described in question 15.

Response

Achieving the lowest total cost of ownership is an objective of the asset management framework. Within the existing framework, there are 2 primary ways this is incorporated:

i) defined asset class strategies that consider the asset lifecycle
ii) value measures used in calculating the value of a capital investment

Capital investments will only proceed to optimization if they align with the defined asset class strategies for an asset class. Once in portfolio optimization, value measures will capture both the positive and negative value contributions on the investment and use this information when assessing investment timing in optimization. The value assessment allows for the incorporation of capital and O&M costs, as well as other value measures, as described in the Asset Management Plan at Exhibit C, Tab 2, Schedule 1, page 59, Section 4.1.4 Risk and Review, Table 4.1-4.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Federation of Rental-housing Providers of Ontario ("FRPO")

Interrogatory

Reference:

Exhibit C, Tab 2, Schedule 1 EGI Asset Management Plan, page 56, Table 4.1-1

Preamble:

We would like to understand how the Renew/Retire decision involves the "Determine probability and consequence of failure to inform renewal decisions work"

Question:

Please provide the documents that contribute this portion of the analysis to:

a) The Kirkland Lake Lateral Replacement
b) The London Lines Replacement

Response

a) Please see Exhibit I.FRPO.8.

b) The requested information is not relevant to the current proceeding as any issues related to the purpose and need of the London Lines Replacement Project are being addressed in the LTC proceeding, EB-2020-0192 (note that argument has now been filed in that proceeding, and the Board's Decision is pending).

ENBRIDGE GAS INC.

Answer to Interrogatory from
Federation of Rental-housing Providers of Ontario ("FRPO")

Interrogatory

Reference:

Exhibit C, Tab 2, Schedule 1 EGI Asset Management Plan, page 60, Section 4.1.5

Preamble:

In reviewing the referenced section, we did not see how the impact of rates was incorporated into the Asset Management Decision-making.

Question:

Please provide the company documentation that speaks to how impact on customer rates is incorporated into the Asset Management Decision-making.

Response

As outlined in the Asset Management Plan at Exhibit C, Tab 2, Schedule 1, page 252, Section 6.1.2 Capital Considerations, the capital constraint determined for optimization was determined based on the outcome of the MAADs Decision (EB-2017-0306/EB-2017-0307).

ENBRIDGE GAS INC.

Answer to Interrogatory from
Federation of Rental-housing Providers of Ontario ("FRPO")

Interrogatory

Reference:

Exhibit C, Tab 2, Schedule 1 EGI Asset Management Plan, page 62, Figure 4.2-2

Question:

Please provide the criteria that allows an "Out of Plan Project" to by-pass the Investment Planning process.

Response

Out of Plan projects are projects identified off-cycle from portfolio optimization timelines, where capital is required within the current calendar year. For this reason, these projects cannot be considered in portfolio optimization, but still follow the Investment Planning process. These projects are reviewed by the Asset Manager and approved on a case by case basis if capital can be made available. If capital is determined to be unavailable, the project is not approved and will be considered in the next optimization/portfolio review for a future year.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Federation of Rental-housing Providers of Ontario ("FRPO")

Interrogatory

Reference:

Exhibit C, Tab 2, Schedule 1 EGI Asset Management Plan, page 67

Preamble:

EGI evidence states: *"**Prescriptive analytics** helps advise on possible outcomes and to answer the question "What should we do?". An example is the use of C55 to prescribe and optimize asset investment planning for the next five years.*

We would like to understand the prescriptive analytics process

Question:

Please define what criteria is being optimized.

a) What parameters are input, set or controlled?
b) What parameters are dependent type variables that are determined or calculated?

Response

Enbridge Gas understands that the intervenor is trying to understand the inputs, outputs, and constraints of the optimization process through this question.

a) In C55, the criteria being optimized is the net value of investments, as described in the Asset Management Plan at Exhibit C, Tab 2, Schedule 1, pages 58-60, Section 4.1.4 Risk and Review. Value is calculated based on the value measures and cost specified on an investment.

   The optimization constraint is a set parameter termed the 'capital constraint' (Exhibit C, Tab 2, Schedule 1, page 252, Section 6.1.2 Capital Considerations). Another set parameter is the classification of mandatory/must do investments (Exhibit C, Tab 2,

Schedule 1, page 252, Section 6.1.1 Investment Criteria), for which the timing/capital requirements are fixed.

b) Through the optimization activity, the optimized capital spend profile is calculated. This output defines each investment's timing and selected alternative (if there is more than 1). The investments are moved within the planning window to create the most value within the capital constraint.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Federation of Rental-housing Providers of Ontario ("FRPO")

Interrogatory

Reference:

Exhibit C, Tab 2, Schedule 1 EGI Asset Management Plan, page 92, Table 5.2-2 and pages 115-116

Question:

Please provide the correct number of copper risers.

a) How many copper services and risers have been removed from EGD Rate Zone in each of the last 5 years?

Response

There are 261,973 copper risers as noted in the Asset Management Plan at Exhibit C, Tab 2, Schedule 1, page 92, Table 5.2-2, with the age distribution as noted on page 116, Figure 5.2-40.

There were 31,113 copper risers replaced in the last 5 years: 7005, 8413, 5059, 7244, 3392 (2016 through 2020, respectively).

There were 3303 copper services replaced in the last 4 years: 646, 978, 1244, 435 (2017 through 2020, respectively. Program and data tracking began in 2017.)

ENBRIDGE GAS INC.

Answer to Interrogatory from
Federation of Rental-housing Providers of Ontario ("FRPO")

Interrogatory

Reference:

Exhibit C, Tab 2, Schedule 1 EGI Asset Management Plan, page 243. Table 5.8-3

Preamble:

The footnote to the above referenced table states: "*Copperleaf C55 is not listed as it is managed by Corporate Services".*

Question:

Please define if Corporate Services refers to EGI or Enbridge Inc.

a) Please describe Corporate Services' role in matrixed organization responsible for Asset Management Decision-making.
    i) To whom does Corporate Services report?
    ii) What inputs do Corporate Services control and what inputs do other parts of the organization control?

Response

Corporate Services refers to Enbridge Inc.

a) Corporate Services is responsible for providing and maintaining the C55 application. Enbridge Gas is responsible for Asset Management Decision-making and the operation of the C55 application for the business unit.
    i) Corporate Services reports to Enbridge Inc.
    ii) Corporate Services controls the inputs for the build and configuration of the C55 application (this includes the value framework design). Enbridge Gas controls the C55 optimization parameters, Asset Investment Planning process, and capital investments.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Federation of Rental-housing Providers of Ontario ("FRPO")

Interrogatory

Reference:

Exhibit C, Tab 2, Schedule 1 EGI Asset Management Plan, page 252, Section 6.1.2

Preamble:

We would like to understand the process of Capital Considerations and their impact on customer rates.

Question:

Is the practical effect of using the ICM Threshold as the Capital Constraint pre-disposing the model to create the highest rate impact albeit smoothed for customers?

a) If not, please describe interventions that occur in the model and in selecting the inputs that result in prudent investments in the deferral of large projects.
b) Please specify how EGI creates a balance between ratepayers' interests and the optimized value of the portfolio of projects.

Response

a) As outlined in the Asset Management Plan at Exhibit C, Tab 2, Schedule 1, page 252, Section 6.1.1 Investment Criteria, comprehensive governance reviews were completed on investments proposed for optimization (criteria excerpt below).

- Investment scope met EGI's capitalization policy.
- Investments presented a well-articulated purpose, need and timing aligned with asset class objectives and life cycle management strategies.
- Investment scope definition and alternatives adequately addressed project risks and/or opportunities.
- Investments supported the asset management principles of balancing risk, cost and performance.
- Execution risks were reasonable (resource capacity).
- Initiatives identified as mandatory were justified, based on:
  - Compliance requirements
  - Exceeding a risk limit within EGI's intolerable risk region or Very High risks on the Enbridge Risk Matrix (**Figure 4.1-7**)
  - Third-party relocation driven
  - Program work with sufficient history and risk to warrant continuation
  - Projects that meet the economic feasibility tests in *EBO 188* and *EBO 134*
  - Investments that were already executing with costs continuing into 2021-2025

Through these validations, the need for the capital investment was confirmed for all investments as well as the fixed timing requirements for mandatory investments. As described in the Asset Management Plan at Exhibit C, Tab 2, Schedule 1, page 255, Section 6.1.3 Optimization Results, an optimized solution could not be obtained due to the level of fixed and mandatory projects. This required intervention, where uncharacteristically large investments that met the ICM criteria were removed from the optimization; their specific timing was considered once an optimized result was achieved in C55. Additional interventions came from reviews with asset managers and stakeholders where adjustments were driven by resource capacity and re-alignment with life cycle management strategies (where possible).

b) As outlined in the Asset Management Plan at Exhibit C, Tab 2, Schedule 1, page 42, Section 2.4 Stakeholder Commitment "Asset Management at EGI and this Asset Management Plan are a direct demonstration of the company's commitment to its stakeholders to ensure asset value is realized and optimal decision are made based on risk and opportunity". Enbridge Gas continually completes customer satisfaction surveys and conducted the Customer Engagement survey to develop an understanding of customers' interests and preferences and to incorporate the findings into the Utility System Plan. Through survey feedback, it was confirmed that customers are aligned with Enbridge Gas's commitment to the safe, reliable, cost-effective and environmentally responsible provision of natural gas. The feedback obtained informs and reinforces the asset management decision-making framework.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Federation of Rental-housing Providers of Ontario ("FRPO")

Interrogatory

Reference:

Exhibit C, Tab 2, Sch 1 EGI AMP 2021-25 Appendix Inv Codes 102128 & 49607 And EB-2020-0192 Exhibit I.FRPO.6 and FRPO.7

Preamble:

We are interested in understanding the output reports by using two upcoming replacement projects Kirkland Lake Lateral and London Lines and factors associated with prioritization.

Question:

For the Kirkland Lake Lateral, please provide a description of each of the Value Function Measures and provide its numerical determination.

a) How is Value in Percentage utilized?
    i) Please describe how the absolute value of cost, avoided costs and total investment costs are summed to provide a denominator for the purposes of a percentage.
    ii) What is the utility of the percentage and how is that metric used?

Response

Enbridge Gas is not seeking any relief for the project specified in this question in this proceeding. Enbridge Gas declines to provide the requested project-specific information.

a)
    i. The percentage for a specific value is calculated by taking that absolute value divided by the sum of all absolute values.

ii. The percentage value is a helpful tool to give a quick overview as to which Value Function Measure contributes the most to the overall value score, as well as providing a means to see a relative weighted ranking to the other factors being measured for that project.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Federation of Rental-housing Providers of Ontario ("FRPO")

Interrogatory

Reference:

Exhibit C, Tab 2, Sch 1 EGI AMP 2021-25 Appendix Inv Codes 102128 & 49607 And EB-2020-0192 Exhibit I.FRPO.6 and FRPO.7

Preamble:

We are interested in understanding the output reports by using two upcoming replacement projects Kirkland Lake Lateral and London Lines and factors associated with prioritization.

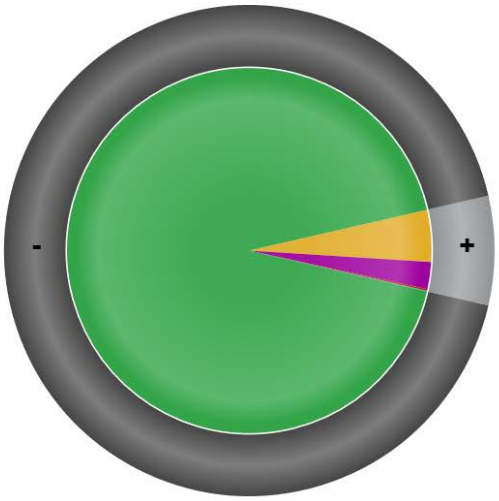
Question:

For the London Lines, please provide a description of each of the Value Function Measures and provide its numerical determination.

a) Specifically given the relatively low Operational and Financial Risks and very high negative Total, how and why was this project prioritized to 2021.

Response

a) The Operational and Financial Risks for the London Lines Project (Investment 49607) were preliminary in nature and were updated through a more detailed Risk Assessment for this project which was filed in response to interrogatories for the London Line LTC proceeding (EB-2020-0192, Exhibit I.FRPO.1). The results of this Risk Assessment have been recorded in C55 and the updated Value Function Measures can be found below. The risk and value assessment is only one of many factors and informational pieces used by Enbridge Gas to prioritize projects. Please refer to the Asset Management Plan, Section 4.2.1 – Risk Management for further details on how risks are managed and prioritized.



Draft Investment Value

LOND-London Lines Replacement

Value Measure	Value
Operational Risk	5,068.39
Financial Risk	2,623.12
Public Safety Risk	158.80
Employee And Co...	54.73
Reputational Risk	19.54
Environmental Ris...	0
Total Investment...	(102,371.08)
Total	**(94,446.50)**

ENBRIDGE GAS INC.

Answer to Interrogatory from
Federation of Rental-housing Providers of Ontario ("FRPO")

Interrogatory

Reference:

Exhibit C, Tab 2, Sch 1 EGI AMP 2021-25 Appendix Inv Codes 102128 & 49607 And EB-2020-0192 Exhibit I.FRPO.6 and FRPO.7

Preamble:

In the above reference to the LTC proceeding for the London Lines:

Question:

For the London Lines project, with the minimum inlet currently required at the Komoka station (please specify) and the forecasted 2021 design day loads on the London Lines system, please confirm the surplus capacity available at the Komoka Station is 4240 m3/hr.

a) If not confirmed, please provide surplus capacity and explain the difference.

Response

a) The information sought is not relevant to the current proceeding as any issues related to the purpose and need of the London Lines Replacement Project are being addressed in the LTC proceeding (note that argument has now been filed in that proceeding, and the Board's Decision is pending).

ENBRIDGE GAS INC.

Answer to Interrogatory from
Federation of Rental-housing Providers of Ontario ("FRPO")

Interrogatory

Reference:

Exhibit C, Tab 2, Sch 1 EGI AMP 2021-25 Appendix Inv Codes 102128 & 49607 And EB-2020-0192 Exhibit I.FRPO.6 and FRPO.7

Preamble:

In the above reference to the LTC proceeding for the London Lines:

Question:

Using the proposed replacement sizing and an input pressure of 3380 kPa to the system and a minimum inlet of 2347 kPa at the Komoka station, please confirm that the surplus capacity is 5500 m3/hr.

a) If not confirmed, please provide surplus capacity and explain the difference.
b) If the above two surplus capacities are correct, does this analysis confirm additional capacity is being added to the system with the replacement?
    i) If not, please explain why this increase is not so.

Response

a) & b) Please see Exhibit I.FRPO.29 a).

ENBRIDGE GAS INC.

Answer to Interrogatory from
Federation of Rental-housing Providers of Ontario ("FRPO")

Interrogatory

Reference:

Exhibit C, Tab 2, Schedule 1 EGI Asset Management Plan, page 106

Preamble:

EGI evidence states: "*The London Lines span approximately 83.5 kilometres and extend from Dawn to the Byron transmission station located in the London District".*

In the process of submissions in the EB-2020-0192 London Lines LTC proceeding, it was confirmed by EGI that the connection between the Komoka Station and the Byron Transmission Station was abandoned. This connection provided the only back-feed in the system primarily fed from Dawn.

Question:

Please provide the internal company reports, memos and authorizations that lead to the abandonments which disconnected the London Lines from Byron.

a) Please provide the specific dates of the physical abandonment(s).
b) Please ensure that this information includes implications to the current system and impacts on the proposed replacement design.
c) Please provide the cost that was estimated to renew those connections in a manner that could extend the life of the assets.
d) Please provide the output from the C55 model if the previously existing connections were maintained including the costs to extend the life of the Komoka to Byron assets.

Response:

a) to d) The requested information is not relevant to this proceeding. The section of the pipe between Komoka and Byron were abandoned in 2018 and does not form part of the London Line project for which Enbridge Gas is seeking ICM funding in this application. In the London Line LTC application, EB-2020-0192, Enbridge Gas provided further clarification regarding the line between Komoka and Byron in its letters (dated December 14 and 15, 2020) filed in response to FRPO's request for additional information.

Also, Enbridge Gas noted in its letter dated December 14, 2020 that the London Lines were erroneously referenced as the lines between Dawn to Byron in the Asset Management Plan ("AMP") and that it will file a correction to the AMP, page 106 to accurately describe the London line as the lines between Dawn to Komoka. Please see Attachment 1 for the correction to page 106 of the AMP.

Figure 5.2-23 - Large particulates found within three kilometres immediately west of Bathurst Street

NPS 12 St. Laurent

The NPS 12 St Laurent main is a single-source system that consists of vintage steel mains installed in 1958 and is a critical supply to the cities of Ottawa and Gatineau, supplying natural gas to more than 165,000 customers. This pipeline feeds 12 distribution system stations and one header station, as well as numerous non-interruptible residential, industrial and commercial customers (including the Parliament buildings) and a natural gas-fired power plant.

The NPS 12 St. Laurent main is located in downtown Ottawa and is known to have all the characteristics of vintage steel pipe as discussed in **Table 5.2-3**. Should the NPS 12 St Laurent main experience a pipeline defect or sustain damage, EGI would have to either temporarily reduce operating pressures or shut down the line. Any pipe defects or failures that could release gas would require a significant emergency response and could have severe consequences. Shutting down the pipeline could lead to customer loss in excess of 60,000 on a cold day. **Figure 5.2-24** to **Figure 5.2-26** show areas in the St Laurent pipeline that exhibit poor condition.

Figure 5.2-24: Multiple corrosion sites on NPS 12 St. Laurent pipe

Figure 5.2-25: Gouges and dents due to latent damages

Figure 5.2-26: Coating damages

London Lines

The London Lines comprise the London South Line and London Dominion Line which are two pipelines that are parallel to each other (approximately 60 kilometres and 75 kilometres in length respectively), running from Dawn to Komoka. This major feed to the local municipalities and smaller towns consists of two single feed high pressure pipelines running in parallel. These pipelines were initially installed in 1935 and 1936 and although one was replaced in 1952, the replacement used reclaimed and refurbished materials with a vintage of 1920 to 1930. The London Lines account for a combined approximately 166 kilometres of some of the oldest pipe in the Union rate zone system.

The condition of the London Lines is generally poor, indicative of a pipeline reaching end-of-life, and is known to exhibit the characteristics of vintage steel pipe described in **Table 5.2-3**. A 2020 depth of cover survey reported that 47% of the London South main and 23% of the London Dominion line do not meet current minimum cover requirements. As well, 53 aerial crossings were identified.

Due to the condition of the London Lines, the current proposal is to complete a full replacement in one phase. A single-phase approach was based on condition, number of repaired and outstanding leaks and depth of cover issues. Project scope, costing and timing may change as additional pre-engineering is completed.

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ENBRIDGE GAS INC.

Answer to Interrogatory from
London Property Management Association ("LPMA")

Interrogatory

Reference:

Ex. B, Tab 2, Sch. 1

In paragraph 4, EGI states that the AMP reflects the EGI asset plan for the next five years, with assets for the EGD and Union rate zones being maintained separately for capital planning purposes through to the end of 2025.

Question:

a) Is EGI maintaining separate rates bases for the EGD and Union rate zones through to the end of 2025? If not, why not?

b) How does EGI allocate capital expenditures in the plan that are not necessarily rate zone specific such as the items included in general plant?

Response

a) Enbridge Gas is no longer maintaining separate rate base calculations for each of the legacy EGD and Union rate zones, as Enbridge Gas is now an amalgamated entity, and the presentation and use of assets included within rate base will reflect that. However, for certain elements of rate base (i.e. property, plant and equipment and gas in storage), assets will continue to be tracked by rate zone until underlying Board approved pricing (i.e. reference prices for gas in storage) and accounting requirements (i.e. plant asset categories and depreciation rates) are aligned and approved by the Board.

   Please note that for the purpose of calculating ICM thresholds, Enbridge Gas utilizes separate rate base values for each legacy entity as approved by the Board in the MAADs proceeding[1]. The threshold value for the EGD rate zone is based on EGD's 2018 Board-approved rate base value. The threshold value for the Union rate zones

[1] EB-2017-0306/EB-2017-0307, Decision and Order, September 17, 2018, p. 33.

is based on Union's 2013 Board-approved rate base value, plus the 2019 forecast rate base value associated with projects that were eligible for capital pass-through treatment and included in Union's base rates during Union's 2014-2018 IRM term. As a result of ICM thresholds being determined for each legacy entity, the Company maintains capital expenditures and additions by legacy entity, in order to determine ICM eligible amounts.

b) As noted in Exhibit B, Tab 2, Schedule 1, paragraph 8, General Plant includes modifications, replacements or additions that are not part of the commodity carrying system including land and buildings, tools and equipment, fleet vehicles and electronic devices and software.

Generally the investments in these categories support the operations of only one rate zone and accordingly are reflected in the capital plan for that rate zone. Where investments support all rate zones (for example the purchase of pipe testing equipment for the lab), Enbridge Gas is allocating these costs on the basis of the most recently approved rate base value for the rate zones.

ENBRIDGE GAS INC.

Answer to Interrogatory from
London Property Management Association ("LPMA")

Interrogatory

Reference:

Ex. B, Tab 2, Sch. 1, Tables 1 & 2

Question:

a) What is the date of the forecast that is reflected in Tables 1 & 2?

b) Please update the forecasts in Tables 1 & 2 to reflect the most recent information if this is not already included in the forecasts shown.

c) Please provide a variance explanation between the 2019 actual shown in each of the tables to the 2019 forecast figures provided in EB-2019-0194 for each of the categories shown in the tables

Response

a) The date of the forecast is September, 2020.

b) Please see Exhibit I.Staff.1 a).

c) Please see the tables by rate zone below:

EGD Rate Zone

Category ($M's)	2019 Forecast	2019 Actual	Variance (Actual vs Forecast)	Comments
General Plant	66.3	70.4	4.1	Higher Real Estate structures and improvements due to Toronto Operations Centre (TOC) land purchases offset by reduced IT spend (see Exhibit I.STAFF.7).
System Access	133.2	151.1	17.9	Higher due to delay in billing for rebillable relocation projects
System Renewal	125.1	110.4	(14.7)	Lower due to delay of Victoria Square and Blackhorse Gate stations to 2020
System Service	24.9	23.9	(1.0)	No significant variance
Overheads	135.9	151.6	15.7	Higher due to understated forecast
Total	**485.5**	**507.4**	**21.9**	

Union Gas Rate Zones

Category ($M's)	2019 Forecast	2019 Actual	Variance (Actual vs Forecast)	Comments
General Plant	49.0	51.8	2.8	Higher due to deferral of Real Estate - Chatham Powerhouse project offset by IT Contrax Modernization project
System Access	114.0	104.4	(9.6)	Lower due to deferral of projects to 2020
System Renewal	119.7	106.4	(13.3)	Lower due to change in category for actuals for Class Location (moved to System Renewal) and Integrity (moved to System Service)
System Service	181.2	162.1	(19.1)	Lower due to delayed spend for Kingsville Reinforcement, Stratford Reinforcement below forecast, Rymal Rd reinforcement deferred to 2020, offset by increases due to the change in category for actuals for Class Location (moved to System Renewal) and Integrity (moved to System Service)
Overheads	76.0	83.1	7.1	Higher due to understated forecast
Total	**539.9**	**507.8**	**(32.1)**	

ENBRIDGE GAS INC.

Answer to Interrogatory from
London Property Management Association ("LPMA")

Interrogatory

Reference:

Ex. B, Tab 2, Sch. 1, page 17

Question:

What is the status of the approval sought for the London Line Replacement Project in EB-2020-0192?

Response

The London Line Replacement Project is before the Board for approval, with Enbridge Gas's Reply Argument having been submitted on December 21, 2020.

ENBRIDGE GAS INC.

Answer to Interrogatory from
London Property Management Association ("LPMA")

Interrogatory

Reference:

Ex. B, Tab 2, Sch. 1, page 31

Question:

a) Is the proposed allocation for the London Line Replacement Project the same as the historical allocation of the London lines? If not, please explain any difference.

b) If the proposed allocation referred to above is different from the allocation of the existing assets, please provide a table that shows the difference in the allocation of the costs by rate class.

Response

a) No, the proposed ICM cost allocation methodology of the London Line Replacement Project and the historical cost allocation methodology of the London Line are not the same. The 2013 cost allocation study classifies the London Line as Other Transmission and allocates costs to Union South in-franchise rate classes in proportion to the forecast firm design day demands.

   Enbridge Gas proposes to allocate the London Line Replacement Project costs consistent with the approved methodology for the allocation of Union South Distribution Demand costs. The proposed cost allocation of project costs is in proportion to the forecast Union South in-franchise design day demands of firm and interruptible customers served by the distribution system, excluding the design day demands of customers served directly off transmission lines.

   The change in the cost allocation methodology is related to the London Line Replacement Project being designed as a distribution pipeline and the subsequent classification of a distribution asset in the plant accounting records.[1] The proposed

[1] EB-2020-0192, Exhibit D, Tab 1, Schedule 2, p. 1.

ICM cost allocation is consistent with the plant accounting record categorization and the approved treatment of the Windsor Line Replacement ICM Project in 2020 Rates (EB-2019-0194).

The proposed Distribution Demand allocator has been updated to reflect the 2021 forecast consistent with the use of 2021 forecast billing units to derive the ICM unit rates.

b) Please see Attachment 1 for a comparison of the London Line Replacement Project cost allocation using the proposed Distribution Demand allocator and the Other Transmission Demand allocator for 2021.

UNION RATE ZONES
Allocation of 2021 London Line Replacement Project Revenue Requirement
Comparison of Distribution Demand Allocator and Other Transmission Demand Allocator

Line No.	Particulars	Distribution Demand Allocator (1) ($10^3m^3/d$)	Other Transmission Demand Allocator (2) ($10^3m^3/d$)	London Line Replacement Project: Allocation As Filed Distribution Demand Allocator (3) ($000's)	London Line Replacement Project: Allocation Using Other Transmission Demand Allocator (4) ($000's)	Difference ($000's)
		(a)	(b)	(c)	(d)	(e) = (c) - (d)
1	Rate 01	-	-	-	-	-
2	Rate 10	-	-	-	-	-
3	Rate 20	-	-	-	-	-
4	Rate 25	-	-	-	-	-
5	Rate 100	-	-	-	-	-
6	Total Union North	-	-	-	-	-
7	Rate M1	30,972	30,972	3,387	2,443	943
8	Rate M2	11,797	11,797	1,290	931	359
9	Rate M4 (F)	4,581	4,756	501	375	126
10	Rate M4 (I)	1	-	0	-	0
11	Rate M5 (F)	59	59	6	5	2
12	Rate M5 (I)	325	-	36	-	36
13	Rate M7 (F)	3,126	3,756	342	296	45
14	Rate M7 (I)	541	-	59	-	59
15	Rate M9	-	545	-	43	(43)
16	Rate M10	-	5	-	0	(0)
17	Rate T1 (F)	2,129	2,129	233	168	65
18	Rate T1 (I)	-	-	-	-	-
19	Rate T2 (F)	4,018	25,297	439	1,996	(1,556)
20	Rate T2 (I)	1,461	-	160	-	160
21	Rate T3	-	2,475	-	195	(195)
22	Total Union South	59,011	81,791	6,453	6,453	-
23	Excess Utility Storage	-	-	-	-	-
24	Rate C1 (F)	-	-	-	-	-
25	Rate C1 (I)	-	-	-	-	-
26	Rate M12	-	-	-	-	-
27	Rate M13	-	-	-	-	-
28	Rate M16	-	-	-	-	-
29	Rate M17	-	-	-	-	-
30	Total Ex-Franchise	-	-	-	-	-
31	Total Union Rate Zones	59,011	81,791	6,453	6,453	-

Notes:
(1) Distribution demand allocation in proportion to forecast 2021 Union South in-franchise firm and interruptible design day demands, excluding demands served directly off transmission lines.
(2) Other transmission demand allocation in proportion to forecast 2021 Union South in-franchise firm design day demands.
(3) Allocated in proportion to column (a).
(4) Allocated in proportion to column (b).

ENBRIDGE GAS INC.

Answer to Interrogatory from
London Property Management Association ("LPMA")

Interrogatory

Reference:

Ex. B, Tab 2, Sch. 1, page 31

Question:

a) Is the proposed allocation for the Sarnia Industrial Line Reinforcement Project the same as the historical allocation of the Sarnia industrial line? If not, please explain any difference.

b) If the proposed allocation referred to above is different from the allocation of the existing assets, please provide a table that shows the difference in the allocation of the costs by rate class.

Response

a) Yes, the proposed ICM cost allocation methodology of the Sarnia Industrial Line Reinforcement Project and the historical cost allocation methodology of the Sarnia Industrial Line are the same. The approved 2013 cost allocation study classifies the Sarnia Industrial Line as Other Transmission and allocates the costs to Union South in-franchise rate classes in proportion to forecast firm design day demands.

   The proposed Other Transmission Demand allocator has been updated to reflect the 2021 forecast consistent with the use of 2021 forecast billing units to derive the ICM unit rates.

b) Please see the response to part a). The proposed ICM cost allocation methodology for the Sarnia Industrial Line Reinforcement Project is consistent with the cost allocation methodology of the existing Sarnia Industrial Line.

ENBRIDGE GAS INC.

Answer to Interrogatory from
London Property Management Association ("LPMA")

Interrogatory

Reference:

Ex. B, Tab 2, Sch. 1, App. A

Question:

a) The footnotes indicate that overheads are included in project costs in years 2021-2025. Where are the overheads associated with the historical and 2020 forecast years shown?

b) Please explain what is included in the $30.9 2021 Budget for Improvements Other – Indirect in Table B and explain why it is significantly higher than in any of the previous years shown.

c) Do the figures in Table D for Municipal Replacement reflect the gross or net capital additions associated with any contributions/payments related to municipal relocations/replacements? If the figures are gross (i.e. before any reductions from contributions/payments), please provide the gross capital additions and net capital additions for the years shown.

Response

a) The overheads associated with the years 2016-2020 can be found in EB-2020-0181 Exhibit B, Tab 2, Schedule 1, Tables 1 & 2 on line 5.

b) The budget for Improvements Other – Indirect includes the costs related to improving and maintaining the Real Estate assets in the Legacy UG rate zone. The increase in costs is related primarily to improvements to the Keil Drive location in Chatham, the purchase of the Belleville operations center and the inclusion of overheads.

c) The figures in Table D for Municipal Replacement reflect the capital additions net of contributions and payments.

ENBRIDGE GAS INC.

Answer to Interrogatory from
London Property Management Association ("LPMA")

Interrogatory

Reference:

Ex. B, Tab 2, Sch. 1, Table 2 & EB-2019-0194 - Ex. B, Tab 2, Sch. 1, Table 2

Question:

a) In the current application, the total overhead shown for 2020 Forecast is significantly higher than for any of the historical years shown. Please explain the driver of this increase.

b) In Table 2 in the EB-2019-0194 filing, the total overhead shown for all the forecast years was around $80, including $76.4 for the 2020 forecast. Please explain the increase in forecast total overhead for 2020 ($76.4 to $101.7) from EB-2019-0194 despite the total in-service additions being very similar, changing from $528.3 in EB-2019-0194 to $525.4 in the current filing.

c) Has there been any change in the capitalization policy with respect to overheads in the Union Gas rate zones? If yes, please fully explain the changes that have taken place in 2020 as compared to previous years.

d) Please breakout the total overhead from the projects costs for 2021 through 2025 in Table 2 in the current filing.

Response

a) The change in the forecasted overheads for the Union Rate zone is due to the harmonization of the indirect overhead capitalization policy for Enbridge Gas. Please see part c) for a detailed explanation of the change in policy.

b) The change in forecast is due to the change in treatment for direct overheads (loadings) for the Union Rate zone. Please refer to part c) for a detailed explanation of the change in policy. The variance is due to the reclassification of direct loadings ($26 million) as part of the total overhead amount in 2020.

c) Yes, there has been a change to the overhead capitalization policy for both the Union and EGD rate zones and this has been implemented effective January 1, 2020. The new policy harmonizes both the components of overheads and the rates applied to the functional areas in the respective rate zones.

   Under the previous methodology, the Union rate zones overheads line was comprised of indirect overhead allocations, Alliance partner overheads and district contractor pre-work costs. Union rate zones also applied burdens or 'loadings' directly to capital projects.

   Under the new methodology, the overhead line is comprised of indirect overhead allocations, direct and indirect burdens and interest during construction. The same components are applied for the EGD rate zone.

   The change in overhead capitalization is being tracked in the Accounting Policy Change Deferral Account (APCDA). This resulted in increased overhead capitalization (and a corresponding reduction in O&M expense) of approximately $8.0 million for 2020 for Enbridge Gas.

d) Please see Exhibit I.EP.2.

ENBRIDGE GAS INC.

Answer to Interrogatory from
London Property Management Association ("LPMA")

Interrogatory

Reference:

Ex. B, Tab 2, Sch. 1, App. F, page 2

Question:

a) Please explain fully how the 2021 distribution demand and other transmission forecasts have been derived.

b) Please explain why EGI is not using the 2013 Board approved distribution demand and other transmission design day demands to allocate the costs.

c) Is the EGD allocator shown on page 1 based on a 2021 forecast, or are the percentages shown for the delivery demand LP based on the last Board approved figures?

d) If the EGD allocator is based on the last Board approved figures and not on 2021 forecast, please provided a revised page 2 of Appendix F that shows the allocation to rate classes in the Union rate zone based on the figures used in the last cost of service rebasing application approved by the Board.

Response

a) The Union South Distribution Demand allocator allocates costs in proportion to the forecast Union South in-franchise firm and interruptible design day demands of customers served by the distribution system, excluding design day demands served directly off transmission lines. The Other Transmission Demand allocator allocates costs in proportion to forecast Union South in-franchise firm design day demands.

   The design day demand methodology for the Union rate zones is described in Section 11.2 of EB-2019-0137 (Enbridge Gas's 5 Year Gas Supply Plan), pages 72-76 and is summarized for the Union South rate zone below.

The main information required to calculate design day demand includes weather, number of customers, firm customer demand, and forecast demand growth.

The Union rate zones use the coldest observed heating degree days ("HDD") method to determine the design day HDD for each delivery area. For the Union South rate zone, the design day weather condition is based on the coldest observed degree day of 43.1 as measured in London.

Enbridge Gas's firm customer design day demand is forecasted first by multiplying the use per degree day with the coldest observed HDD. Enbridge Gas develops a linear regression using the daily customer consumption from the prior winter and corresponding daily HDD data. Enbridge Gas extrapolates the resulting regression line to the coldest observed HDD of 43.1, ultimately establishing an estimated design day demand.

The firm customer design day demand is then multiplied by the use per customer factor which dampens year to year demand variability due to weather differences and measurement tolerances. The use per customer factor is the estimated general service design day demand divided by the number of customers.

The design day demand described above is adjusted by the winter season growth trend to provide a forecast design day demand for general service customers. The winter season growth trend is the line of best fit using the historical design day demands including the most current winter. The contract customer demand, including forecasted growth, is added to the general service demand to provide the total forecast design day demand.

Union South firm design day demand is the total firm requirement of in-franchise sales service, bundled DP, and T-service customers. The calculation of interruptible design day demand is the same.

b) Enbridge Gas has updated the allocation factors in the current application to reflect the 2021 forecast consistent with the use of 2021 forecast billing units to derive the ICM unit rates. This is consistent with the allocation factors used in Enbridge Gas's approved 2019 and 2020 ICM requests.[1]

c) Confirmed. The EGD rate zone allocation factor shown at Exhibit B, Tab 2, Schedule 1, Appendix F, page 1 is based on the 2021 forecast.

[1] EB-2018-0305 and EB-2019-0194 Application and Evidence, Exhibit B, Tab 2, Schedule 1, Section 5. Cost Allocation.

d) Please see the response to part c). The EGD rate zone allocation factor is based on the 2021 forecast.

ENBRIDGE GAS INC.

Answer to Interrogatory from
London Property Management Association ("LPMA")

Interrogatory

Reference:

Ex. B, Tab 2, Sch. 1, App. G

Question:

How has EGI forecast the volumes shown in Appendix G for 2021?

Response

The forecast process that is used to determine EGD and UG rate zone volume forecasts shown in Appendix G is prepared according to the methodologies approved by the Board in (RP-2000-0040 and EB-2014-0276) and EB-2011-0210 respectively.

The process includes estimates for both the number of billed customers and the weather-normalized average consumption per customer. These processes are divided into two customer segments: general service market and contract market.

ENBRIDGE GAS INC.

Answer to Interrogatory from
London Property Management Association ("LPMA")

Interrogatory

Reference:

Ex. B, Tab 2, Sch. 1

Question:

Please confirm that the bill impacts noted on page 32 are annual bill impacts.

Response

Confirmed.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Ontario Greenhouse Vegetable Growers ("OGVG")

Interrogatory

Reference:

Decision and Order EB-2017-0306 And EB-2017-0307 Union Gas Limited and Enbridge Gas Distribution Inc., August 30, 2018, amended on September 17, 2018, pages 30-34.

EB-2014-0219 Report of the Board: New Policy Options for the Funding of Capital Investments: The Advanced Capital Module, September 18, 2014, page 18.

Filing Requirements for Electricity Distribution Rate Applications – 2020 Edition for 2021 Rate Applications-Chapter 3 Incentive Rate-Setting Applications May 14, 2020, pages 27-28.

Exhibit B Tab 2 Schedule 1 page 29.

EB-2019-0218, Exhibit C Tab 4 Schedule 4 page 1

Preamble:

EGI's request for ICM relief is generally governed by the OEB's ICM and ACM policies originally intended for use by electricity distributors.[1]

The OEB's ICM policy generally requires that:

Distributors must also include a discussion on any offsets associated with each incremental project for which ACM or ICM treatment is proposed due to revenue to be generated through other means (e.g. customer contributions in aid of construction), at the time of the cost of service application, along with an estimate of the revenue requirement impact associated with those offsets. The final offset amounts, if any, would be confirmed at the time of the IR application.[2]

[1] Decision and Order EB-2017-0306 And EB-2017-0307 Union Gas Limited and Enbridge Gas Distribution Inc., August 30, 2018, amended on September 17, 2018, pages 30-34
[2] EB-2014-0219 Report of the Board: New Policy Options for the Funding of Capital Investments: The Advanced Capital Module, September 18, 2014, page 18.

The OEB's Filing Requirements with respect to ICM requests by distributors require as follows:

3.3.2.1 ICM Filing Requirements

The OEB requires that a distributor requesting relief for incremental capital during the IRM plan term include comprehensive evidence to support the need, which should include the following:

. . .

- *Evidence that the incremental revenue requested will not be recovered through other means (e.g., it is not, in full or in part, included in base rates or being funded by the expansion of service to include new customers and other load growth).*[1]

EGI forecasts the incremental revenue requirement over the 2021 to 2023 period for the Sarnia Industrial Line Reinforcement to be $3,992,000.[2]

EGI forecast the incremental revenue from the Sarnia Industrial Line Reinforcement over the first 3-year period following its in service date of November 1, 2021 to be $8,423,000.[3] Accordingly, assuming no or only fractional incremental revenue in 2021, the forecast incremental revenue from the Sarnia Industrial Line Reinforcement over the 2021 to 2023 period is forecast to be in excess of $5,821,000.

<u>Question</u>:

a) Given the Board's policy that distributors seeking ICM relief are required to demonstrate that the incremental revenue requested will not be recovered through other means including funding through the expansion of service to include new customers and new growth, and given that the Sarnia Industrial Line Reinforcement Project is a system expansion project designed specifically to accommodate new load that will generate significant incremental revenue for EGI, please explain why EGI believes it is appropriate to seek to recover an incremental revenue requirement in the amount of $3,992,000 through ICM relief over the 2021 to 2023 period for a capital investment that is projected to generate in excess of $5,821,000 of incremental revenue over that same period as a result of new customers and load?

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[1] Filing Requirements for Electricity Distribution Rate Applications – 2020 Edition for 2021 Rate Applications-Chapter 3 Incentive Rate-Setting Applications May 14, 2020, pages 27-28.
[2] Exhibit B Tab 2 Schedule 1 page 29.
[3] EB-2019-0218, Exhibit C Tab 4 Schedule 4 page 1.

Response

Enbridge Gas has identified errors in this interrogatory. Exhibit B, Tab 2, Schedule 1, page 29 states that the total forecast revenue requirement over the 2021 to 2023 period is $3,922,000. Please see Exhibit I.STAFF.4 c) for the forecast incremental revenue of $5,813,000 over the same time period.

In its Decision and Order for Enbridge Gas's Application for 2019 Rates the OEB states:

> LPMA argued that Enbridge Gas should be required to take into account the incremental revenue generated from the increase in volumes delivered and growth in customers. The OEB notes that the ICM policy does not require utilities to record possible incremental revenues in a deferral account or include it in the rate rider. As discussed under section 4.3.2, the ICM policy is being applied to the current framework, and the policy should apply in its entirety. The materiality threshold calculation for determining the maximum eligible incremental capital includes a growth factor that accounts for incremental revenues and growth in customers that may arise due to the implementation of an ICM eligible project. The OEB further notes that Enbridge Gas is under a Price Cap IR wherein revenues and costs are decoupled.[1]

Since the materiality threshold calculation accounts for incremental revenues it is appropriate for it not to be included in the determination of project revenue requirement as previously decided by the OEB.

[1] EB-2018-0305, Decision and Order, September 12, 2019, page 26.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Pollution Probe ("PP")

INTERROGATORY

Reference:

[Ex. A, T2, Sch.1]

Enbridge has requested ICM approval related to three projects, plus:

- Final rates for the year commencing January 1, 2021, including the full-year impact of all items included in "Phase 1" of the 2021 Rate Application in EB-2020-0095 and the ICM requests in this Application; and
- The determination of all other issues that bear upon the Board's approval or fixing of just and reasonable rates for the sale, distribution, transmission, and storage of gas by Enbridge Gas for the year commencing January 1, 2021.

Question:

a) Enbridge is requesting full year rate impact recovery of all items included in Phase 1 of the 2021 Rate Application. The Phase 1 application was approved under a different proceeding. Please explain why elements related to Phase 1 should be considered in the ICM Phase 2 proceeding.

b) Please identify what issues and related costs are included under the second bullet point listed above.

Response

a) In its Decision on 2021 Rates Phase 1[1] (EB-2020-0095), the OEB approved rates on an interim basis effective January 1, 2021 pending a decision on Enbridge Gas's application for ICM funding included in 2021 Rates Phase 2 (EB-2020-0181). Enbridge Gas does not expect there will be any elements related to Phase 1 that will change as a result of the OEB issuing a final decision on 2021 Rates (both Phase 1 and Phase 2).

[1] EB-2020-0095, Decision on Settlement Proposal and Interim Rate Order dated November 6, 2020.

b) Enbridge Gas is not aware of any additional issues that have come up during the course of the proceeding that require a decision by the OEB to set final rates effective January 1, 2021.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Pollution Probe ("PP")

INTERROGATORY

Reference:

[Ex. A, T2, Sch.1]

Question:

For the three ICM projects, please provide a table with the following information for each project.

- Project name
- Description of 'Project' scope (i.e. facilities included)
- Project costs
- Status and case number of the Leave to Construct application or approvals (if applicable)
- Variance explanation if 'Project' scope in ICM proceeding is different than the scope outlined in the Leave to Construct (if applicable)
- Overhead amount
- Project Contingency percentage
- The amount of any Project costs approved by the OEB prior to this proceeding

Response

Please see the table below. Additional project information is included in Exhibit B, Tab 2, Table 8.

Category	St. Laurent Phase 3	London Line Replacement	Sarnia Industrial Line Reinforcement
Scope	Replacement of 13km of steel gas distribution main with NPS 12 extra high pressure pipeline.	Replacement of 90.5km of pipeline from the Dawn Hub to Komoka Station, abandonment of current pipeline, upgrade of 148 services and 25 stations and 9 new stations	Construction of 1.2km pipeline from the Dow Valve Site to the Bluewater Interconnect including tie-in to the existing SIL system and modifications to existing Novacor Corunna Station
Project Costs	$15.3M	$161.1M	$32.9M
Case Number	EB-2020-0293	EB-2020-0192	EB-2019-0218
LTC Status	Filing pending	Awaiting decision	Approved
Scope Variances	n/a	none	none
Overheads	$2.7M	$27.2M	$5.0M
Project Contingency %	17%	13.7%	20%
Approved Costs	n/a	n/a	$30.8M

ENBRIDGE GAS INC.

Answer to Interrogatory from
Pollution Probe ("PP")

INTERROGATORY

Reference:

[Ex. A, T2, Sch.1]

Question:

a) Please confirm that ICM approval for one or more of the three 2021 proposed projects only provides Enbridge the ability to capitalize the project(s) and does not represent OEB approval of the project itself (i.e. a separate Leave to Construct is required to review and approve the project in more detail). If this is not correct, please explain.

b) In Enbridge's opinion is it preferred to receive ICM (or equivalent rate case) approval and then apply for Leave to Construct approval, or the other way around? Please explain the answer.

c) Please confirm that if Enbridge does not receive ICM approval for one or more of the proposed projects, Enbridge will not build the project(s). If not correct, please explain.

Response

a) The OEB approval to proceed with the ICM Projects is obtained through the leave to construct (LTC) process. Among other things, the Purpose and Need of the proposed Projects are addressed as part of the LTC proceeding. Approval for ICM funding is obtained through the annual rate case. In this rate application (Phase 2), Enbridge Gas is seeking ICM funding of the proposed Projects as per the Board's ICM policy[1] and the MAADs decision[2]. Also, see the Board's decision in EB-2019-0194 for the approval of 2020 ICM projects.[3]

b) Enbridge Gas does not believe that it is necessary to obtain LTC approval before filing for ICM treatment of a project. The Company's deferred rebasing rate-setting

[1] EB-2014-0219 Report of the OEB – New Policy Options for the Funding of Capital Investments: The Advanced Capital Module, September 18, 2014
[2] EB-2017-0306/EB-2017-0307, Decision and Order, August 30, 2018, Pp.32-34.
[3] Decision and Order, May 14, 2020, p.8 and p.11.

mechanism contemplates only one rates application each year (though it may include more than one phase). Therefore, Enbridge Gas must apply for all identified ICM-eligible projects at the same time (generally in advance of the Test Year), even if the related LTC Application has not yet been filed. Enbridge Gas will not proceed with any of the ICM Projects in this proceeding without LTC approval for that Project. Enbridge Gas acknowledges that any ICM approval for each of these projects will be contingent on the Board also granting LTC approval for that project if such approval has not been granted before the Board issues its Decision in this proceeding.

c) Enbridge Gas will consider the OEB's 2021 Rates decision in its entirety in determining the impacts to its capital budget and how it will proceed with the ICM Projects.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Pollution Probe ("PP")

INTERROGATORY

Reference:

[Ex. B, T2, Sch. 1]

Question:

a) Please explain how projects identified through the Utility System Plan (USP, which includes the Asset Management Plan) are allocated to specific years within the USP 5 year cycle and how changes are made if they exceed the ICM room available for the year targeted.

b) Please explain how the timing of OEB capital funding (rebasing year vs. ICM treatment) factors into USP development.

c) Is it possible for Enbridge to bring forward projects for OEB approval in the next 5 years not currently identified in the USP? If yes, please identify how these would be identified and treated from a regulatory (OEB and stakeholder notification) perspective.

d) System Renewal capital expenditures appear to be increasing over time. For example, the 2020 forecast is approximately 50% greater than previous year actuals. Please explain the drivers for these increases and if that is likely to be an ongoing trend.

e) For each proposed 2021 ICM project, please describe the impact if it were deferred to 2024 (rebasing).

Response

a) The timing of capital projects is determined through the asset management core process outlined in the Asset Management Plan (AMP) at Exhibit C, Tab 2, Schedule 1, page 62, Section 4.2 Asset Management Core Process. Investment timing is based on the life cycle strategies and needs of assets. Through portfolio optimization, a capital constraint is determined based on the regulatory framework and input from the Finance, Asset Management, and Regulatory departments. Optimization scenarios then examine project timing within the capital constraint based on project value, compliance, and mandatory requirements. In instances

where the capital portfolio cannot fit within the capital constraint, ICM-eligible investments are identified for potential ICM treatment.

b) The USP is developed based on the AMP, which follows the asset management core process outlined in Exhibit C, Tab 2, Schedule 1, page 62, Section 4.2 Asset Management Core Process. While regulatory framework informs the capital constraint for portfolio optimization, the capital forecast is defined based on lifecycle strategies and asset needs.

c) It is possible for Enbridge Gas to bring forward projects for OEB approval in the next 5 years not currently identified in the USP. Asset Management is a continuous process where emerging needs are continually identified and managed. Any significant projects would be identified in the AMP (or addenda thereto) and USP, and through the Leave to Construct application process where appropriate.

d) While System Renewal capital expenditures appear to be increasing over time, it is important to note that overheads are included with project costs for 2021-2025, while they are specified separately for 2016-2020 (Exhibit B, Tab 2, Schedule 1 Table 1 and Table 2). This difference will result in an overall increase in each capital expenditure category when comparing 2021-2025 to historical values.

Key Drivers that are contributing to the increases in System Renewal are:

- The proactive spend to renew vintage distribution steel pipe (Exhibit C, Tab 2, Schedule 1, page 263-264, Section 6.2.2 Distribution Pipe) in both the EGD and Union rate zones
- The completion of the Bare and Unprotected Steel Pipe replacement program by 2024 in the Union rate zone (Exhibit C, Tab 2, Schedule 1, page 264, Section 6.2.2 Distribution Pipe)
- Compression Station replacement initiatives to address compressor obsolescence and reliability in both the EGD and Union rate zones (Exhibit C, Tab 2, Schedule 1, page 269-270, Section 6.2.5 Compression Stations)
- The replacement of Panhandle Line in the Union rate zone (Exhibit C, Tab 2, Schedule 1, page 272, Section 6.2.6 Transmission Pipe and Underground Storage)

Based on the lifecycle strategies outlined in the AMP (Exhibit C, Tab 2, Schedule 1), it is expected that some of the increases observed in System Renewal will continue to support the safe and reliable operation of assets.

e) The ICM expenditures are the St. Laurent NPS 12 Replacement, the London Line Replacement, and the Sarnia Industrial Line Reinforcement. The St. Laurent NPS 12 Replacement and the London Line Replacement are driven by condition while the Sarnia Industrial Line Reinforcement is driven by growth

requirements.

Through the asset management process, optimal project timing is defined based on life cycle strategies for assets. Deferral of these projects will result in increased O&M expenses to mitigate existing asset risks and increased supply risk to customers. Furthermore, as presented in the evidence, there are a number of pipe replacements required in the years to come – if these projects are deferred until rebasing, it will only add to the work that must be done at that time.

Enbridge Gas believes that it is important to continue to replace deteriorating assets through projects such as the London Lines and the St. Laurent NPS 12. Enbridge Gas is developing a structured approach to reviewing all distribution pipelines for such factors such as cathodic protection, depth of cover, and problematic fittings – it is anticipated that through this work more pipelines may be identified for replacement (Page 111). Enbridge Gas notes that there is a need to increase the replacement rate for vintage steel and plastic mains if Enbridge Gas is to avoid a significant increase in leaks related to aging facilities (Page 109).

Furthermore, as work is done to identify other concerns related to the condition and operational reliability or assets, Enbridge Gas may identify more work that is needed to be completed. Some examples are noted below and more extensively discussed in Section 5 of the AMP.

a. Enbridge Gas continues to evaluate the use of load shed zones as a way to improve operational reliability for customers – as this analysis is developed it is likely to lead to investments that are not currently accommodated in the AMP (Page 109).

b. Enbridge Gas continues to respond to industry events such as the over-pressure of a low-pressure system in Merrimack Valley (Page 126). Although immediate remediations have been made at certain locations no overall program to address low pressure systems has been included in this AMP.

The timing for the Sarnia Industrial Line Reinforcement is driven by customer needs, the confirmation of which has been tested by EBO 188 and the Leave to Construct process. The OEB has confirmed the timing of this Project in the Leave to Construct Decision in EB-2019-0218.

Taking all of the above together, Enbridge Gas does not believe that it would be prudent to delay any of the ICM projects to 2024.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Pollution Probe ("PP")

INTERROGATORY

Reference:

[Ex. B, T2, Sch. 1]

The St. Laurent NPS 12 Replacement project provides natural gas service to the Gatineau regions.

Question:

a) Does this proposed pipeline (directly or indirectly) connect to or provide natural gas to the pipeline system in Quebec? If yes, please identify any contribution being made by other parties to offset costs for this project.

b) The St. Laurent project consists of four phases. Please provide a description of how the four phases were determined and all materials supporting that decision (e.g. reports, emails, presentations, etc.)

c) Given that Phase 3 of the St. Laurent project has not yet been filed with the OEB and the earliest in-service date is December 2021, please explain why it would not be more appropriate to include this project in the 2022 ICM request.

Response

a) Phase 3 of the St. Laurent NPS 12 Replacement project serves Ottawa customers only. Please refer to part b) below, and Exhibit I.CME.1, for an explanation of each phase of the project and why they are required.

   Phase 4 of the project, which will replace the vintage steel NPS 12 St. Laurent pipeline will serve Ottawa and Quebec, specifically Gazifere. Gazifere is a Rate 200 customer in the EGD rate zone.

   There is no contribution being made by other parties to offset the costs for the project. As indicated at Exhibit B, Tab 2, Schedule 1, page 30, for Phase 3 of the project Enbridge Gas proposes to allocate the annual average net revenue

requirement for the project among different rate classes in the EGD rate zone according to the most recent Board approved cost allocation methodology (EB-2017-0086) for the low pressure mains.

In the event that Enbridge Gas seeks ICM funding treatment for Phase 4 of the project, the Company would propose to allocate the annual average net revenue requirement for Phase 4 using the most recent Board approved cost allocation methodology for extra high pressure mains. Under this cost allocation methodology a portion of the costs associated with extra high pressure mains is allocated to Rate 200.

b) The phased approach for the project was detailed in the EB-2019-0006 proceeding at Exhibit I.Staff.11. For ease of reference this interrogatory response is included as an attachment to this response.

c) Please refer to Exhibit I.BOMA.3 a).

ENBRIDGE GAS INC.
Answer to Interrogatory from
Board Staff (STAFF)

Question:

Please explain how Enbridge Gas determined which parts of the project were in each phase.

Response

The NPS 12 St. Laurent Project ("Project") was divided into phases due to the complexity of the Project. Construction of the Project in its entirety (i.e. all phases) inclusive of the pressure elevation (Phase 1), installation of new facilities (Phases 2 through 4) and the transfer of approximately 700 services from the XHP system to the IP system (Phases 2 to 4, the majority of transfers will occur in Phases 2 and 3) to the new pipelines, could not be completed concurrently.

Through consultation with the City of Ottawa and other utilities the project was initially identified as requiring 3 phases to execute. Based on subsequent feedback and discussions with the City of Ottawa and other utilities, the Project was designed to be completed in four phases. The current four phase approach (identified in the response to Board Staff interrogatory #3 a) at Exhibit I.STAFF.3) incorporates additional information from the City of Ottawa and other utilities not known at the time the aforementioned three phase approach was developed. The current approach incorporates updated information from co-ordination with other utilities, municipal moratoriums, resource management, and information from the Forecast Capital Construction 5 year Plan for the City of Ottawa.

A phased approach was adopted for the Project for two primary reasons: the need to replace the existing NPS 12 XHP pipeline and coordination with the City of Ottawa and other utilities. Resourcing must also be taken into account when planning a project of this size and scope.

Replacement of the existing NPS 12 XHP pipeline cannot occur until those customers on the XHP system are transferred to the IP system. The transfer of customers from the XHP system to the IP system is accomplished by completing Phases 2 and 3 first (with the exception of one customer in Phase 4). The existing NPS 12 XHP pipeline cannot be abandoned until Phase 4 is constructed and in service.

In terms of coordination Phase 2 and Phase 3 are required to accelerate Enbridge Gas' construction of the proposed IP gas pipelines and associated customer transfers from XHP to IP in order to coordinate and manage conflicts with the proposed City of Ottawa

Capital Construction work and corresponding moratoriums on specific roads.

Tremblay Road (and the installation of pipelines on the Avenues running off of Tremblay Road) was placed in Phase 2 in order to accommodate road resurfacing in 2019 and to coordinate with the installation of sewer, water and road resurfacing scheduled for the Avenues in 2019 and 2020. A road moratorium will be placed in effect in 2020 preventing the construction of these facilities until 2024.

The immediate application, St. Laurent Boulevard, was placed in Phase 2 in order to accommodate road resurfacing on St. Laurent Boulevard from Montreal to Donald Street in May of 2020 and road resurfacing currently in progress on Montreal Road. which will have a three-year road moratorium to be put into effect in 2020 preventing the construction of these facilities until 2024.

A road moratorium is currently in place on St. Laurent Boulevard from Lancaster Road to Innes Road Until October 2020. In order to avoid winter construction Phase 3 – Lower Section 2 was placed in Phase 3 and scheduled to begin construction in 2021.Another road moratorium is currently in place on Sandridge Road until July 2019. This moratorium impacts Phase 3 St. Laurent Montreal to Rockcliffe. For resource management (contractor and crew availability) this project was placed in Phase 3 and scheduled to commence construction with the other components of Phase 3 in 2021. For Phase 4 there is a moratorium on St. Laurent Boulevard north of Industrial Road until Oct 31, 2021 and on Michaels Road at the railroad crossing until Dec 16, 2022 which will require Enbridge Gas directional drill under the railway and paved road.

From a resourcing perspective the Project was Phased in order accommodate the availability of resources (employees, contractors, work crews, fitters etc…). Phasing of the Project enables Enbridge Gas to manage and allocate its resources not only for the Project but for other gas distribution work that is ongoing in the City of Ottawa.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Pollution Probe ("PP")

INTERROGATORY

Reference:

[Ex. B, T2, Sch. 1]

Question:

a) The Sarnia Industrial Line Reinforcement is required "specifically to support a $2 billion expansion of Nova Chemicals existing Corunna site". Please indicate the contribution of Nova Chemicals toward the proposed pipeline costs.

b) The London Line Replacement project is proposed due to integrity issues including sections of the pipeline that are now exposed above ground. Are the current pipelines being replaced by this project compliant with CSA Z662? Please explain the answer.

Response

a) No contribution in aid of construction ("CIAC") is required of NOVA Chemicals. The terms of NOVA's contract with Enbridge Gas satisfy their contribution. Terms of the contract are confidential as they contain commercially sensitive information that if disclosed publicly could be prejudicial to NOVA by giving competitors knowledge of its operations and operating costs in 2021 and beyond.

b) Please see EB-2020-0192 Exhibit B, Schedule 1, Tab 1. Enbridge Gas notes that in 16% of the measurements taken that the depth of cover is less the minimum specified in CSA Z662-15 Section 12.4.7, Table 12.2, and that in the agricultural sections of the pipeline 85% of the measurements did not meet Enbridge Gas' standards for depth of cover.

   More generally it is a requirement of CSA Z662-15 Section 3 Safety and Loss Management System that Enbridge Gas conduct condition assessments and respond to the findings in a way that provides for the protection of people, the environment, and property.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Pollution Probe ("PP")

INTERROGATORY

Reference:

[Ex. B, T2, Sch. 1]

Question:

a) Table 8 indicates the business case for the three ICM projects proposed. The London Line Replacement project is the only project where integrated resource planning (IRP) options (including DSM) were identified. Please explain why IRP options were not assessed for the other two projects. If IRP options were assessed for the other two options, please provide a copy of those assessments.

Response

Please see Exhibit I.PP.9 c) and Exhibit I.SEC.21.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Pollution Probe ("PP")

INTERROGATORY

Reference:

[Ex. C, T1, Sch.1]

Enbridge Gas Utility System Plan.

Question:

a) Please explain the relationship between the Enbridge Utility System Plan and the Enbridge 5 Year Gas Supply Plan?

b) Please explain how the three proposed ICM projects have been considered in the Enbridge 5 Year Gas Supply Plan and what the impact would be to that plan if the proposed ICM projects were deferred or denied.

c) Please file a copy of the current Enbridge 5 Year Gas Supply Plan and indicate which sections relate to the following:
   - approval or fixing of just and reasonable rates for the sale, distribution, transmission, and storage of gas by Enbridge Gas.
   - Infrastructure planning, such as that proposed in this application.
   - Specific consideration of the three ICM projects proposed in this proceeding.

d) Does Enbridge consider the Made-in-Ontario Environment Plan when developing the USP? If yes, please explain how it influenced the outcome of the plan. If not, why not.

e) Does Enbridge consider any municipal energy and emissions plans when developing the USP? If yes, please explain which ones were considered and how they influenced the outcome of the plan. If not, why not.

f) Please indicate if Enbridge has conducted (directly or through consultants) any analysis related to potentially stranded assets if gas consumption decreases prior to full recovery of capital costs. Please provide a copy of all related material including reports, presentations, emails, etc.

Response

a) The Utility System Plan identifies the investments needed to meet the needs of customers and stakeholders, and to maintain the safe and reliable delivery of natural gas. Through the Gas Supply Plan, the volume and sources of gas required to meet the natural gas demand of customers are identified.

b) The proposed ICM projects will have no impact on the Gas Supply Plan. St. Laurent and London Lines are replacements of existing pipelines and are required to address integrity concerns with existing pipelines. The Sarnia Industrial Line project is a reinforcement that is required primarily to increase capacity to Nova Chemicals, a T-Service customer. This project will also address future growth in the Sarnia area. Expected growth in the Sarnia area for system gas customers is captured in the Gas Supply Plan via the gas demand forecast as is all other expected demand growth across the Company's franchise area.

   If the replacement ICM projects were deferred or not constructed there would be no impact to the Gas Supply Plan. If the reinforcement ICM project was deferred or not constructed the gas demand forecast underpinning the Gas Supply Plan would be updated and the forecast of required gas supply would be updated accordingly.

c) The annual update to the Gas Supply Plan will be filed with the Board on February 1, 2021.

d) Enbridge Gas does not explicitly consider the Made in Ontario Environment Plan as it does not provide direction for utilities that would inform planning for asset needs. However, Enbridge's Strategic Priorities (Exhibit C, Tab 2, Schedule 1, Page 16) do include Adapt to Energy Transition Over Time and Enbridge Gas's AMP does include a number of investments that are broadly aligned with the spirit of the Made in Ontario Environment Plan.

   For example, Enbridge Gas is committed to reducing customer loads through Demand Side Management programs and related research, the reduction of methane and carbon dioxide emissions through proactive replacement of older pipelines, building renovations to improve energy efficiency, hydrogen blending, and the use of renewable natural gas.

e) Enbridge Gas is continuously gaining insight from the Municipalities within its franchise area. This insight is one input when developing the USP. For instance, Enbridge Gas facility investments may need to be accelerated or delayed corresponding with municipal development schedules related to facility investments, such as bridge repair and replacement, road construction, or water and sewer repairs and extensions.

Generally Municipal and Community Energy Plans (MEP/CEP) take a broader perspective; including all fuels, such as gasoline and diesel for transportation, natural gas and electricity; outlining GHG reduction targets achieved through varying methods including conservation, efficiency improvements and fuel type optimization. These Community Energy Plans are often aspirational in nature, with little budgetary backing or implementation plans. The Company's Municipal Energy Solutions team is often engaged with municipalities in their municipal energy planning efforts, not only providing aggregated consumption data allowing them to understand their historical consumption by sector to inform their Community Energy Planning (CEP) process, but also offering tangible conservation and low carbon opportunities and collaborations. As municipalities develop and initiate concrete operational plans with adequate budgets to take steps towards meeting the MEP / CEP goals and a pattern of achieved results is developed, Enbridge Gas will be in a better position to consider these results in its facility planning forecasts. Coordination between a municipality’s Energy Planning team and Enbridge Gas planning processes can also benefit IRP plans by providing local input on opportunities to develop community-based solutions.

f) Enbridge Gas does not have any studies, memos, presentations related to potentially stranded assets if gas consumption decreases prior to full recovery of capital costs. Also, see EB-2019-0194, Exhibit I.SEC.3, and EB-2016-0186, Exhibit B.BOMA.18 d).

ENBRIDGE GAS INC.

Answer to Interrogatory from
Pollution Probe ("PP")

INTERROGATORY

Reference:

[Ex. C, T1, Sch.1]

Integrated Resource Planning ("IRP") refers to a multi-faceted planning process that includes the identification, implementation, and evaluation of realistic natural gas supply-side and demand-side options.

Question:

a) Please provide the reference for the IRP definition Enbridge defined above. If an external reference was not leveraged, please provide the process used to develop the internal definition and the list of Enbridge staff (by title only) who approved the definition.

b) Projects (e.g. London Line Replacement) selected through the USP process included an IRP screening and DSM option assessment. Please provide a copy of all existing Enbridge (or EGD/Union if not consolidated) IRP-related process and procedures and indicate which USP projects are subject to those processes and procedures.

c) Please explain why an IRP screening and related activities (e.g. DSM assessment) were highlighted in the business case for the London Line Replacement project, but not the other two projects identified for ICM treatment in this application.

Response

a) This description of IRP has evolved over time as Enbridge Gas has gained insight and experience with IRP. No one staff member was responsible for the development or approval of the description. The definition of IRP is an issue that will addressed in the context of the EB-2020-0091 proceeding wherein PO No. 2 defines the scope of the IRP Proposal proceeding as including, "…broad consideration of the definition and goals of IRP, and the process and approach for incorporating IRP into Enbridge

Gas's system planning process, including consideration of alternatives to Enbridge Gas's IRP Proposal."[1]

b) Please see Exhibit I.SEC.21.

c) The two other projects identified for ICM treatment in this application are Sarnia Industrial Line (EB-2019-0218) and the St Laurent NPS 12 Replacement Project which will be filed early in 2021. Enbridge Gas did consider these two projects for IRP but found that IRP was not a viable option for either project therefore additional screening and related activities were not necessary.

Enbridge Gas addressed IRP for the Sarnia Industrial Line Project at paragraph 28 of the prefiled evidence in the Leave to Construct application, stating[2]:

> 28. IRP is not a viable alternative to serve NOVA's incremental Sarnia market demand beginning November 1, 2021, for the following reasons:
>
> - The proposed Project and associated Application are being driven by incremental demand from a single large volume (Rate T2) industrial customer located in the Sarnia market and served from the SIL system. No aid-to construct is required from NOVA, the Project is economically feasible and in the public interest (as detailed at Exhibit B, Tab 1, Schedule 4).
> - As set out at Exhibit B, Tab 1, Schedule 2, the Sarnia market is primarily served from the SIL system and is home to Ontario's largest concentration of petrochemical industries, which include the most sophisticated energy users in the country most of which have been active participants in historic and current DSM programs. Further, the majority (approximately 90%) of the Sarnia market demand is consumed by these same contract rate industrial customers (mainly Rate T1 and Rate T2). Residential and small commercial/industrial customers constitute the remainder of the Sarnia market, leaving inadequate potential for IRP to offset large regional industrial demands such as those of NOVA, Ainsworth and ACT.
> - As set out at Exhibit B, Tab 1, Schedule 2, Section iv), Enbridge Gas only just executed a new firm natural gas delivery service contract with NOVA in July 2019, for service beginning November 1, 2021. The proposed Project is designed to serve this need in the most efficient and cost-effective manner possible. By contrast and as set out above, Enbridge Gas has not identified any IRP alternatives feasible to implement and verify before November 1, 2021.

[1] EB-2020-0091, Decision on Issues List and Procedural Order No. 2, Introduction and Summary, Page 2, dated 2020-07-15.

[2] EB-2019-0218, Exhibit B, Tab 1, Schedule 3, Pages 11-12, Paragraph 28, dated 2019-10-07.

For the St. Laurent NPS 12 project, Enbridge Gas considered IRP as an alternative but found that IRP was not a viable option. This Project is a replacement of an existing pipeline with known integrity issues and it forms an integral part of an important pipeline feed which serves much of Ottawa and the surrounding area. Therefore, downsizing is not an option. Integrity concerns are the primary driver for this project; thus IRP was not deemed as a viable option for downsizing this project.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Pollution Probe ("PP")

INTERROGATORY

Reference:

[Ex. C, T3, Sch. 1]

Enbridge Gas commissioned Ipsos Public Affairs to conduct a customer engagement survey to provide insight into the satisfaction, needs and preferences of Gas customers on future investment plans.

Question:

a) Were any municipalities survey to provide insight into the satisfaction, needs and preferences on future investment plan. If yes, please provide the survey results.

Response

In accordance with the Board's directive in the MAADs Decision, the scope of the Customer Engagement Study was limited to customers. Municipalities were not included, however, ongoing feedback from Municipalities will be gathered both formally through surveys, with a Municipal Engagement survey happening later in 2021 and informally through discussions between the Municipal, Stakeholder and Indigenous Affairs group, the Municipal Energy Solutions team and District Managers at Enbridge Gas and with the various municipal partners in their regions. Often informal engagements with Municipalities happen at the various trade conferences such as the Association of Municipalities of Ontario (AMO), Rural Ontario Municipal Association (ROMA), Northwestern Ontario Municipal Association (NOMA) to name a few. These conferences afford Enbridge Gas the opportunity to engage with many Municipalities simultaneously and provide occasions to discuss the various Enbridge Gas programs and initiatives available to Municipalities through forums such as "speaker series", and one on one discussions. A number of groups at Enbridge Gas engage with Municipalities in their municipal energy planning efforts by gaining insights as well as providing data, input and advice as these municipalities look to develop or enact Community Energy Plans ("CEP").

Further, as outlined in EB-2020-0091 (Enbridge IRP Proposal), Exhibit B, Page 40,: Component 1: “Gathering of Stakeholder Engagement Data and Insight,” the insight gathered from municipalities both formally and informally, along with the survey results will inform and assist with developing integrated resource planning alternatives (IRPA) in the future. It is also anticipated that the Municipal Engagement survey happening later in 2021 will include questions regarding future investment plans as well as integrated resource planning and potential alternatives (IRPAs).

ENBRIDGE GAS INC.

Answer to Interrogatory from
Quinte Manufacturers Association ("QMA")

Interrogatory

Reference:

Ex.C/T1/S1/Pg.6 – Enbridge Gas System Overview - Strategic Priority 2

Question:

The description of Strategic Priority is unclear. If the word "integration" in the following quote is referring to the amalgamation of legacy Enbridge Gas Distribution and Union Gas, please explain and clarify what is meant by the statement: "The integration also provides an opportunity for greater strategic focus and a stronger platform to face the challenges and opportunities in the Ontario Energy Sector".

Response

The Strategic Priority, "Optimize the Base Business" is inclusive of driving operational efficiencies, value creation, achieving sustainable growth and improving customer satisfaction with the integration of the two legacy Utilities. The referenced statement is meant to capture the fact that the amalgamated Utility has grown and has a farther reach than either Utility would have had prior to amalgamation with 3.7M customers. Enbridge Gas touches more communities and has a larger platform to navigate changes coming in the Ontario Energy Sector to ensure that customers continue to effectively and efficiently receive the energy they need.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Quinte Manufacturers Association ("QMA")

Interrogatory

Reference:

Ex.C/T1/S1/Pg.7 – Enbridge Gas System Overview - Strategic Priority 3

The evidence states: "It is therefore, a critical priority for the Company to engage proactively with communities and customers to understand customer preferences and challenges…"

Question:

Please explain how the Company undertakes this work with larger: a) general service customers on a regular basis; and b) specifically with manufacturers and processors in the Bay of Quinte region of Ontario.

Response

Where applicable, both general service customers and manufacturers and processors in the Bay of Quinte region of Ontario are included in random sample selection used for Enbridge Gas' market research efforts aimed at understanding customer preferences and challenges. This is done across studies covering a wide variety of topics. Account managed customers across all geographic areas served by Enbridge Gas are also engaged through account managers.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Quinte Manufacturers Association ("QMA")

Interrogatory

Reference:

Ex.C/T1/S1/Pg.8 – Enbridge Gas System Overview – Strategic Priority 6

Question:

The evidence states in Strategic Priority 6 that Enbridge is committed to being part of the transition to a lower carbon economy. Consideration is given to co-generation, CNG, RNG and hydrogen blending, etc. When planning for and considering future customer attachments (ref. paragraph 13, clause vi, pg. 12) and the cost to connect cogeneration for example, please explain how Enbridge engages with manufacturing and processing customers who may be considering alternatives for expanding facilities in industrial areas/campus developments where suitable gas pressures and volumes may be a concern going forward.

Response

In situations where natural gas capacity needed to serve demand growth is insufficient, Enbridge Gas sees that there may be non-pipeline solutions that it could offer to such customers, but that the scope of such offerings may depend on the Board's direction in the IRP proceeding.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Quinte Manufacturers Association ("QMA")

Interrogatory

Reference:

Ex.C/T1/S1/Pg.34 – Section 4.1.1 Customer Needs and Overall System Planning Policy Objectives

Question:

At paragraph 67, the evidence states, in part, that Enbridge has a "…robust ongoing market research program…" Please explain how this program surveys and gathers information from larger general service manufacturers and processors in the Bay of Quinte region to reflect customer interests and preferences.

Response

Enbridge Gas regularly conducts customer satisfaction research with business customers to understand current perceptions of Enbridge Gas and various attributes of Enbridge Gas's services, touchpoints and communications. These surveys are also used as opportunities to gauge customer preferences. For example, in the most recent customer satisfaction survey with account managed business customers, respondents were asked how frequently they would like to hear from their Enbridge Gas representative. Other customer satisfaction surveys have asked about preferred methods of communication, interest in new offerings, etc.

Enbridge Gas also conducts ad hoc studies covering a variety of topics. In each of these studies, questions are included to better understand customer interests and/or preferences.

Depending on the sample criteria for each of these studies, larger general service manufacturers and processors in the Bay of Quinte region would be included in the randomly generated sample lists.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Quinte Manufacturers Association ("QMA")

Interrogatory

Reference:

Ex.C/T3/S1 and Ex.C/T1/S1/Pg.34-37 - Section 4.1.1 Customer Needs and Overall System Planning Policy Objectives

Question:

Enbridge Gas commissioned Ipsos Public Affairs to undertake a customer engagement survey. Did the survey include legacy Union North manufacturing and processing general service customers including manufacturers and processors specifically in the Bay of Quinte region?

Response

Yes. A random selection of these customers was included in the sample lists for this survey.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Quinte Manufacturers Association ("QMA")

Interrogatory

Reference:

Ex.C/T2/S1/Pg.60 – AMP - Section 4.1.6 Strategy and Planning

Question:

The evidence states that "EGI uses a governance framework to align Asset Management Plans and decision-making within the enterprise's overall strategic objectives at the lowest total cost of ownership." Please explain and clarify what this statement means within the context of "the lowest total cost of ownership" with appropriate examples.

Response

Please see Exhibit I.FRPO.19. The lifecycle strategies that Enbridge Gas has articulated in the AMP (Section 5) are intended to achieve lowest total cost of ownership. A specific example of this can be found in Table 5.7.4 where the maintenance and replacement costs related to Fleet and Equipment are evaluated to establish a planned replacement age.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Quinte Manufacturers Association ("QMA")

Interrogatory

Reference:

Ex.C/T2/S1/AMP Appendix - Investment Summary Report - Low Carbon Energy Project TOC Hydrogen Blending Facility

Question:

A leave to Construct application is required for the LCEP project which is part of the Growth Asset class of projects. Please explain in detail how the investment opportunity in the TOC Hydrogen Blending Facility ("HBF") will advance the blending of hydrogen with natural gas across the distribution network. Is the HBF considered a demonstration project? if so, please indicate the proposed lifespan of the project and what form of evaluation reporting will be undertaken to determine the feasibility of expanding HBF's in Ontario. Please confirm that this project is not considered a core business investment given the Enbridge Gas commitment to a low carbon economy as indicated in the Company's Strategic Priority 6.

Response

On March 31, 2020 Enbridge Gas filed a Leave to Construct for the Low Carbon Energy Project TOC Hydrogen Blending Facility (EB-2020-0294). On October 29, 2020 the Ontario Energy Board issued its Decision and Order in this Leave to Construct with respect to this pilot project. The Project was approved with a number of conditions (Section 3.4), one of which relates to the reporting that must be provided by Enbridge Gas after a period of five years' operating experience of the pilot project.

Enbridge Gas will provide reporting that, at a minimum includes:

a) Actual fully allocated costs relative to budget
b) Research findings including any evidence of negative impacts on the distribution system and end use appliances, and the actual $/tCO2e associated with the Project
c) A log of communications with stakeholders including customers and the TSSA

d) Conclusions arising from the Project-generated knowledge (e.g., risks/mitigations)
e) Recommendations for next steps (e.g., discontinue or expand the Project, adjust the concentration of hydrogen) and the potential timing of any related applications to the OEB

This investment is considered a core business investment. As noted in the AMP at Exhibit C, Tab 2, Schedule 1, page 16, Enbridge Gas is committed to low-carbon alternatives including hydrogen blending in order to meet customer needs in an environmentally responsible manner.

All of the materials related to the LCEP proceeding can be found on the Board's website. For ease of reference a link to the LCEP leave to construct application is provided below.

https://www.rds.oeb.ca/CMWebDrawer/Record?q=CaseNumber=EB-2019-0294&sortBy=recRegisteredOn-&pageSize=400

ENBRIDGE GAS INC.

Answer to Interrogatory from
School Energy Coalition ("SEC")

Interrogatory

Reference:

Ex. B/2/1, p. 3, Ex. C/2/1, section 6.1, and many other references

Question:

SEC is interested in better understanding how the Applicant establishes its annual capital budget, given its recognition that it has "finite resources to complete capital projects". We understand the current process to be that the Applicant determined Base Capital for 2021 by calculating the ICM Materiality Threshold for that year, and has then escalated that amount by a forecast growth factor to estimate Base Capital for 2022-2025. The Applicant then prioritizes its capital projects to fill up its Base Capital figure for each year. After that, the Applicant identifies projects that it believes would qualify for ICM treatment under the Board's rules, but are not included in the Base Capital. Those projects may then be included in an ICM application with respect to the year they are expected to be in service. With respect to this capital budget process:

a. Please confirm that the above description is correct in all material respects, or provide corrections to the description so that it represents a reasonable understanding of the process.
b. Please confirm that for each of the years 2021-2025, the total of all capital projects that met the Applicant's criteria to proceed was more than the threshold calculated for Base Capital, although in two years (2023 and 2025), the capital projects in the EGD rate zone were below the threshold, offset by capital projects in the Union rate zone that were above the threshold.
c. Please describe the process, if any, that the Applicant uses to identify years in which it can bring capital into service in total amounts below the ICM Materiality Threshold.
d. Please confirm that the Base Capital in each year includes projects that would, if the total otherwise exceeded the ICM Materiality Threshold, in the Applicant's opinion qualify for ICM treatment under the Board's rules.

e. Please identify any factors other than the Board's ICM Materiality Threshold formula that the Applicant uses to establish an amount of Base Capital for a year. If there are any such factors, please identify for which years they were used, and how.
f. Please advise whether the current system of establishing Base Capital is different from the system used by either EGD or Union in the period prior to the merger and, if so, what changes were made from the previous system(s) to the current system.
g. The Asset Management Plan describes (p. 255) a process where "*ICM-eligible investments that were likely to be causing the optimization runs to fail were removed from optimization, providing EGI with the best understanding of an optimized typical base spend profile*." Please describe that activity (its purpose, steps and impacts) in more detail, including in particular how some ICM-eligible investments were identified as causing run failures, and how removing them helped the Applicant understand the best base spend.
h. Please provide any memoranda, reports, presentations, analyses or other documents, whether provided to the Executive Management Committee or the Board of Directors, or otherwise, that set out the process (and results) for identifying ICM-eligible projects and allocating them to Base Capital, ICM application, or any other category (e.g. no claim).

Response

a) SEC's understanding of the current process should be revised to the following:

We understand the current process to be that the Applicant determined the capital constraint ~~Base Capital~~ for 2021 by calculating the ICM Materiality Threshold for that year, and has then escalated that amount by a forecast growth factor to estimate the capital constraint ~~Base Capital~~ for 2022-2025. The Applicant then optimizes ~~prioritizes~~ its capital projects to the capital constraint ~~fill up its Base Capital figure~~ for each year. If the optimization fails due to the level of fixed and mandatory projects, ~~After that,~~ the Applicant identifies projects that it believes would qualify for ICM treatment under the Board's rules, that are likely causing the optimization failure. The optimization is rerun until an optimized result is achieved, providing Enbridge Gas with the best understanding of an optimized typical base spend profile. The ICM-eligible investments are brought back into the plan after optimization.~~, but are not included in the Base Capital.~~ Those projects may then be included in an ICM application with respect to the year they are expected to be in service.

b) The optimizations for EGD rate zone and Union rate zone were completed independently from each other; for this reason, capital projects in one rate zone did not offset the other. For the Union rate zone, the initial pre-optimized request for

capital exceeded the capital constraint in all years. For the EGD rate zone, the initial pre-optimized request for capital exceeded the capital constraint in 2021, 2022, and 2024.

c) Whether the required timing of capital through portfolio optimization is above or below the ICM Materiality Threshold, the Asset Management Core Process is followed (Exhibit C, Tab 2, Schedule 1, page 62, Section 4.2 Asset Management Core Process).

d) It can be confirmed that there are ICM-eligible investments (Exhibit C, Tab 2, Schedule 1, page 253, Table 6.1-1) within the Asset Management Plan/USP with spend covering the timeframe from 2021-2025. It is important to note that the treatment of these investments as ICM projects is not confirmed, and the current regulatory methodology applies to assets with an in-service date to 2023. Whether Enbridge Gas will request ICM treatment for these projects in 2022 and 2023 will depend on the capital needs in these years as determined by the Asset Management Plan and the ICM materiality threshold.

e) The ICM Materiality Threshold is used to inform the capital constraint for portfolio optimization. The required amount of capital is determined through the Asset Management Core Process (Exhibit C, Tab 2, Schedule 1, page 62, Section 4.2 Asset Management Core Process). If the optimization determines that the capital spend is above the ICM Materiality Threshold, Enbridge Gas will evaluate if any of the projects qualify for ICM treatment. This process identifies the amount of base (ie below the threshold) and ICM capital (ie above the threshold).

f) Prior to the merger, the legacy entities operated under different Incentive Regulation Mechanism ("IRM"). Legacy Union operated under a Price Cap IRM framework with a capital pass-through mechanism for 'not-business-as-usual' capital and legacy EGD operated under a Custom IRM framework. Legacy Union created bottom up budgets based on business needs to maintain the company's infrastructure and add new customers and major projects. Capital budgets were measured against the approved spend in the 2013 Cost of Service application. Legacy EGD operated under a Custom IRM framework, where the capital portfolio was established using a bottom-up list of business needs which included the continuation of historic activities to maintain the Company's distribution system and other infrastructure, add new customers and major projects. This process involved several iterations of scrutinizing and prioritizing proposed capital spending to arrive at the capital budget. Under the Custom IRM framework, there was no distinction between base capital and incremental capital for rate setting purposes.

Under the current IRM framework, both EGD and Union rate zones determine capital spend based on the portfolio optimization process using the ICM Materiality Threshold as the capital constraint. The optimization process is described in section 1.9.1 in the Asset Management Plan, filed at Exhibit C, Tab 2, Schedule 1.

g) When portfolio optimization is performed, a capital constraint is applied. Based on value, the optimization looks at investments that are not mandatory (mandatory investments have fixed timing), to determine optimal timing. If the sum of mandatory investments in a given year exceeds the capital constraint, the optimization will fail as the system cannot achieve a solution within the defined constraints. By taking an iterative approach at removing some ICM-eligible investments from portfolio optimization, C55 could be run to achieve a solution. Based on the output, an optimized base spend profile could be reviewed that fit within the defined capital constraint.

h) The criteria for ICM-eligible identified investments is summarized in Exhibit C, Tab 2, Schedule 1, page 253, Section 6.1.2 Capital Considerations Table 6.1-1. The process for identifying an investment as ICM-eligible is a case of determining whether it meets the criteria set out in Table 6.1-1. All capital including ICM projects are treated as base capital but in instances where the capital requirement exceeds the ICM threshold, then projects meeting the ICM criteria are allocated to ICM capital and included for rate recovery in the annual rate application during the deferred rebasing period.

Asset investments for the whole five-year period were developed from the Asset Class Strategies that are described in the AMP – Section 5. This work was brought together in a presentation to the Asset Management Steering Committee on June 8, 2020. Please see Attachment 1 for the materials for this meeting.

Conditional endorsement of that capital expenditure plan was provided at that time given that the investments addressed the risks in the organization, and that there had been sufficient stakeholder review within the management team to ensure that the plan could be delivered. It was recognized that more work was needed to monitor the asset and investment needs as the effects of COVID-19 continued to evolve and that the in-service capital view and resultant consideration of ICM requests would need to be reviewed.

The Asset Management Plan was subsequently confirmed and the resultant budget and in-service capital forecast are reflected in this Application. With respect to the ICM – eligibility of investments, it was established that based on a fully allocated 2021 capital budget, the St Laurent Phase 3 was ICM-eligible.

Asset Management Steering Committee Meeting

June 8, 2020

ENBRIDGE
Life Takes Energy

Our Assets are Safe, Reliable, and Profitable. We Know it and we can Prove it.

Meeting Objectives

- Review Optimization Approach
- Review Recommended Portfolio
- Obtain Conditional Approval of **2021 Budget** and **2021-2025 Capital Portfolio**
- Decisions & Next Steps

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Agenda

AM Steering Committee June 8, 2020 1:00 – 3:00 Skype

Agenda Item	Presenter	Time	Purpose
Safety Moment	Lisa Chong	5 min	Awareness
Meeting Objectives	Hilary Thompson	5 min	Awareness
2021-2025 Optimization Approach	Catherine McCowan	20 min	Awareness/Discussion
2021-2025 Recommended Portfolio **-Rate Zone Summaries** **-Asset Class Highlights**	Catherine McCowan	60 min	Awareness/Discussion/Agreement
Decisions & Next Steps	Hilary Thompson	15 min	Awareness/Discussion/Agreement
Roundtable	All	10 min	Input

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Safety Moment

The Importance of Vitamin D

What does Vitamin D do?
Vitamin D is a nutrient that helps your body absorb calcium. Calcium and vitamin D work together to help you maintain healthy bones and teeth. Vitamin D also helps your muscles, nerves and immune system work properly.

Symptoms of deficiency?

- regular sickness or infection
- fatigue
- bone and back pain
- low mood
- impaired wound healing
- hair loss
- muscle pain

Prolonged deficiency linked to:

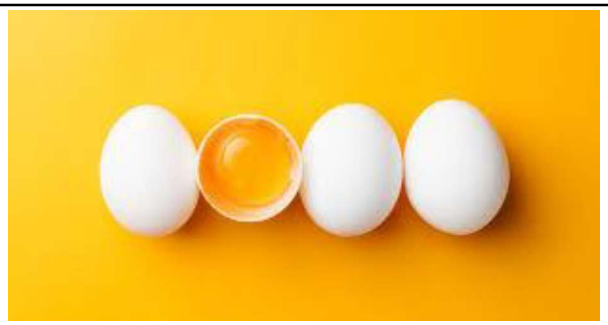
- cardiovascular conditions
- autoimmune problems
- neurological diseases
- infections
- pregnancy complications
- osteoporosis
- certain cancers, especially breast, prostate, and colon.

Safety Moment

The Importance of Vitamin D

How much do we need?

Age	
0 to 1 year	400 IU
1 to 70 years	600 IU
Over 70 years	800 IU



Sources of Vitamin D?

- fatty fish, such as salmon, mackerel, and tuna (up to 557 IU/ 75 g)
- egg yolk (41 IU/egg)
- Fortified soy beverage (87 IU/250 ml)
- Mushrooms (7 IU/100g)
- fortified milk (103 IU/250 ml)
- fortified cereals and juices (40 IU-100 IU/250g)
- Sun to skin exposure (5-30 min, 10am- 3pm, 2x/week)
- D3 supplement

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2021-2025 Optimization Approach

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Asset Management Principles

- Each investment is categorized based on the following criteria:
  1. Compliance
  2. Risk Based
  3. Must Do
     - Intolerable Risk
     - 3rd Party Relocation/Municipal Replacement
     - Sufficient History & Risk to Warrant Continuation
     - Meets the threshold for economic justification as established in EBO 188 or EBO 134
  4. <$100K
  5. Finance Overheads

- Additional Considerations: Executing investments, ability to deliver proposed work plan, qualitative input from stakeholders, capital constraints

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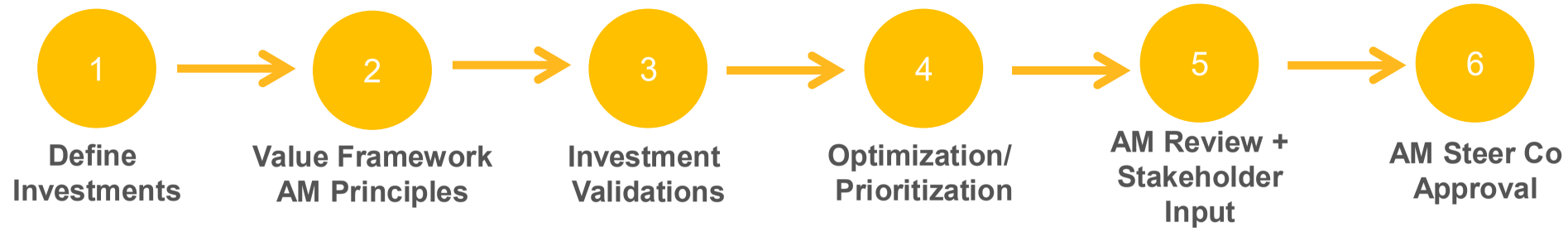
Optimization Approach Overview



- Based on the information in C55, developed a 5 year plan that aligns to our asset strategies and addresses our known risks and compliance requirements
- Where value framework was outstanding, the asset managers leveraged the legacy asset management plans, existing asset strategies, and all information provided by the business to prioritize the capital requirements
- The recommended plan was built with significant stakeholder input – key areas of highlight are project timing, scope and cost estimation, and risk assessment/valuation.

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Optimization Approach Overview

- The recommended plan fits within the materiality threshold, with the exception of select larger scale projects that are ICM-eligible
- Asset Management builds the portfolio based on capital expenditures in the year required and works with Finance to understand the in-service capital view
- Due to the unknown impacts of COVID-19 on growth this year, there is some uncertainty on the materiality threshold in 2022-2023.
- Once we have a better understanding of the impacts from COVID-19, we will re-visit the budget and LRP recommendations, and stakeholders will be engaged as required.

Optimization Approach

Stakeholder Review

Date	Stakeholders	Scope
4/17/2020	AM Steering Committee	AMP Projects >$10M Review Steer Co to confirm alignment with respect to Purpose, Need, and Timing for the projects prior to incorporation into the 5-year AMP or to identify next steps
4/28/2020	Director Review	Pre-optimization Director awareness of investments in scope for the 5-year plan Transparency across asset classes prior to portfolio optimization Build confidence in the approach for building the 2021 budget and 2021-2025 plan
5/11/2020 - 5/13/2020	Asset Managers Review	AM Governance review of post-optimization recommendation with Asset Managers Asset Managers to seek input from stakeholders and propose changes to recommendation
5/19/2020 - 5/22/2020	Director Review	Asset Manager review with Directors on recommended 2021 budget and 2021-2025 plan Overview of Optimization process

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Optimization Approach

Capital Constraints

Capital Constraint	($M)				
	2021	2022	2023	2024	2025
UG	474	481	488	495	502
EGD	567	575	584	592	601

The threshold is significantly higher than with the 2020 budget. This is driven by:

- An increase in the PCI factor for 2021
- A movement of general service customers to the contract market.

Capital Constraint assumptions for 2022-2025: PCI and Growth factors calculated for the ICM or rates application year extended out across all 4 planning years.

Note: Capital Constraints inclusive of overheads

Core & Non-Core

- Core includes capital that rolls up to the EGI LOB and is Regulated
  - Excludes Community Expansion
- Non-Core includes capital that rolls up to the EGI LOB and is UnRegulated
  - This includes Community Expansion, CTA, UnRegulated Portion of STO Investments, RNG, Geothermal, Hydrogen Interoperability, NGT Rental Compressors

2021-2025 Recommended Portfolio

Rate Zone Summaries

ENBRIDGE

Recommended Portfolio

Overview – C55 Planning Groups

- # of Investments:
  - UG 1059 (Core)
  - EGD 797 (Core)
- Prior to running the 5-Year Optimization, LTP* flagged for Optimization, STP**, and Executing investments were assigned to Planning Groups in C55. Planning Groups determine which investments must occur in the specified year(s) of spend and which ones get optimized using Value Framework.

Default - Not Sorted		DF	
Compliance Investments		CP	Compliance Validation Investment
Must-Do Investments		MD	Must-Do Validation Investment
Total Cost <100k		TC	Investments with a total Net base Capex of less than 100k are considered Must-Do
Executing Investments		EX	2020 Executing Investments with 2021 forecasted Dollars (Not flagged for re-optimizat...
Executing Flagged for Re-Opt		ER	Executing investments that Asset Manager flagged for reoptimization
Risk Based - Optimize		RB	Investment with completed value framework that is not executing
Risk Based - VF Requested		RR	Risk Based investments with a requested value framework that is not executing
Finance Investments		FN	Corporate & EA Fixed OH Investments
ICM Eligible - Compliance		EC	ICM Eligible Investment that is Compliance Validated
ICM Eligible - Must Do		EM	ICM Eligible Investment that is Must-Do Validated
ICM Eligible - Executing		IE	ICM Eligible Investment that is Executing
ICM Eligible - Risk Based		IR	ICM Eligible Investment that is Risk Based
ICM Eligible - Risk Based with VF Requested		EV	ICM Eligible Investment that is Risk Based but no VF
ICM Confirmed		IC	ICM Confirmed
Out of Scope -Exclude from Optimization		NO	
Risk Based - Annual Programs		RT	Risk based annual programs
Non-Core		NC	

***LTP –** Long Term Planning stage - Scope, cost, preferred timing defined but may change. Value Framework in progress but not necessarily finalized.

****STP –** Short Term Planning stage - All stakeholders are aligned on this project. Value Framework complete. Cost and timing may change based on project planning.

★ Optimized

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Recommendation 2021 -2025 UG Rate Zone Core + Non-Core

Spend Profile

Note: Excludes dismantlement

	2021 AM Recommended		2022 AM Recommended		2023 AM Recommended		2024 AM Recommended		2025 AM Recommended	
	Core	Non-Core	Core	Non-Core	Core	Non-Core	Core	Non-Core	Core	Non-Core
Compression Stations	7,461,955	1,714,205	26,674,947	5,422,259	76,464,650	14,343,805	56,824,846	15,428,505	8,778,293	1,743,031
Corporate	152,547,281	3,000,000	133,972,837	-	160,559,690	-	163,770,884	-	167,046,302	-
Customer Connections	61,547,389		58,914,274		59,933,490		60,970,340		62,025,126	
Distribution Pipe	216,399,594		100,278,417		95,190,542		109,502,379		80,064,902	
Distribution Stations	37,994,730	1,200,000	33,054,354	1,700,000	16,189,230	-	8,825,824	-	7,238,700	-
EA Fixed O/H	2,785,100		2,962,499		3,144,149		3,207,032		3,271,173	
Fleet & Equipment	9,590,001		9,819,998		9,950,000		10,179,999		10,409,998	
Growth	33,596,485	14,621,500	37,348,937	15,000,000	106,594,487	25,000,000	18,522,937	25,000,000	93,157,482	25,000,000
LNG	352,500		200,000		12,484,800		150,000		6,507,702	
Real Estate & Workplace Services	32,004,333	11,000,000	29,363,833	9,000,000	20,467,000	5,450,000	17,103,000	-	36,409,000	-
TIS	9,260,000	19,315,553	14,943,500	6,200,000	11,029,625	6,000,000	29,715,590	-	24,676,090	-
Transmission Pipe & Underground Storage	208,976,136	13,720,936	75,563,332	29,474,756	21,239,260	1,414,072	120,076,807	2,481,923	21,955,958	211,300
Utilization	45,150,442		46,179,469		47,510,402		48,610,593		49,748,189	
Grand Total	**817,665,947**	**64,572,194**	**569,276,397**	**66,797,015**	**640,757,324**	**52,207,877**	**647,460,231**	**42,910,428**	**571,288,915**	**26,954,331**

*Excludes Affiliates

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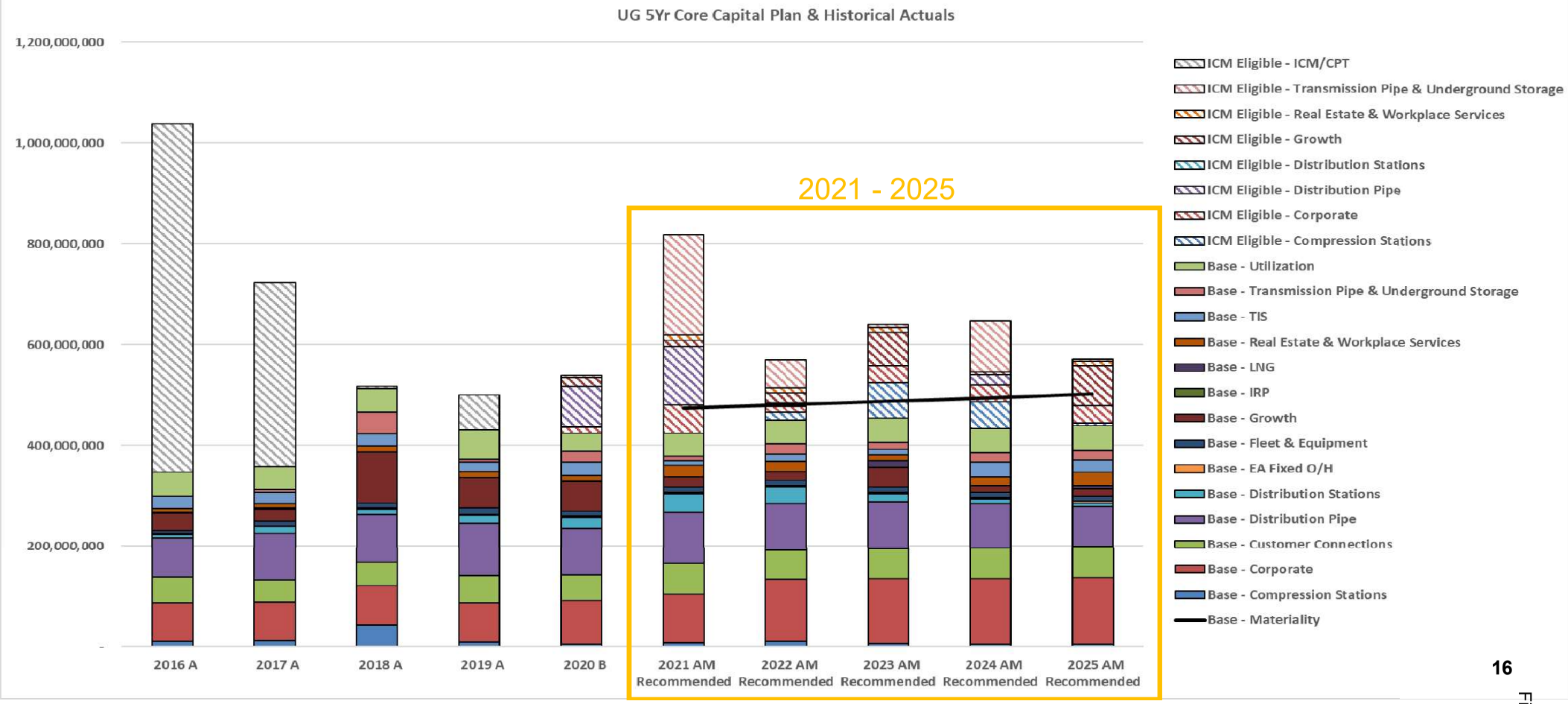
Recommendation 2021 -2025 UG Rate Zone

Base Capital + Incremental Capital

Note: Excludes dismantlement, Excludes Non-Core Components



Recommendation 2021 -2025 EGD Rate Zone Core + Non-Core

Spend Profile

Note: Excludes dismantlement

	2021 AM Recommended		2022 AM Recommended		2023 AM Recommended		2024 Recommended		2025 AM Recommended	
	Core	Non-Core	Core	Non-Core	Core	Non-Core	Core	Non-Core	Core	Non-Core
Compression Stations	45,507,486	579,500	90,480,627	325,000	64,694,171	-	188,110,419	-	13,033,553	-
Corporate	115,762,540		133,265,688		111,113,188		113,335,452		115,602,161	
Customer Connections	103,842,260		102,755,068		102,661,373		101,307,317		100,407,481	
Distribution Pipe	150,044,905		161,059,050		85,707,773		122,014,983		112,392,072	
Distribution Stations	27,941,539	50,121,129	41,750,763	14,072,500	30,186,635	13,000,000	28,707,454	5,500,000	28,107,894	3,750,000
EA Fixed O/H	15,363,322		15,433,416		15,506,685		15,583,171		15,662,911	
Fleet & Equipment	8,900,000		9,120,004		9,240,000		9,460,000		9,680,000	
Growth	11,975,322	17,554,170	27,896,545	26,634,030	13,505,286	35,163,199	27,023,266	35,757,375	59,462,922	38,005,369
Real Estate & Workplace Services	33,888,000	11,000,000	45,397,000	9,000,000	28,311,000	5,450,000	18,427,000	-	18,768,500	-
TIS	23,114,913	19,075,000	32,361,667	6,000,000	24,020,000	14,500,000	21,920,000	2,000,000	18,995,000	-
Transmission Pipe & Underground Storage	10,270,545	17,267,059	11,951,796	6,723,400	7,913,045	5,112,297	15,019,400	40,541,681	3,633,601	63,279,055
Utilization	39,338,657		50,447,050		44,317,987		50,022,834		44,242,189	
Grand Total	**585,949,489**	**115,596,858**	**721,918,672**	**62,754,930**	**537,177,143**	**73,225,496**	**710,931,296**	**83,799,056**	**539,988,285**	**105,034,424**

*Excludes Affiliates

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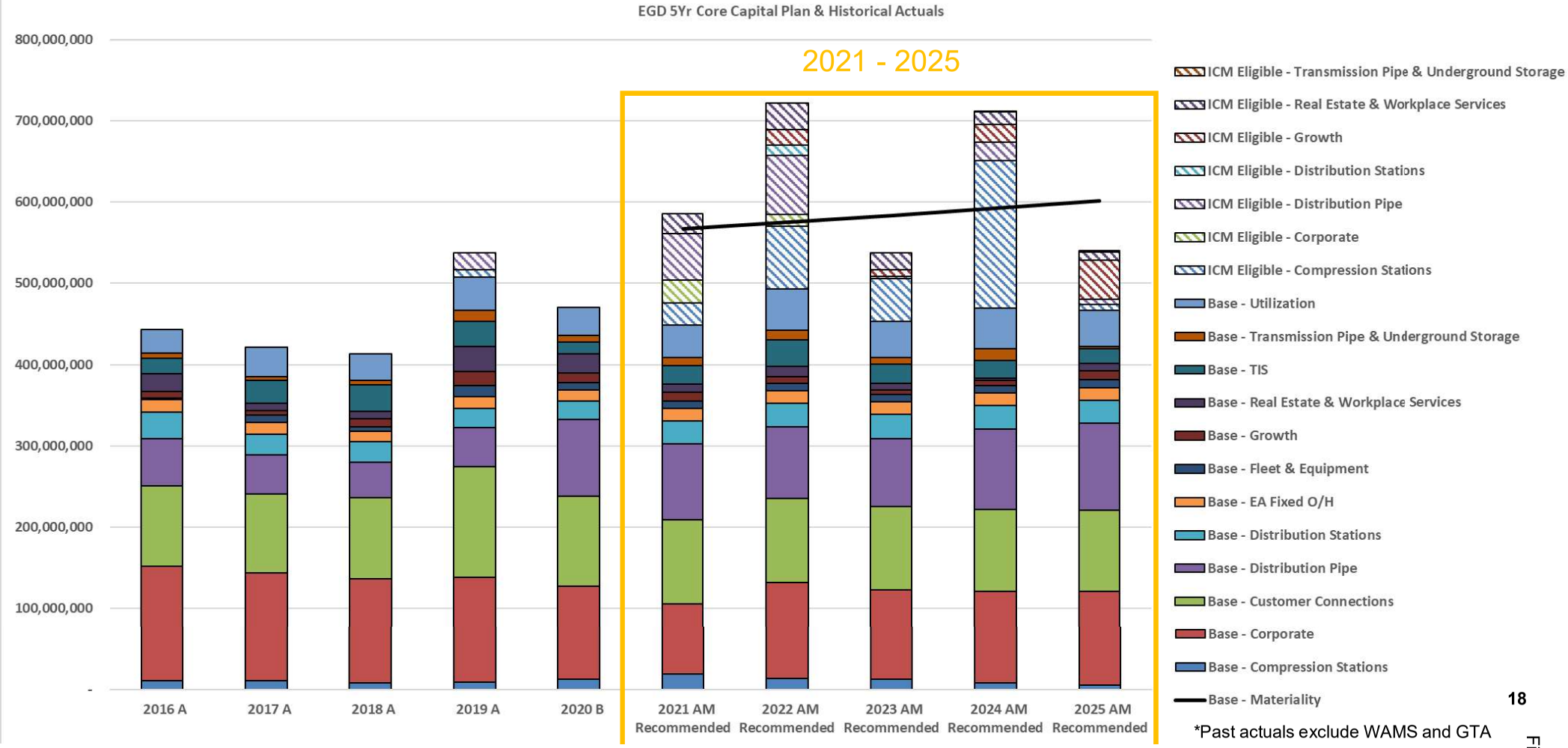
Recommendation 2021 -2025 EGD Rate Zone

Base Capital + Incremental Capital

Note: Excludes dismantlement, Excludes Non-Core Components

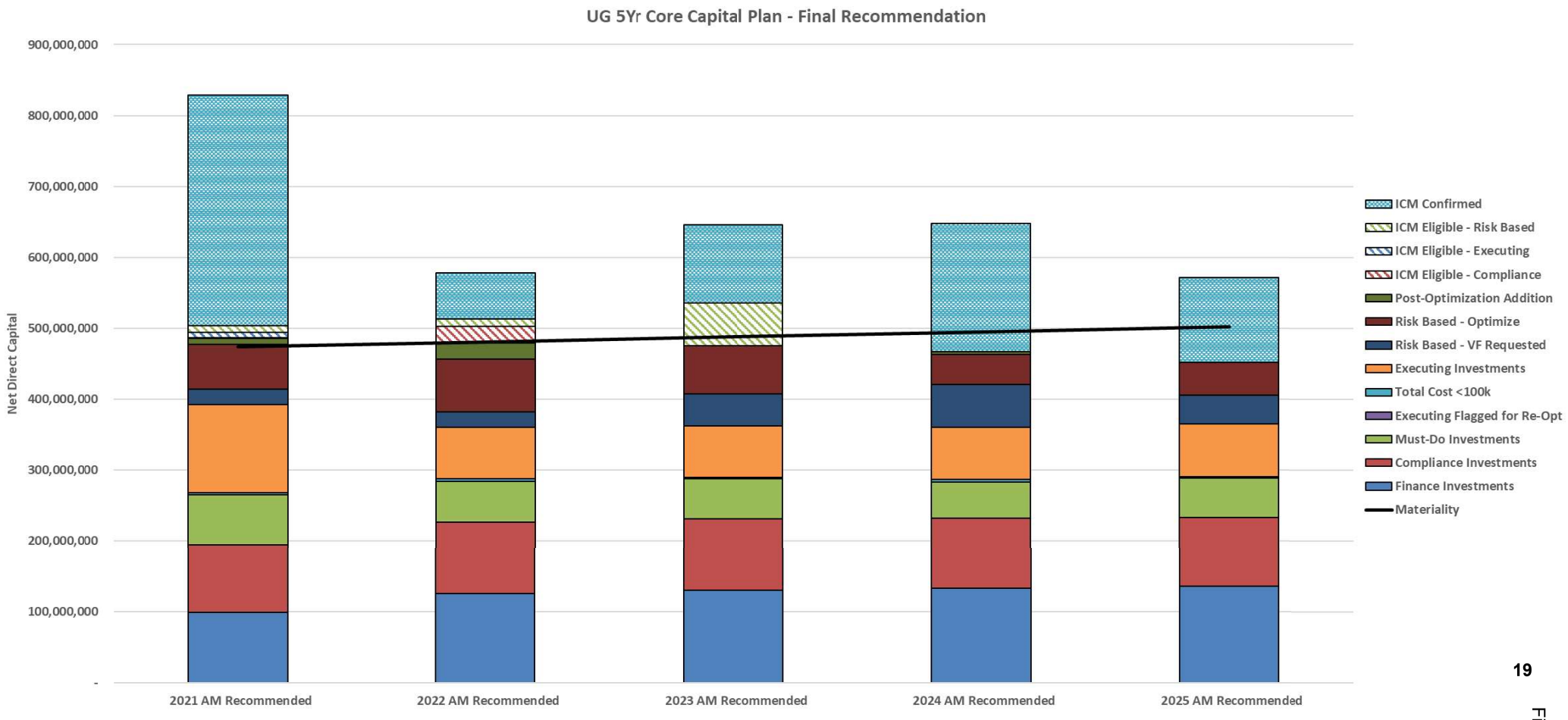


*Past actuals exclude WAMS and GTA

Recommendation 2021 -2025 UG Rate Zone

UG – Planning Group

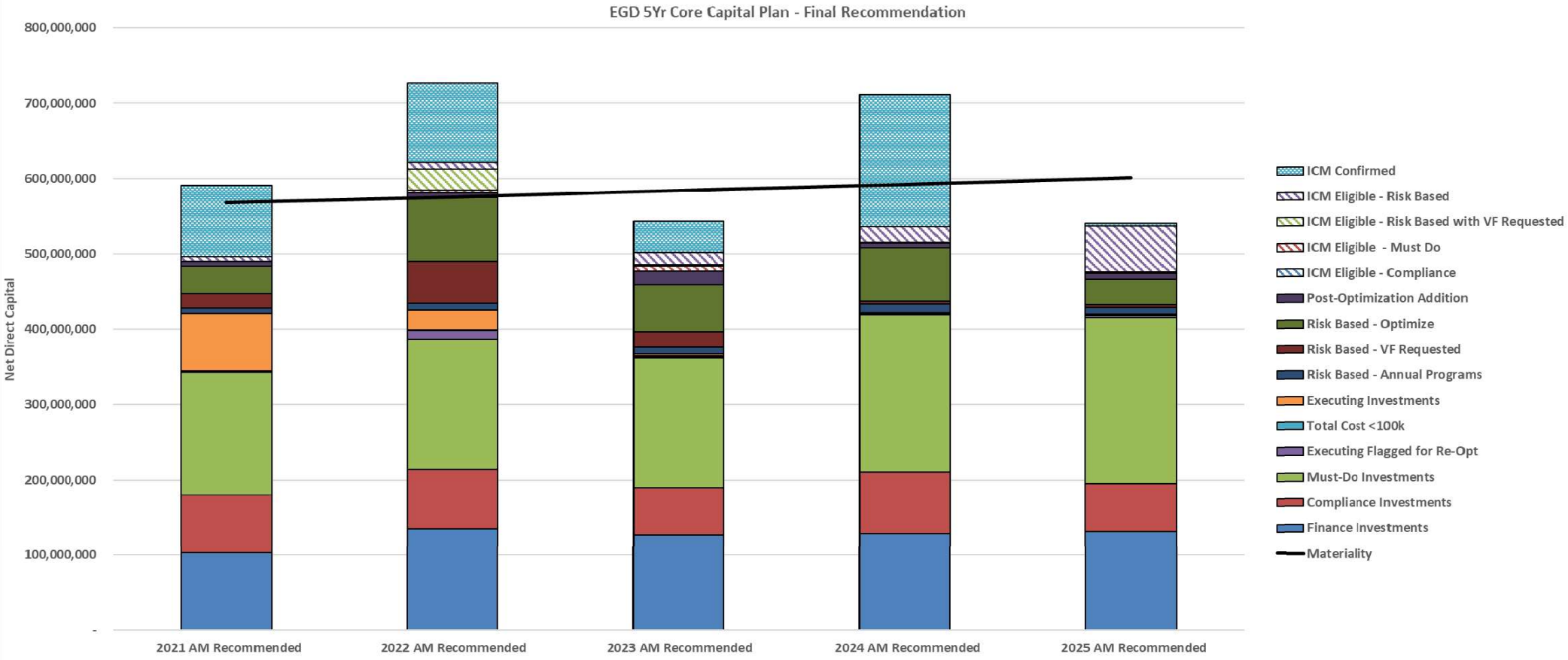
Note: Excludes dismantlement, Excludes Non-Core components



Recommendation 2021 -2025 EGD Rate Zone

EGD – Planning Group

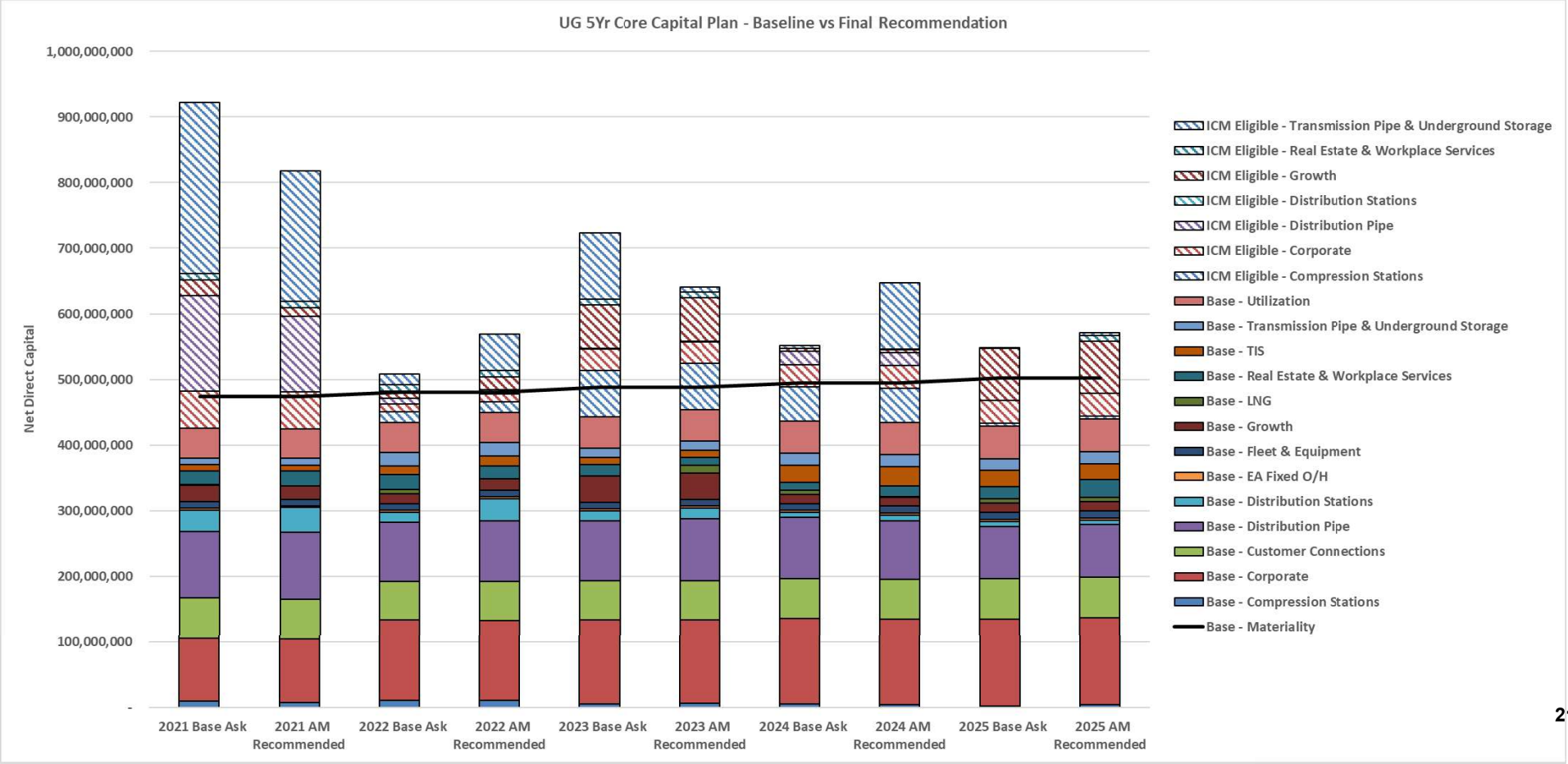
Note: Excludes dismantlement, Excludes Non-Core components



Recommendation 2021 -2025 UG Rate Zone

UG – Base Ask vs Recommendation

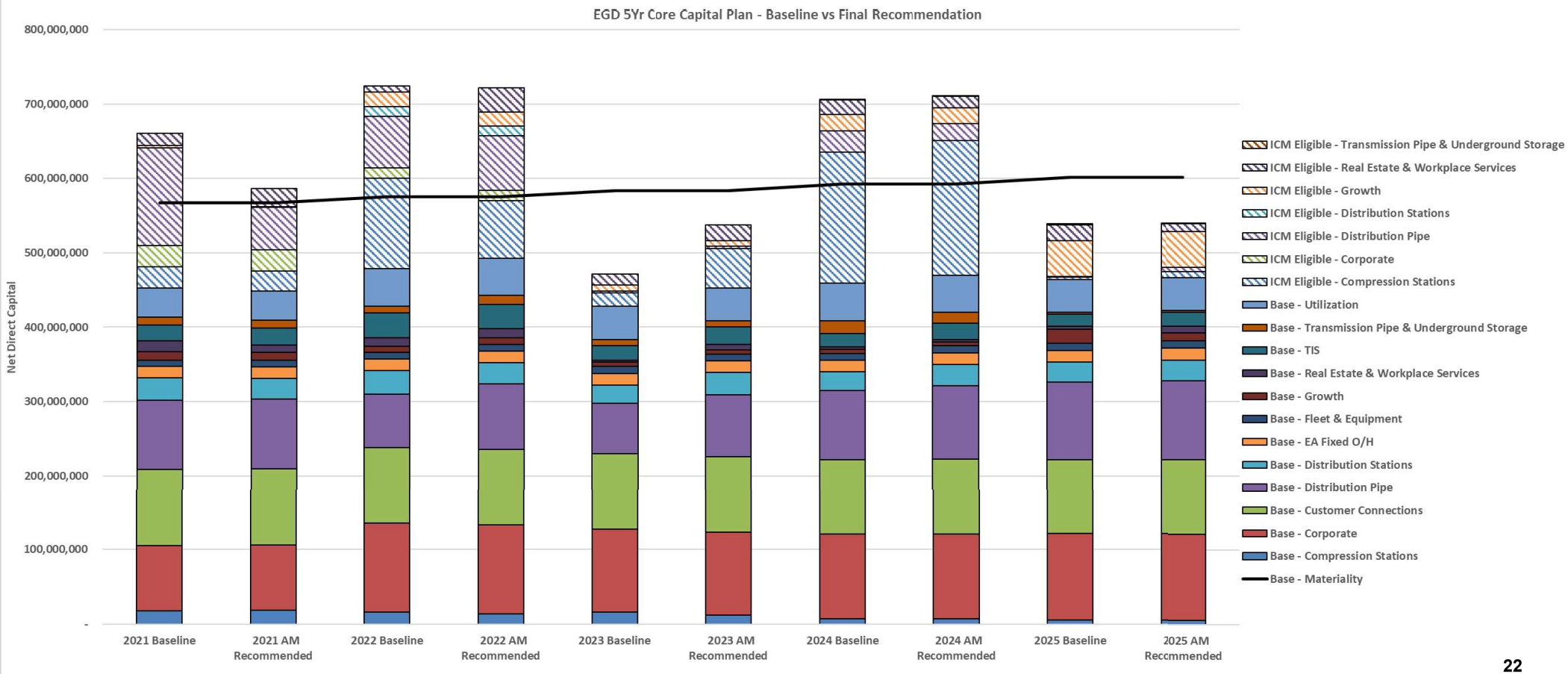
Note: Excludes dismantlement, Excludes Non-Core components



Recommendation 2021 -2025 EGD Rate Zone

EGD – Base Ask vs Recommendation

Note: Excludes dismantlement, Excludes Non-Core components



Recommendation 2021-2025

UG ICM-Eligible

Note: Excludes dismantlement, Excludes Non-Core components

Asset Class	Project Name	In-Service Date	2021-2025Spend ($M)	Total Net Capital ($M)	Driver
Distribution Pipe	NPS 8 Port Stanley Replacement	Dec 2024	20.6	20.6	Condition
	INTE: North Shore - Section A (TBD) : Retrofit ECDA to ILI	Dec 2021	12.0	12.3	Mandatory: Retrofit for TIMP program
	Windsor Line Replacement	Dec 2021	7.2	90.2	Condition
	LOND-London Lines Replacement	Dec 2021	102.6	106.7	Condition
Distribution Growth	Customer Stratford Reinforcement	Mar 2022	13.3	13.3	Mandatory: Reinforcement Specified per Network Analysis
	Dunnville Line Reinforcement Loop 10" reinforcement from outlet of Caledonia Trans, ending at Stoneman Rd	Dec 2025	9.0	11.0	Mandatory: Reinforcement Specified per Network Analysis
	NBAY: Install 12.5 km of NPS 6, Parry Sound	Dec 2025	15.0	15.0	Mandatory: Reinforcement Specified per Network Analysis
	WATE - 2025 Owen Sound Reinforcement	Dec 2026	81.7	83.6	Mandatory: Reinforcement Specified per Network Analysis
	NPS 10 Goderich Looping	Dec 2025	2.2	25.0	Mandatory: Reinforcement Specified per Network Analysis
	Sudbury Transmission - 2 x 2100 HP Compressor upstream of coniston at Marten River takeoff	Dec 2023	51.6	51.6	Mandatory: Reinforcement Specified per Network Analysis (2018 FBP)
	WATE - Owen Sound Reinforcement Ph 4	Dec 2020	1.9	56.6	Mandatory: Reinforcement Specified per Network Analysis

These investments meet current incremental capital treatment requirements. Future treatment to be determined.

Recommendation 2021-2025

UG ICM-Eligible

Note: Excludes dismantlement, Excludes Non-Core components

Asset Class	Project Name	In-Service Date	2021-2025 Spend ($M)	Total Net Capital ($M)	Driver
Compression Stations	Obsolete RB211-24A C Plant	Dec 2024	130.9	130.9	Obsolescence
	Waubuno	Nov 2024	12.9	12.9	Obsolescence
Transmission Pipe & Storage	NPS 12 Detroit River Crossings	Dec 2023/2024	29.7	29.7	Condition, High Consequence
	INTE: Dawn - Cuthbert - ECDA to ILI Retrofit NPS 42, 34, 26	Dec 2022	24.6	25.0	ILI Compliance
	Dawn Parkway Expansion Project (Kirkwall-Hamilton NPS 48)	Dec 2021	176.1	181.7	Growth
	SIL Reinf Proj - Phase 1 - DowVS to BWVS SIL Reinf Proj – Phase 1 – Novacor Stn	Dec 2021	19.2 6.5	20.5 6.5	Growth
	Sarnia Expansion Project- SIL Expansion Build A1 - 100 TJ Sarnia Expansion Project - SIL Customer Facility Sarnia Expansion Project- SIL Expansion Build A2 - 150 TJ	Dec 2024	64.5 11.7 34.0	64.6 11.7 34.0	Growth
REWS	Thunder Bay Regional Operations Centre	Dec 2026	10.2	10.2	Condition
	New Site No. 4	Dec 2023	28.8	28.8	Operations Site Consolidation

These investments meet current incremental capital treatment requirements. Future treatment to be determined.

Recommendation 2021-2025

EGD ICM-Eligible

Note: Excludes dismantlement, Excludes Non-Core components

Asset Class	Project Name	In-Service Date	2021-2025Spend ($M)	Total Net Capital ($M)	Driver
Distribution Pipe	NPS 20 Lake Shore Replacement (Cherry to Bathurst) (2019+)	Jun 2022	90.7	96.0	Condition
	St. Laurent Replacement Phase 4 – Aviation Parkway NPS 12	Dec 2022	29.5	29.8	Condition
	St. Laurent Replacement Phase 4 - St. Laurent Queen Mary/Prince Albert NPS 12	Dec 2022	11.0	11.1	Condition
	NPS 12 Martin Grove Rd Main Replacement: Lavington to St. Albans Rd.	Dec 2024	18.3	18.3	Condition
	Glenridge Avenue, St. Catharines	Dec 2025	11.8	11.8	Condition
Distribution Stations	Harmer District Station	Dec 2022	13.1	13.1	Compliance and ILI requirements
Distribution Growth	Rideau Reinforcement	Dec 2025	53.5	53.5	Mandatory: Reinforcement Specified per Network Analysis
	York Region Reinforcement	Dec 2026	24.0	65.8	Mandatory: Reinforcement Specified per Network Analysis
	Amaranth System Reinforcement	Dec 2024	10.3	10.3	Mandatory: Reinforcement Specified per Network Analysis
	Thornton XHP reinforcement	Dec 2023	10.9	10.9	Mandatory: Reinforcement Specified per Network Analysis

These investments meet current incremental capital treatment requirements. Future treatment to be determined.

Recommendation 2021-2025

EGD ICM-Eligible

Note: Excludes dismantlement, Excludes Non-Core components

Asset Class	Project Name	In-Service Date	2021-2025Spend ($M)	Total Net Capital ($M)	Driver
Compressor Stations	SCOR: K701/2/3 Reliability - Replacement	Nov 2024	185.2	185.2	Obsolescence
	Dehy Expansion	Nov 2023	99.7	99.8	Condition; Growth
	SCRW:Station-Renewal In-Place	Dec 2025	27.9	27.9	Obsolescence
	SCOR:Meter Area-Upgrade	Phase 1 - Dec 2021 Phase 2 – Dec 2022	32.0	45.1	Condition
Transmission Pipe & Storage	PCRW:Wells-Upgrade	Dec 2027	1.7	11.6	Compliance, Condition
REWS	Kennedy Road Expansion	Dec 2024	14.1	26.3	Condition
	Station B New Building	Dec 2021	15.5	17.6	Condition, Function, In Progress
	SMOC/Coventry Facility Consolidation	Dec 2027	9.0	30.8	Function and Service Coverage Duplication
	Kelfield Operations Centre Obsolescence.	Dec 2023	10.8	10.8	Condition, Function
	VPC Core and Shell Obsolescence	Dec 2025	20.0	20.0	Condition

These investments meet current incremental capital treatment requirements. Future treatment to be determined.

Heat map – Asset Related Risks

Very High Risk
High Risk
Medium Risk
Low Risk

Note: These are post-control risk rankings

Likelihood	1	2	3	4	5	6	7
7			**MP-01:** Glycol leak at Station (2021) **MP-01:** Windsor Line (2020) **MP-01:** Lost deliverability/ abandoned wells (2020)				
6			**MP-01:** Siemens Valve Controller (2024)				
5				**MP-01:** Aging K701/2/3 compression units (Ongoing)	**MP-01:** Waubuno (2024) **MP-01:** Lost deliverability from STO obsolete components – PLCs, MCCs (2024) **MP-05:** 30% SMYS Pipeline Rupture (Ongoing)	**MP-01:** Hamilton Gate (2020)	
4						**MP-01:** Leaks on Barton St LP System (2021) **MP-01:** Detroit River Crossing (2023) **MP-05:** Sewer Lateral Crossbore (2020)	
3					**MP-01:** Corunna – N/S header, crossflow header, meter area (Ongoing)	**MP-01:** NPS 20 Lakeshore KOL (2022)	**MP-01:** Over-pressure of LP System (TBD)
2					**MP-05:** Copper (AMP Fittings) Risers (2037)		
1						**MP-01:** Ambiguity in Gas Sub-Metering (Ongoing)	

Consequence

Asset-Related Risks
(MP-01 and MP-05)

Risk	Ranking	Treatment Plan & Timing
Don Valley Bridge	Very High	Put into service in Q2 2020
Hamilton Gate Station	Very High	Project approved with ISD 2020
Glycol Leaks at Stations	High	Multiple Projects – High complete by 2023
Windsor Line	High	OTC with expected ISD 2020
Lost deliverability from Abandoned Wells	High	Dow Moore (almost complete); Kimball 2020
Waubuno Compressor Reliability concerns	High	In-service 2024
Obsolete MCCs and lack of spare parts at Compressor Sites impacting deliverability	High	Replace MCCs to the new standards to avoid a situation of unit unavailability impacting deliverability. Program to address obsolescence by 2024.
Obsolete Allen Bradley PLC and lack of spare parts at STO impacting deliverability.	High	Replace PLCs to the new standards to avoid a situation of unit unavailability impacting deliverability. Program to address obsolescence by 2024.
Leaks on Barton St LP System	High	Replacement work – complete by 2021
Integrity concerns on Detroit River Crossing	High	Working with EP to gain alignment on decision to replace. In Asset Plan at 60% of cost for 2023

Asset-Related Risks
(MP-01 and MP-05)

Risk	Ranking	Treatment Plan & Timing
Over-pressure on Low Pressure systems	High	Steve McGivery – Risk Owner. Project charter/plan led by Brad Patzer. Group including Operations, Network Analysis, Risk, Asset Mgmt to examine next steps.
Sewer Lateral Crossbores (MP-05)	High	Addressed through existing O&M programs and predictive analytics. Incremental costs accommodated in capital programs within Pipe& Growth Asset Class
30% SMYS Lines (MP-05)	High	Advance and refine Pipeline Integrity Management Program
NPS 20 KOL (Cherry to Bathurst)	Medium	Replacement; construction 2021 with 2022 ISD
Sub-metering	Medium	Engineering policy changes
K 701/2/3	Medium	Options analysis in progress
Corunna – N/S header, crossflow header, meter area	Medium	Further risk assessment work in progress
Copper (AMP fitting) Risers (MP-05)	Medium	Proactive replacement program in Asset Plan
Siemens Valve Controller	Medium	Program – 2 units per year. Start in 2020, target completion in 2024.

2021-2025 Recommended Portfolio

Asset Class Review Highlights

ENBRIDGE

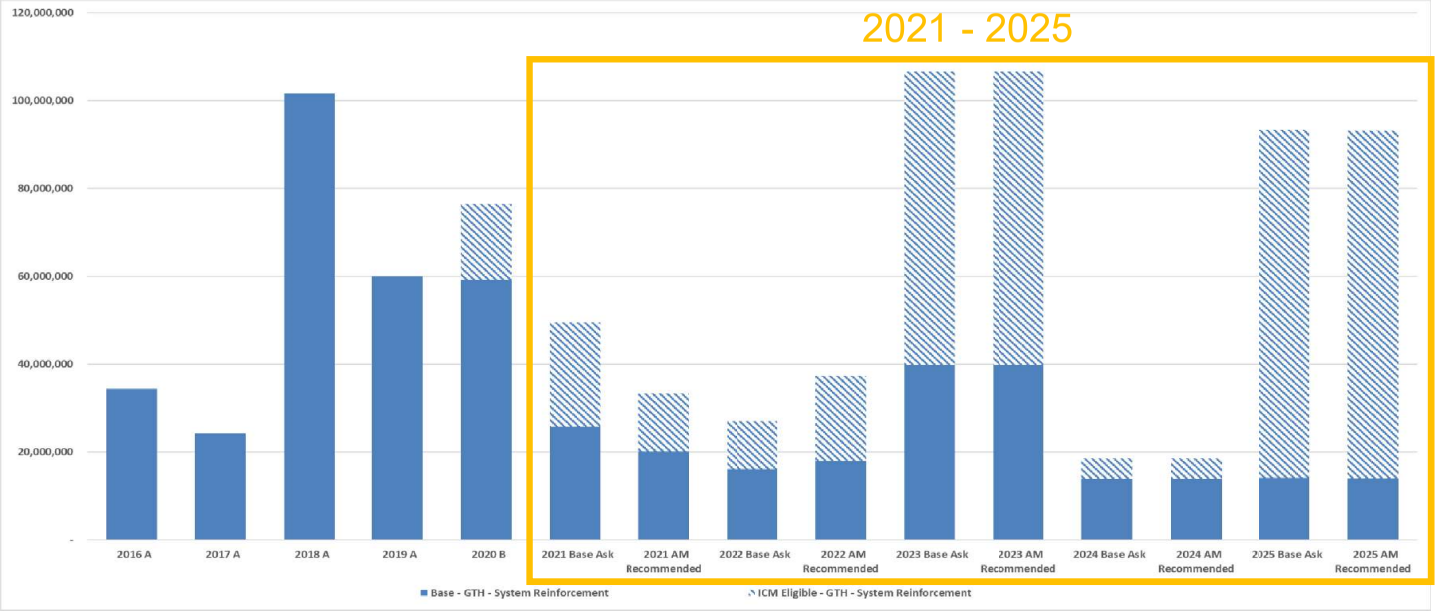
Recommendation 2021-2025

Asset Class Review UG – Growth

Note: Excludes dismantlement, Excludes Non-Core components

Large ICM-Eligible Projects:

- $174.7M in ICM-Eligible projects from 2021 – 2025
  - $81.7M Owen Sound Reinforcement (2026 ISD) – Capital Development and Delivery, Engineering & Integrity
  - $51.6M Sudbury Transmission (2023 ISD) – Capital Development and Delivery, Engineering & Integrity



Filed: 2021-01-21
EB-2020-0181
Exhibit I. SEC.1
Attachment 1
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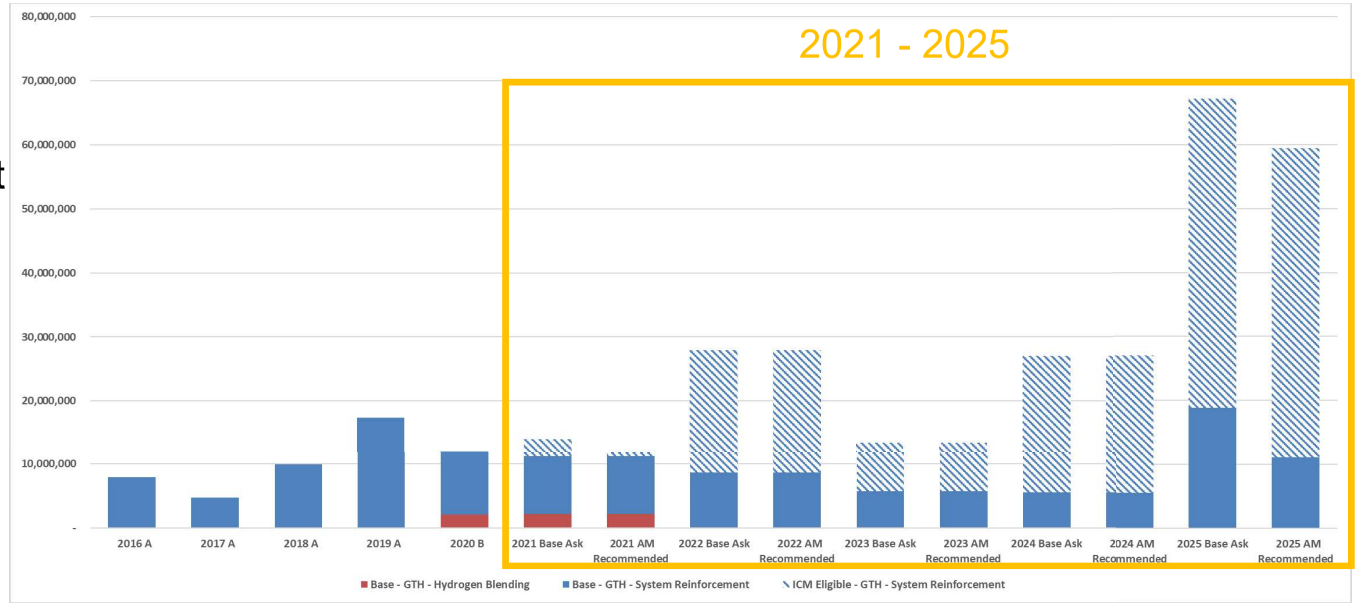
Recommendation 2021-2025

Asset Class Review EGD – Growth

Note: Excludes dismantlement, Excludes Non-Core components

Large ICM-Eligible Projects:

- $98.7M in ICM-Eligible projects from 2021 – 2025
  - $53.5 Rideau Reinforcement (2025 ISD) – Engineering Construction/GTA East, Distribution Operations
  - $24.0M York Region Reinforcement (2026 ISD) – Capital Development and Delivery, Engineering & Integrity
  - 2022 – spend profiles of York Region Reinforcement and Thornton XHP Reinforcement ($10.9M, ISD 2023)



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Recommendation 2021-2025

Asset Class Review UG – Distribution Pipe

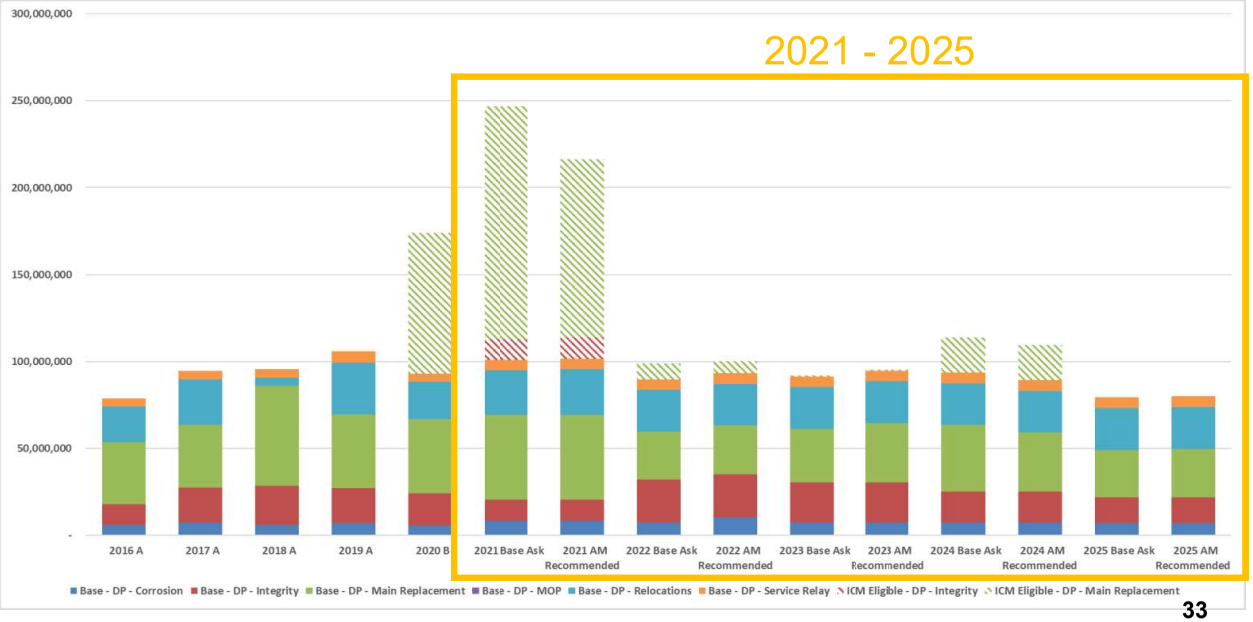
Note: Excludes dismantlement, Non-Core not applicable

Large ICM-Eligible Projects:

- $142.4M in ICM-Eligible projects from 2021 – 2025
  - $102.6M London Lines Replacement (2021 ISD) - Engineering Construction - West/North, Distribution Operations
  - $20.6 NPS 8 Port Stanley Replacement (ISD 2024) - Engineering Construction - West/North, Distribution Operations

Base Capital:

- Bare Steel Program, Main Replacements completed by 2024



Recommendation 2021-2025

Asset Class Review EGD – Distribution Pipe

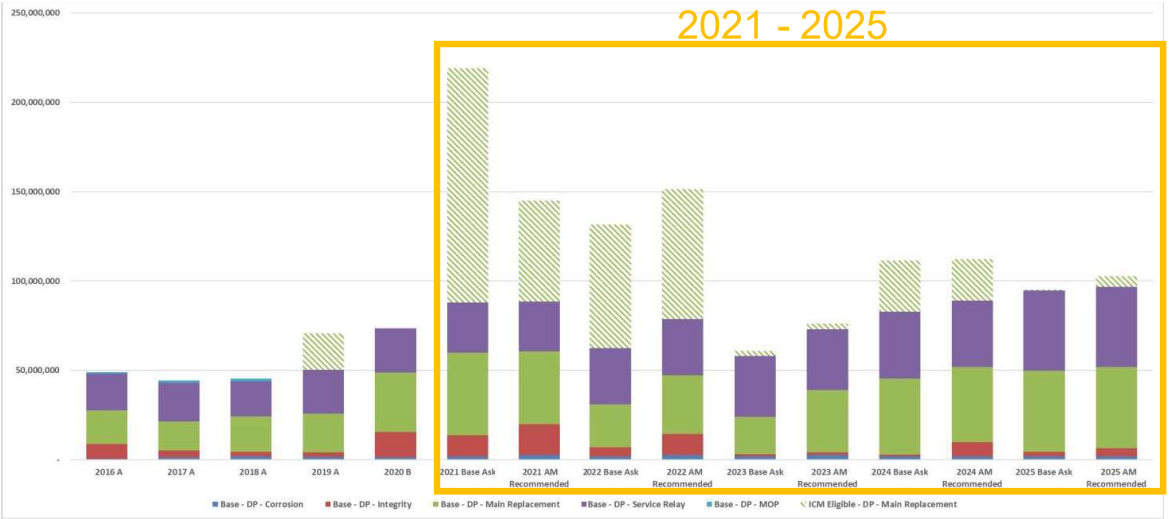
Note: Excludes dismantlement, Non-Core not applicable

Large ICM-Eligible Projects:

- $161.3M in ICM-Eligible projects from 2021 – 2025
  - $90.7M NPS 20 Lake Shore Replacement (Cherry to Bathurst) (2022 ISD) – Capital Development and Delivery, Engineering & Integrity
  - $29.5M NPS 12 St. Laurent Aviation Pkwy (2022 ISD) – Capital Development and Delivery, Engineering & Integrity
  - $18.3M NPS 12 Martin Grove Rd Main Replacement (2024 ISD) - Capital Development and Delivery, Engineering & Integrity

Base Capital:

- Integrity Asset Program spend profile based on Integrity schedule. Retrofitting the last of the recently identified >30% SMYS lines out of MOP program.



Recommendation 2021-2025

Asset Class Review UG – Compression Station (Core + Non-Core)

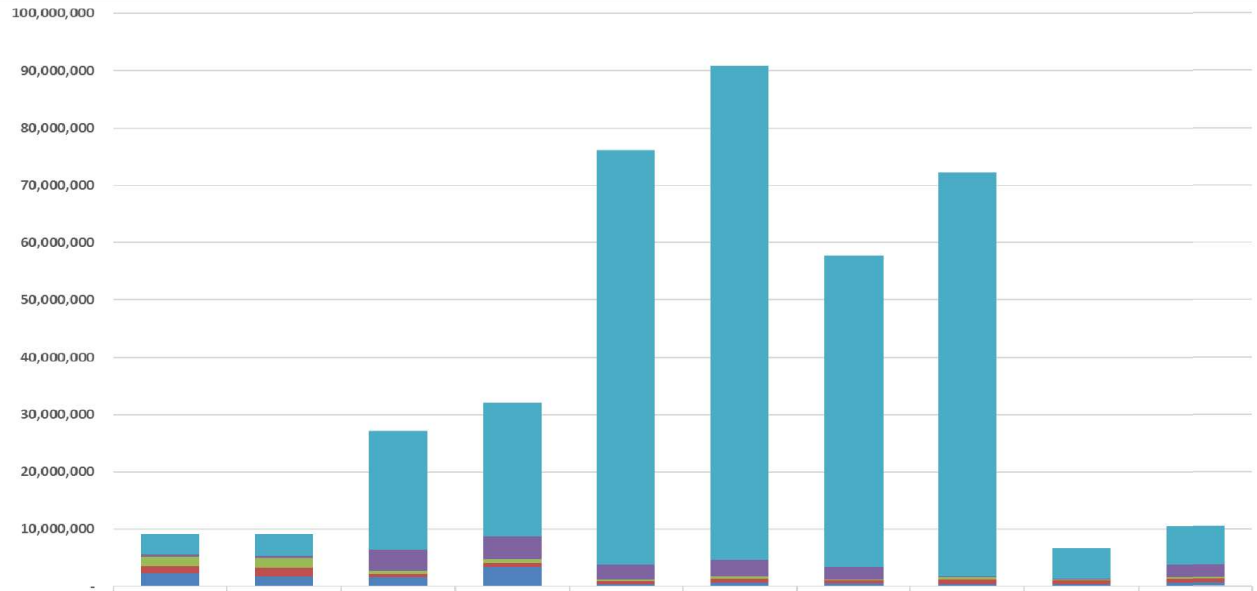
Note: Excludes dismantlement

Total Core: $176.3M

Total Non-Core: $38.5M

Large ICM-Eligible Projects (Core component):

- $143.8M in ICM-Eligible projects from 2021 – 2025
  - $130.9M Obsolete RB211-24A C Plant (ISD 2024) – Core Projects



	2021 Base Ask	2021 AM Recommended	2022 Base Ask	2022 AM Recommended	2023 Base Ask	2023 AM Recommended	2024 Base Ask	2024 AM Recommended	2025 Base Ask	2025 AM Recommended
CS - Replacements	3,469,788	3,775,748	20,676,448	23,264,798	72,259,391	86,137,107	54,243,007	70,470,023	5,346,854	6,642,996
CS - Overhauls	395,000	460,000	3,685,280	4,074,080	2,653,020	2,833,020	2,200,600	180,000	151,200	2,260,000
CS - Land/Structures - Improvements	1,779,239	1,682,462	578,239	623,328	208,239	373,328	168,239	388,328	168,239	188,328
CS - Integrity	1,252,000	1,490,000	562,000	800,000	562,000	800,000	562,000	800,000	562,000	800,000
CS - Improvements	2,217,378	1,767,950	1,627,000	3,335,000	395,800	665,000	491,000	415,000	470,000	630,000

Note: Excludes dismantlement

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Recommendation 2021-2025

Asset Class Review EGD – Compression Station (Core + Non-Core)

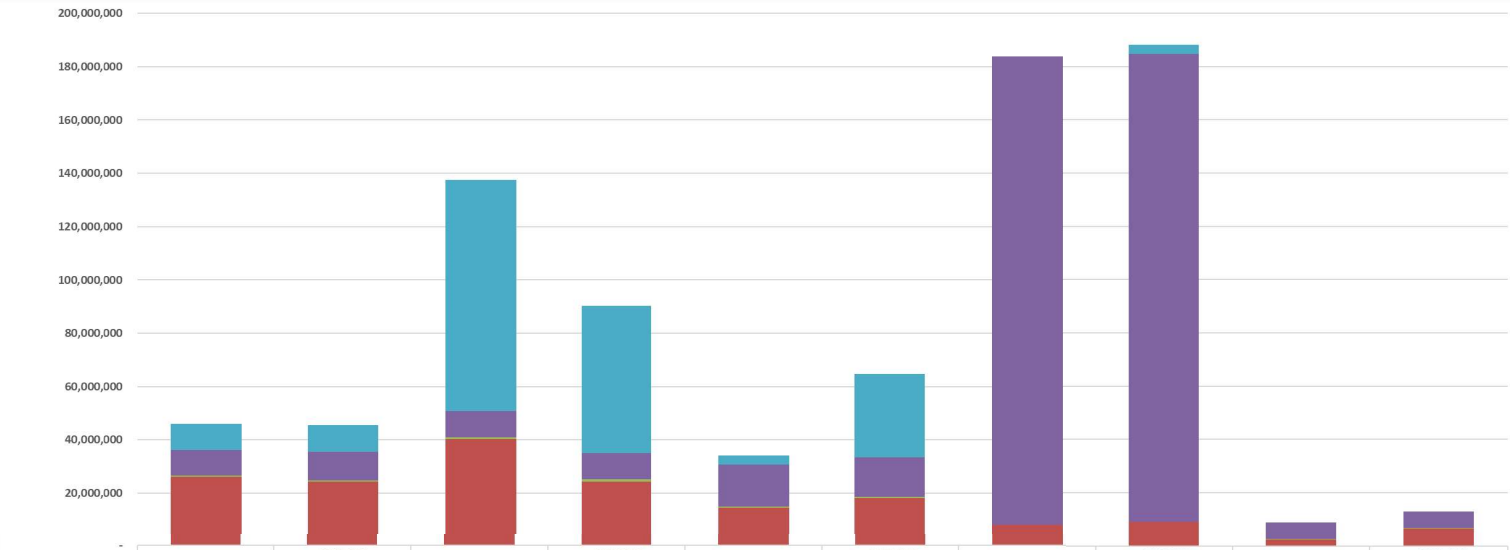
Note: Excludes dismantlement

Total Core: $401.8M

Total Non-Core: $0.9M

Large ICM-Eligible Projects (Core component):

- $344.8M in ICM-Eligible projects from 2021 – 2025
  - $185.2M SCOR:K701/2/3 Reliability – Replacement (ISD 2024) – Core Projects
  - $99.7M Dehy Expansion (ISD 2023) – Core Projects
  - $32.0M SCOR:Meter Area-Upgrade (ISD 2021/2022) – Core Projects
  - $27.9M SCRW: Station-Renewal In-Place (ISD 2025) – Core Projects



	2021 Base Ask	2021 AM Recommended	2022 Base Ask	2022 AM Recommended	2023 Base Ask	2023 AM Recommended	2024 Base Ask	2024 AM Recommended	2025 Base Ask	2025 AM Recommended
CS - Growth	10,000,000	10,000,000	86,492,816	55,554,843	3,207,184	31,237,973	-	3,207,184	-	-
CS - Replacements	9,375,200	10,568,700	9,837,623	9,707,623	15,907,306	14,843,806	175,752,008	175,752,008	6,187,233	6,187,233
CS - Overhauls	480,000	480,000	740,000	740,000	380,000	380,000	-	-	325,000	325,000
CS - Improvements	26,232,132	24,408,787	40,317,577	24,428,161	14,438,739	18,182,392	8,146,907	9,101,228	2,298,211	6,471,321
CS - Integrity	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000

Note: Excludes dismantlement

Filed: 2021-01-21
EB-2020-0181
Exhibit I. SEC.1
Attachment 1
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Recommendation 2021-2025

Asset Class Review UG – Transmission Pipe & Underground Storage (Core + Non-Core)

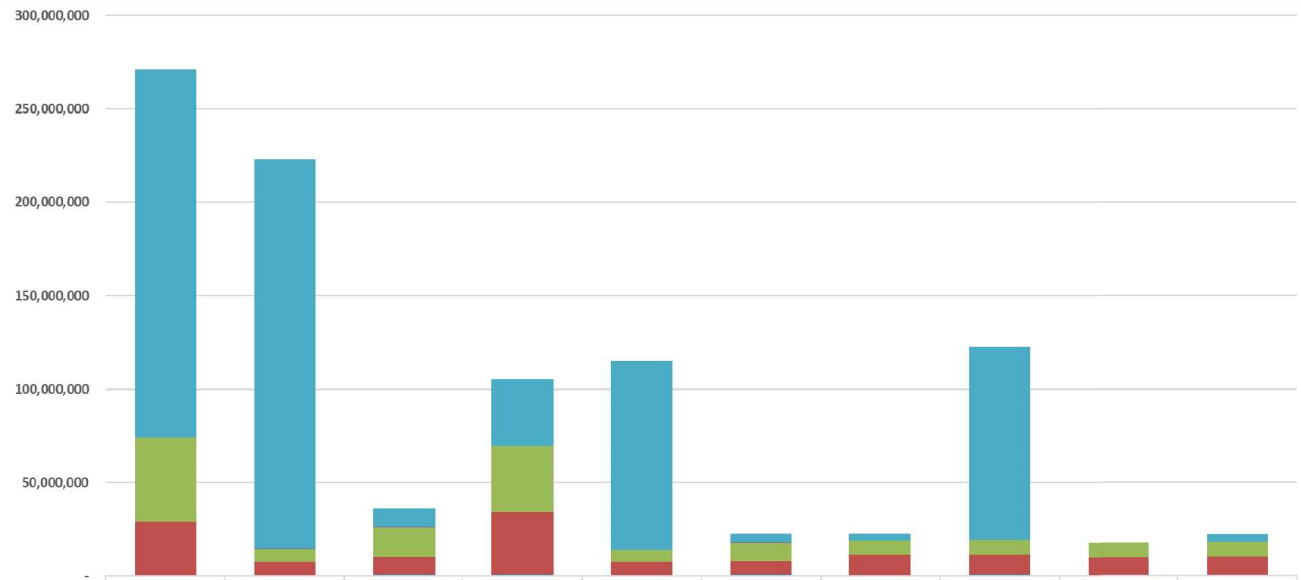
Note: Excludes dismantlement

Total Core: $447.8M

Total Non-Core: $47.3M

Large ICM-Eligible Projects (Core Component):

- $366.3M in ICM-Eligible projects from 2021 – 2025
  - $176.1M 2021 Dawn Parkway Expansion (ISD 2021) – Core Projects
  - $110.2M Sarnia Expansion (ISD 2024) – Core Projects
  - $29.7M NPS 12 Detroit River Crossings (ISD 2023/2024) - Core Projects
  - $25.7M SIL Reinf – Phase 1 (ISD 2021) – Core Projects
  - $24.6M Dawn-Cuthbert (ISD 2022) – Core Projects



	2021 Base Ask	2021 AM Recommended	2022 Base Ask	2022 AM Recommended	2023 Base Ask	2023 AM Recommended	2024 Base Ask	2024 AM Recommended	2025 Base Ask	2025 AM Recommended
TPS - Growth	196,754,267	208,222,672	9,956,087	35,624,725	101,323,526	4,627,113	3,911,758	103,420,229	-	3,911,758
TPS - Lard/Structures - Improvements	114,840	174,000	114,840	174,000	114,840	174,000	114,840	174,000	-	-
TPS - Replacements	45,474,317	6,824,900	15,999,685	35,254,863	6,105,800	9,628,719	7,395,801	7,525,001	7,915,000	8,095,000
TPS - Integrity	28,499,850	7,115,000	9,320,700	33,170,000	7,275,000	7,575,000	10,825,000	10,825,000	9,625,000	9,625,000
TPS - Improvements	250,000	360,500	762,040	814,500	440,080	648,500	417,640	614,500	250,000	535,500

Note: Excludes dismantlement

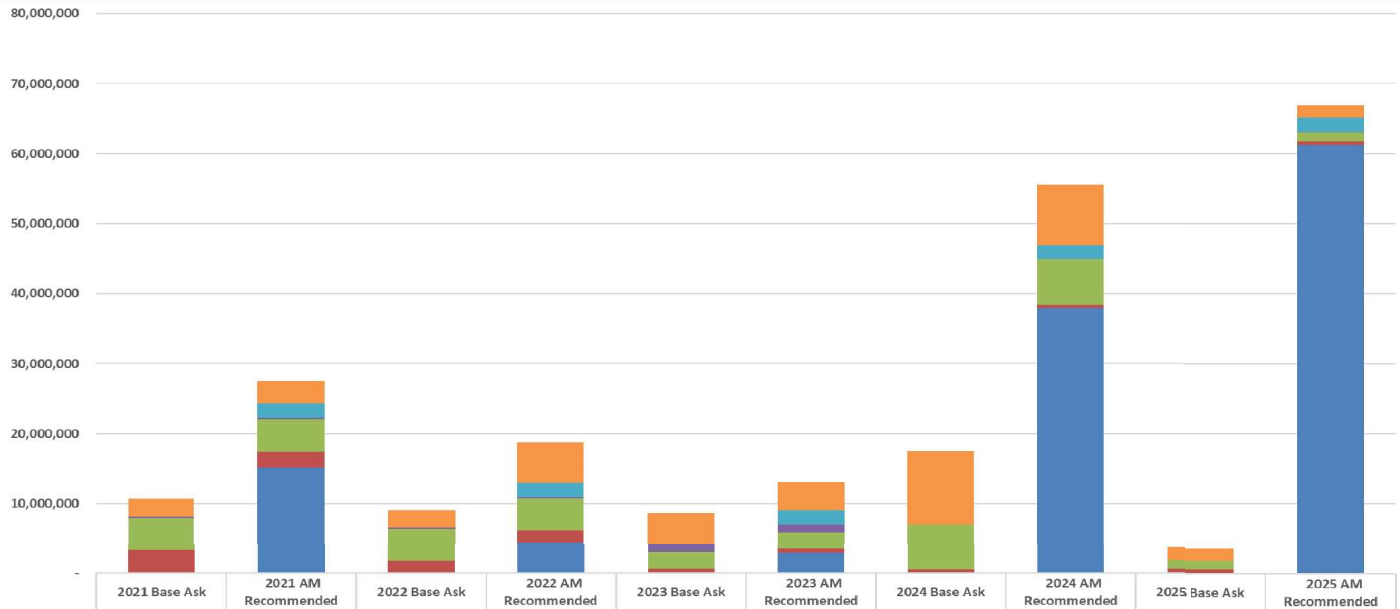
Recommendation 2021-2025

Asset Class Review EGD – Transmission Pipe & Underground Storage (Core + Non-Core)

Note: Excludes dismantlement

Total Core: $48.8M

Total Non-Core: $132.9M



	2021 Base Ask	2021 AM Recommended	2022 Base Ask	2022 AM Recommended	2023 Base Ask	2023 AM Recommended	2024 Base Ask	2024 AM Recommended	2025 Base Ask	2025 AM Recommended
TPS - Replacements	2,478,045	3,253,445	2,478,045	5,700,545	4,498,445	3,999,378	10,380,901	8,615,900	1,748,601	1,808,601
TPS - Land/Structures - Growth		2,000,000		2,000,000		2,000,000		2,000,000		2,000,000
TPS - Land/Structures - Improvements	246,000	246,000	186,000	186,000	1,136,000	1,136,000	66,000	66,000	66,000	66,000
TPS - Integrity	4,685,000	4,685,000	4,675,000	4,675,000	2,400,000	2,400,000	6,475,000	6,475,000	1,225,000	1,225,000
TPS - Improvements	3,234,350	2,146,100	1,700,250	1,700,250	594,000	594,000	510,000	510,000	594,000	594,000
TPS - Growth		15,207,059		4,413,400		2,895,964		37,894,181		61,219,055

Note: Excludes dismantlement

Asset Plan Decisions & Next Steps

Decision & Next Steps

- Steering Committee Conditional Approval of 2021 Budget and 2021 – 2025 Capital Portfolio
  - Risks are being addressed in plan
  - Sufficient stakeholder review/engagement
  - Support on path forward
- Upcoming:
  - Review in-service profile and any further project changes known at the time – early July
  - Confirmation with Asset Managers that there are no changes to ICM-eligible projects – August 1
  - Approval of any further material changes, if applicable – August 14
  - Asset Management Plan Review and Approval - ongoing through August 14
  - Asset Management Plan complete (excluding Appendix) - August 30
  - Sensitivity analysis on ICM-eligible investments' movement and Finance review of impacts – ongoing to OEB submission date
- Regulatory Process and Approvals for ICM Projects
- COVID-19 Impacts
  - Revisit budget and LRP recommendations + engage stakeholders

Roundtable

ENBRIDGE GAS INC.

Answer to Interrogatory from
School Energy Coalition ("SEC")

Interrogatory

Reference:

Ex. B/2/1, p. 15, and App. C

Question:

Please confirm that the ROE of 10.475% cited was equal to $495.5 million, and was $70.7 million in excess of the Board-approved level of 8.98%.

Response

Confirmed. EGI's 2019 actual utility ROE of 10.475%, as presented within EB-2020-0134, equates to utility earnings (or net income applicable to common equity) of $495.5 million (shown at Line 20 of the referenced Exhibit B, Tab 2, Schedule 1, Appendix C), which is approximately $70.7 million higher than what utility earnings would equate to at the 2019 Board approved formula ROE level of 8.98%.

ENBRIDGE GAS INC.

Answer to Interrogatory from
School Energy Coalition ("SEC")

Interrogatory

Reference:

Ex. B/2/1, p. 17, 20, 23

Question:

Please provide a full description of all steps taken by the Applicant to reduce or defer the proposed spending on the London Line Replacement Project through non-pipes alternatives.

Response

Any issues related to the purpose and need of the London Lines Replacement project are being addressed in the LTC proceeding, where Enbridge Gas is seeking approval of that project (EB-2020-0192). However, to provide further clarity to the Board, a response is provided below.

Due to the holistic issues identified with the condition of the distribution pipeline being replaced in the London Lines Replacement Project, non-pipe alternatives were identified to be not viable solutions to the whole of the London Lines. Please see EB-2020-0192, Exhibit B, Tab 2, Schedule 4. This was further addressed in EB-2020-0192, Exhibit I.APPrO.5 b) and e) and Exhibit I.APPrO.7 a).

ENBRIDGE GAS INC.

Answer to Interrogatory from
School Energy Coalition ("SEC")

Interrogatory

Reference:

Ex. B/2/1, p. 18, 25

Question:

Please file the full economic analysis for the Sarnia Industrial Line project.

Please provide details of all non-industrial customers that will be served by this reinforcement, and reconcile that information with the proposed allocations of the costs of this project between rate classes.

Response

Please see Attachment 1 for the economic analysis of the Sarnia Industrial Line Reinforcement Project (previously filed in the LTC Application (EB-2019-0218) at Exhibit C, Tab 4, Schedule 2).

The Sarnia Industrial Line Reinforcement Project will provide an incremental 73.6 TJ/d of capacity on the Sarnia Industrial Line system. Enbridge Gas anticipates the majority of the incremental capacity will be used to serve industrial customers.

The proposed ICM cost allocation does not reconcile with the incremental demands served by the project because Enbridge Gas has proposed to base the ICM cost allocation on the Board-approved cost allocation methodology of the Sarnia Industrial Line and not on the incremental demands served by the project.[1]

[1] The Board-approved cost allocation methodology classifies the Sarnia Industrial Line as Other Transmission and allocates the costs to Union South in-franchise rate classes in proportion to forecast firm design day demands.

NPS 20 Dow to Bluewater Pipeline
InService Date: Nov-01-2021

Project Year ($000's)	1	2	3	4	5	6	7	8	9	10
Cash Inflow										
Revenue	2,602	2,690	3,131	3,131	3,131	2,626	2,626	2,626	2,626	2,626
Expenses:										
O & M Expense	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)
Municipal Tax	(25)	(25)	(25)	(25)	(25)	(25)	(25)	(25)	(25)	(25)
Income Tax	192	(209)	(375)	(409)	(440)	(336)	(362)	(387)	(410)	(431)
Net Cash Inflow	2,763	2,451	2,726	2,692	2,660	2,261	2,234	2,210	2,187	2,166
Cash Outflow										
Incremental Capital	26,745	1,076	-	-	-	-	-	-	-	-
Change in Working Capital	0	-	-	-	-	-	-	-	-	-
Cash Outflow	26,745	1,076	-	-	-	-	-	-	-	-
Cumulative Net Present Value										
Cash Inflow	2,701	4,989	7,420	9,712	11,877	13,634	15,292	16,859	18,340	19,741
Cash Outflow	26,745	27,774	27,774	27,774	27,774	27,774	27,774	27,774	27,774	27,774
NPV By Year	(24,044)	(22,785)	(20,354)	(18,061)	(15,897)	(14,140)	(12,481)	(10,915)	(9,434)	(8,033)
Project NPV	2,539									
Profitability Index										
By Year PI	0.10	0.18	0.27	0.35	0.43	0.49	0.55	0.61	0.66	0.71
Project PI	1.09									

NPS 20 Dow to Bluewater Pipeline
InService Date: Nov-01-2021

Project Year ($000's)	11	12	13	14	15	16	17	18	19	20
Cash Inflow										
Revenue	2,626	2,626	2,626	2,626	2,626	2,626	2,626	2,626	2,626	2,626
Expenses:										
O & M Expense	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)
Municipal Tax	(25)	(25)	(25)	(25)	(25)	(25)	(25)	(25)	(25)	(25)
Income Tax	(450)	(468)	(485)	(500)	(514)	(527)	(539)	(550)	(561)	(570)
Net Cash Inflow	2,146	2,128	2,112	2,097	2,082	2,069	2,057	2,046	2,036	2,026
Cash Outflow										
Incremental Capital	-	-	-	-	-	-	-	-	-	-
Change in Working Capital	-	-	-	-	-	-	-	-	-	-
Cash Outflow	-	-	-	-	-	-	-	-	-	-
Cumulative Net Present Value										
Cash Inflow	21,067	22,323	23,513	24,642	25,713	26,730	27,695	28,613	29,484	30,313
Cash Outflow	27,774	27,774	27,774	27,774	27,774	27,774	27,774	27,774	27,774	27,774
NPV By Year	(6,707)	(5,451)	(4,260)	(3,131)	(2,060)	(1,043)	(78)	839	1,711	2,539
Project NPV										
Profitability Index										
By Year PI	0.76	0.80	0.85	0.89	0.93	0.96	1.00	1.03	1.06	1.09
Project PI										

ENBRIDGE GAS INC.

Answer to Interrogatory from
School Energy Coalition ("SEC")

Interrogatory

Reference:

Ex. B/2/1, App. A

Question:

Please describe in detail the process, if any, that was used to identify reductions to these budgets in order to make room for the three ICM projects in this Application.

Response

Please refer to Exhibit C, Tab 2, Schedule 1, section 6.1 for a detailed description of the portfolio optimization process.

ENBRIDGE GAS INC.

Answer to Interrogatory from
School Energy Coalition ("SEC")

Interrogatory

Reference:

Ex. C/1/1 and Ex. C/2/1

Question:

SEC is seeking to better understand how the Applicant, which is in the business of distributing a carbon-based fuel, is planning for a lower carbon future, and for public policy initiatives that deliver on Canada's COP21 Paris commitments, including a reduction to 511 megatonnes of GHG by 2030:

a) Please provide the Applicant's current forecast of the GHG emissions of the Applicant and its customers (a proxy forecast based on forecast throughput is OK) for each of the years 2021 to 2030, based on the Applicant's current growth forecasts as set out in the Utility System Plan and the Asset Management Plan.
b) For the Applicant to deliver its proportionate share of GHG reductions for Canada to meet its COP21 commitment, what is the estimated maximum distribution throughput the Applicant could have in 2030?
c) Please confirm that the current USP contemplates rate base growth for each year, and provide an estimate of the total rate base, broken down by major asset group, at the end of 2025. Please estimate the weighted average remaining useful life for each of those major asset groups at that time.
d) Please reconcile the goal of "being part of the transition to a lower carbon economy" (page 6) with the goal of increasing rate base and profits.
e) Please confirm that the Utility System Plan and the Asset Management Plan do not include any consideration of increases in the price of carbon beyond the forecast $50 price previously known, and in particular do not include the recently announced increases in the price of carbon to $170. Please describe in detail what assumptions were used as to carbon pricing and other carbon reduction policies in developing the capital plan for the next five years.
f) Please identify what changes will have to be made to the USP and AMP in light of the announcement of increases in the price of carbon to $170. If the Applicant does not yet have information on what those changes will be, please describe the process the Applicant plans to undertake to identify and quantify those changes.

g) Please identify what changes will have to be made to the USP and AMP in light of the announcement that natural gas will no longer be included in the Clean Fuel Standard. If the Applicant does not yet have information on what those changes will be, please describe the process the Applicant plans to undertake to identify and quantify those changes.
h) Please file any memoranda, reports, presentations, analyses or other documents that deal with the challenges faced by the Applicant in a lower carbon future, or the plans the Applicant is considering or implementing to prepare for that lower carbon future.

Response

a) The information requested is not relevant to the relief being sought in this proceeding. Historical greenhouse gas ("GHG") emissions are reported in the annual Enbridge Inc. Sustainability report. Emissions from customer's consumption of natural gas were 53,100,000 tonnes of carbon dioxide equivalent (tCO2e) in 2019.[1]

b) The federal government is implementing many different regulations and initiatives in order to meet its GHG reduction targets related to its COP21 commitment. There is no requirement for individual sectors or companies to achieve a proportionate share of the GHG reductions. This analysis would therefore not provide meaningful input to the Board in this application.

c) The information requested is not relevant to the relief being sought in this proceeding. The rate base amount is driven by the capital investment required to continue providing safe and reliable service to existing customers and add new customers.

d) Natural gas is a key part of a lower carbon economy. Enbridge Gas has been a leader in Canada with helping customers better use natural gas through its comprehensive DSM programming, research and delivery of innovation research and pilots, and greening of the gas grid through introduction of renewable natural gas and hydrogen into the supply mix. Natural gas can also help to reduce GHG emissions from higher emitting sources of space heating, as well as reduce GHG emissions in larger duty transportation through CNG and/or hydrogen buses and transport. Further, Enbridge Gas sees opportunity over the longer term, in using its

[1] As shown in the Enbridge Inc. ESG Datasheet available at https://www.enbridge.com/~/media/Enb/Documents/Reports/ESGDatasheet_2019_PDF_FINAL.pdf?la=en

high-value infrastructure to transport hydrogen versus natural gas. Ensuring that this infrastructure remains safe and reliable is necessary to ensuring the safe and secure supply of energy to customers for the foreseeable future, and the infrastructure is in fact a key part of the long-term solution for moving to a lower carbon economy.

e) The Utility System Plan and the Asset Management Plan consider the annual demand forecast, which includes natural gas price in its regression models as driver variable for forecasting average consumption per customer. These price variables include the Federal Carbon Charge which reaches $50 per tCO_2e in 2022, and a 2% per year inflation increase is assumed beyond 2022. Carbon pricing and other carbon reduction policies are only included in the demand forecast once legislation is in place, therefore no other carbon policy is currently considered in the demand forecast.

f) Enbridge Gas includes carbon pricing in the natural gas price variables used in its weather normalized average consumption per customer models. Naturally, demand has a negative response to changes in total prices. If the price of carbon occurs higher than assumed in the forecast, this would lead to a higher overall price of natural gas and is expected to result in lower consumption than forecast.

If the carbon price reaches $170 per tCO2e by 2030, the resulting higher natural gas price driver variables used in the models will lead to a lower volume forecast for those years.

As and when these changes are seen to be reflected in lower volumes there may be an opportunity to defer or downsize system reinforcement projects, and downsize the pipe required to meet the needs of new customers.

g) Enbridge Gas has therefore not included carbon costs related to the Clean Fuel Standard ("CFS") in any price drivers when producing the annual demand forecast as this regulation is not yet implemented. Since the CFS is not included in the USP or AMP, no changes are required.

h) In 2015, Enbridge Gas engaged ICF to undertake an analysis on the proposed Cap and Trade program and the potential of several GHG abatement opportunities. The final report was submitted to the Ontario Energy Board on April 22, 2016 in the EB-2016-0004 community expansion proceeding. Additional reports produced as part of this engagement were filed on March 17, 2017 in EB-2016-0300 Cap-and-Trade proceeding.

Although those studies still provide value, Enbridge Gas is cognizant of the continuously evolving climate and carbon policies including notably the recent proposal by the Federal government for carbon pricing out to 2030 and removal of the gaseous fuel Clean Fuel Standard. Enbridge Gas is embarking on an analysis of multiple factors including carbon pricing to develop various scenarios that will inform the next multi-year rate application.

ENBRIDGE GAS INC.

Answer to Interrogatory from
School Energy Coalition ("SEC")

Interrogatory

Reference:

Ex. C/1/1 and Ex. C/2/1

Question:

SEC is concerned that schools and other customers may end up being saddled with the cost of stranded assets as a result of the Applicant's capital spending under the current and future utility system plans. SEC has been unable to identify any analysis in the USP or the AMP of the risk of overinvesting and being unable to recover capital costs at current rates, for example due to declining load.

a) Please describe in detail the process, if any, the Applicant uses to assess the risk that the cost of capital investments may not be recoverable over their useful lives at current rate levels.
b) Please describe in detail all risk mitigation strategies used or considered by the Applicant to reduce the potential that current capital investments will become stranded.
c) Please provide details of any scenario analysis prepared by or for the Applicant to deal with the potential for lower than expected – including declining - load and its impact on capital recovery, and provide copies of any memoranda, reports, presentations, analyses or other documents that deal with that potential.

Response

a) There is currently no analysis done in either the Utility System Plan or the Asset Management Plan to assess the risk that the cost of capital investments may not be recoverable over their useful lives at current rate levels.

b) Please see response to part a).

c) Enbridge Gas will undertake this analysis as part of the depreciation study to be completed prior to the 2024 rebasing application.

ENBRIDGE GAS INC.

Answer to Interrogatory from
School Energy Coalition ("SEC")

Interrogatory

Reference:

Ex. C/1/1, p. 6

Question:

Please confirm that one of the corporate goals of the Applicant is to increase rate base and increase regulated profits over time.

Response

Enbridge's Strategic Priorities are set out in the Asset Management Plan, at figure 2.2-2 (Exhibit C, Tab 2, Schedule 1, page 39).

The rate base amount is driven by capital investment required to continue providing safe and reliable service to existing customers and add new customers. Enbridge Gas expects to earn the allowed rate of return on its investments.

ENBRIDGE GAS INC.

Answer to Interrogatory from
School Energy Coalition ("SEC")

Interrogatory

Reference:

Ex. C/1/1, p. 10, 16, 32

Question:

Please file the most recent annual budget and multi-year long range plan and Financial Plan referred to, along with any memoranda, presentations or other summaries of its content used in presenting the budget and plan to the Executive Management Committee or the Board of Directors.

Response

The relevant information about the Company's planned capital spending for 2021 is found in the Asset Management Plan. The Financial Plan and Long Range Plan are consistent with what is contained in the Utility System Plan and the Asset Management Plan.

ENBRIDGE GAS INC.

Answer to Interrogatory from
School Energy Coalition ("SEC")

Interrogatory

Reference:

Ex. C/1/1, p. 11

Question:

Please file any more recent forecasts of natural gas prices that include the $170 price for carbon in Canada.

Response

Enbridge Gas assumes the reference above is incorrect and should be to the natural gas price forecast in Figure 1 of Exhibit C, Tab 1, Schedule 1, page 14.

The price forecast included in Figure 1 at Exhibit C, Tab 1, Schedule 1, page 14 is a long-term forecast of wholesale natural gas prices in North America. Enbridge Gas does not have a more recent forecast which incorporates the proposed increase to the carbon charge in Canada.

ENBRIDGE GAS INC.

Answer to Interrogatory from
School Energy Coalition ("SEC")

Interrogatory

Reference:

Ex. C/1/1, p. 26

Question:

Please provide the most recent budgets for the Centralized Functions, together with the amounts and percentages allocated to the Applicant, and the rationale for those allocations.

Response

The information requested is not relevant to the relief being sought in this proceeding.

ENBRIDGE GAS INC.

Answer to Interrogatory from
School Energy Coalition ("SEC")

Interrogatory

Reference:

Ex. C/1/1, p. 39

Question:

Please explain why the discussion of the links between OM&A and capital does not include consideration of OM&A reductions as a result of a) newer assets, and b) capex intended to improve productivity.

Response

a) While not specifically described in section 4.1.2 of Schedule C, Tab 1, Schedule 1, page 39, Enbridge Gas does address that as assets degrade over time, the 'O&M expenditures increase to the point that there is no economic benefit to continuing to operate the asset and renewal investment becomes the preferred option'. Inherent in this comment is that if the asset is replaced, there would be a decrease or an avoidance of the O&M expenses for the asset either via reduced maintenance costs or improved productivity. While this is true for that specific asset, the population of assets continues to grow and age and the overall O&M costs related to maintenance do not necessarily decrease.

b) Table 4.1-4 of the AMP at Schedule C, Tab 2, Schedule 1 identifies the Value Measures that are used to evaluate an investment in the C55 value framework, which include Employee Productivity.

ENBRIDGE GAS INC.

Answer to Interrogatory from
School Energy Coalition ("SEC")

Interrogatory

Reference:

Ex. C/1/1, Fig. 6-8 and Ex. C/2/1, Fig. 6.2-1 and 6.2-2

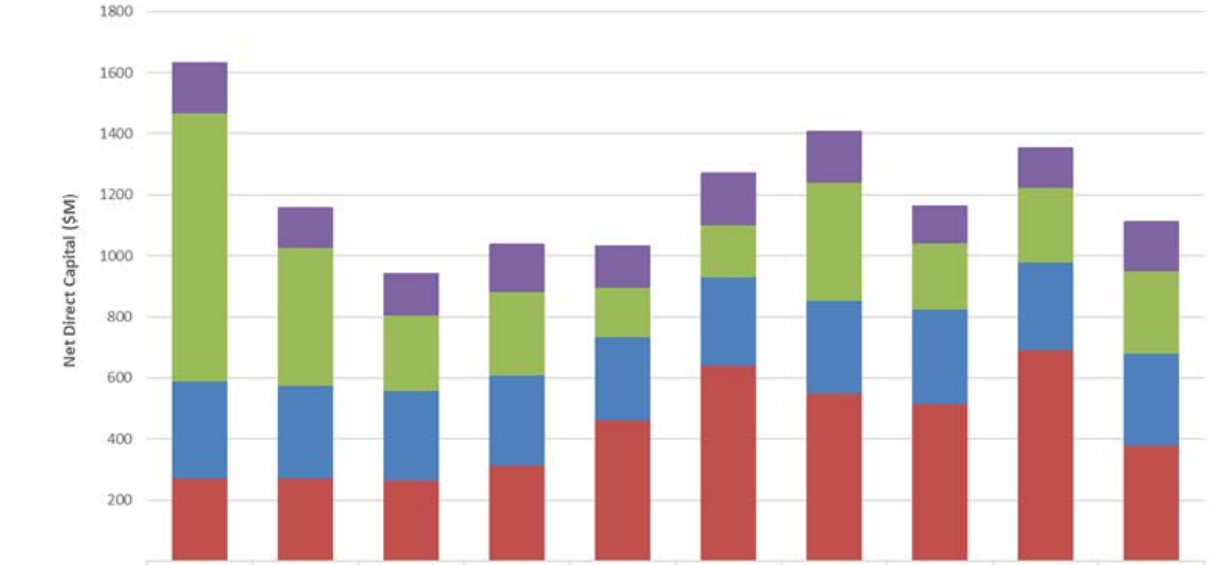
Question:

Please restate all of the data on these tables so that the overheads in years 2016-2020 are allocated to the appropriate categories, making the historical and forecast information comparable. If it is necessary to estimate the allocations of overheads, please provide the basis for the estimates.

Response

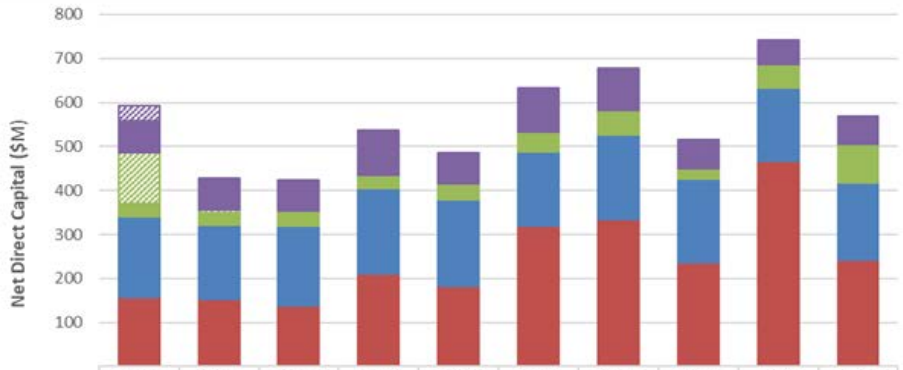
The requested tables are set out below. The basis for overhead allocation was by weighted percentage per year per category.

C1/1/1 Fig. 6 (GDS USP)



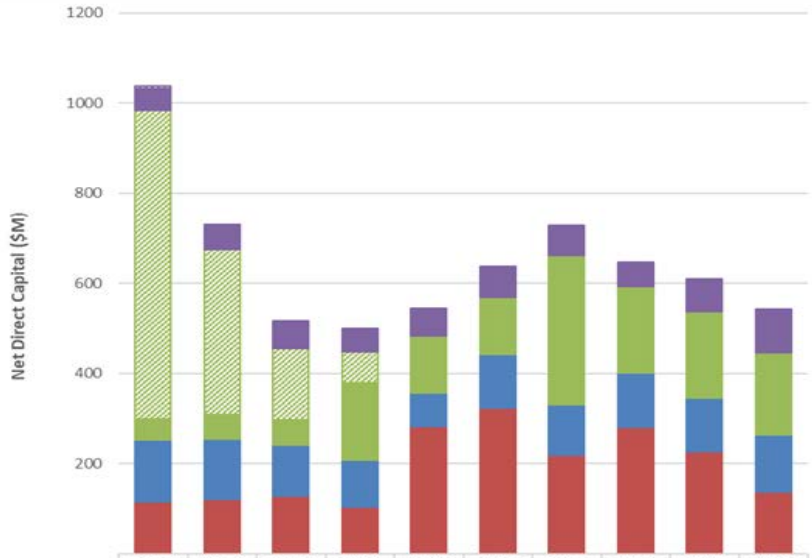
	2016A	2017A	2018A	2019A	2020B	2021F	2022F	2023F	2024F	2025F
General Plant	164	127	133	154	131	169	163	119	128	159
System Service	876	454	248	271	164	171	387	217	245	271
System Access	320	302	294	297	272	287	305	310	286	302
System Renewal	273	274	266	315	463	644	551	518	693	380
Grand Total	1632	1157	940	1038	1031	1270	1406	1163	1353	1112

C/1/1 Fig. 7 (EGD USP)



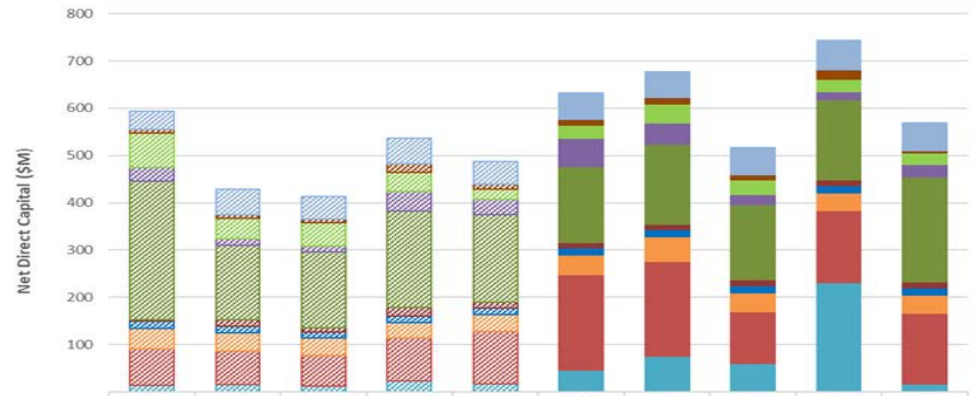
	2016A	2017A	2018A	2019A	2020B	2021F	2022F	2023F	2024F	2025F
General Plant (WAMS)	36	2								
General Plant	72	71	71	102	71	99	96	66	55	63
System Service (GTA)	115	5								
System Service	30	28	34	31	37	44	56	24	53	88
System Access	183	169	180	194	196	169	193	190	168	175
System Renewal	157	153	138	211	182	320	333	237	466	243
Grand Total	593	428	423	537	486	632	677	516	743	569

C/1/1 Fig. 8 (UG USP)



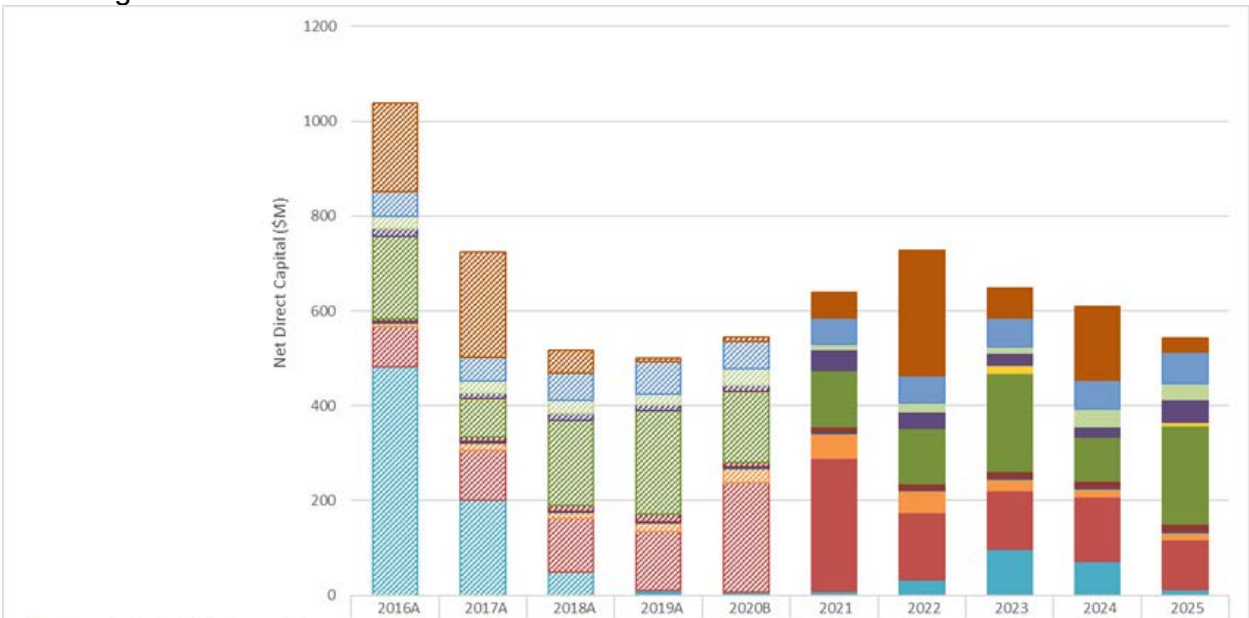
	2016A	2017A	2018A	2019A	2020B	2021F	2022F	2023F	2024F	2025F
General Plant (Service Facilities Dawn)	6	1								
General Plant	49	53	62	53	61	70	67	54	72	96
System Service (BOP, Dawn, Panhandle, Sudbury, Kingsville)	685	366	159	70						
System Service	46	55	54	170	127	126	331	193	192	183
System Access	137	133	114	104	76	119	112	120	118	127
System Renewal	115	120	128	104	281	324	218	281	227	137
Grand Total	1038	729	517	500	544	638	729	648	610	543

C/2/1 Fig. 6.2-1



	2016A	2017A	2018A	2019A	2020B	2021	2022	2023	2024	2025
Utilization	38.2	52.7	48.4	54.4	47.8	55.3	54.1	56.8	62.3	58.5
Transmission Pipe & Underground Storage	8.4	7.8	7.5	18.5	10.8	12.5	14.5	10.1	18.7	4.8
TIS	71.9	43.8	48.3	40.8	21.1	28.2	39.4	30.8	27.3	25.1
Real Estate & Workplace Services	29.2	13.9	13.0	41.1	32.2	59.6	44.9	21.6	16.3	24.8
Growth	293.2	157.2	161.0	204.3	185.7	160.1	169.3	159.8	170.3	222.6
Fleet & Equipment	3.1	13.4	8.4	17.2	12.0	10.9	11.1	11.8	11.8	12.8
EA Fixed O/H	15.1	14.7	13.2	14.6	14.0	15.4	15.4	15.5	15.6	15.7
Distribution Stations	43.0	37.9	36.8	32.3	34.3	42.1	52.2	40.2	37.2	38.7
Distribution Pipe	77.8	70.7	64.7	90.6	112.0	202.0	201.7	109.9	151.9	148.6
Compression Stations	13.6	15.8	12.0	23.4	16.5	46.1	74.7	59.3	231.8	17.2

C/2/1 Fig. 6.2-2



	2016A	2017A	2018A	2019A	2020B	2021	2022	2023	2024	2025
Transmission Pipe & Underground Storage	186.6	220.6	49.4	7.0	9.9	53.1	266.0	61.1	155.2	29.3
Utilization	51.6	51.1	55.9	69.2	55.8	55.2	56.2	61.0	61.1	66.4
TIS	25.8	25.1	28.1	21.6	35.8	11.3	18.2	14.2	37.4	32.9
Real Estate & Workplace Services	15.5	10.7	14.6	13.3	13.5	44.5	35.3	25.8	21.1	48.1
LNG	1.2	2.6	0.2	0.0	0.3	0.3	0.2	16.0	0.2	8.7
Growth	173.6	79.3	180.3	217.9	148.1	116.9	117.2	207.4	93.6	207.0
Fleet & Equipment	5.9	10.0	11.3	15.9	10.4	11.7	12.0	12.8	12.8	13.9
EA Fixed O/H	2.2	2.3	2.6	2.1	2.4	2.8	3.0	3.1	3.2	3.3
Distribution Stations	7.5	14.8	12.2	18.3	30.8	52.3	44.7	25.2	15.5	14.3
Distribution Pipe	85.0	106.0	112.9	125.4	231.2	280.4	143.2	122.2	137.6	106.8
Compression Stations	482.4	200.7	49.9	9.6	6.1	9.3	32.5	98.2	71.4	11.7

ENBRIDGE GAS INC.

Answer to Interrogatory from
School Energy Coalition ("SEC")

Interrogatory

Reference:

Ex. C/1/1, Tables 4 and 5 and Ex. C/2/1, Tables 6.1-3 and 6.1-4

Question:

With respect to the ICM-eligible projects:

a) Please reconcile these tables, or if they are identical please so confirm.
b) Please confirm that the ICM-eligible projects identified by the Applicant in the AMP tables are as follows:
    i. 2021 - $206.0 million (7 projects)
    ii. 2022 - $405.3 million (10 projects)
    iii. 2023 - $233.7 million (9 projects)
    iv. 2024 - $488.5 million (9 projects)
    v. 2025 - $204.3 million (6 projects)
c) Please confirm that these projects totaling $1,537.8 million, are in addition to more than $6.0 billion of Base Capital the Applicant plans to put into service over the same period.
d) For each of the "ICM-eligible projects" for 2021, please explain why they are or are not included in this Application. If they are included in Base Capital, please also explain why.

Response

a) The Tables summarizing ICM-eligible projects are not the same between Exhibit C, Tab 1, Schedule 1, Tables 4 and 5 and Exhibit C, Table 2, Schedule 1, Tables 6.1-3 and 6.1-4. The following differences exist:
    - Exhibit C, Tab 1, Schedule 1, Table 4 and 5 only displays ICM-eligible projects with an in-service date of 2023 or earlier while Exhibit C, Tab 2, Schedule 1, table 6.1-3 and 6.1-4 displays projects that meet the ICM-eligible criteria (per definition in Exhibit C, Tab 2, Schedule 1, page 253, Table 6.1-1) with capital spend occurring 2021-2025.

- Table 4 and 5 in Exhibit C, Tab 1, Schedule 1 displays the In-Service Capital, which includes overheads, while Table 6.1-3 and 6.1-4 in Exhibit C, Tab 2, Schedule 1 does not display the In-Service Capital and does not include overheads in the project forecasts.

b) Based on the data in Exhibit C, Tab 2, Schedule 1, Tables 6.1-3 and 6.1-4, the correct summary of the AMP tables has been provided below.

In-Service Year	2021-2025 Net Capital ($M)*	Count of Projects
2021	184.7	6
2022	426.6	11
2023	233.7	9
2024	488.5	7
2025	204.3	6

*does not include overheads or retirement

c) The ICM-eligible investments totaling $1,537.8 million from 2021 to 2025 are part of the $6.3 billion direct five-year capital forecast, as summarized in Exhibit C, Tab 2, Schedule 1, page 260, Section 6.2 Summary of Capital Expenditure.

d) Through the asset management core process, a capital plan was developed that addresses the organization's asset needs and includes known risk and opportunities requiring action over the next five years. While ICM-eligible investments are identified per the definition in Exhibit C, Tab 2, Schedule 1, page 253, Table 6.1-1, all capital is treated as base capital until the ICM threshold is known. In instances where the capital requirements exceed the ICM threshold, the ICM-eligible investments are reviewed with Regulatory, Finance, and Asset Management to determine which investments to propose for ICM treatment.

Of the ICM-eligible investments identified with a 2021 in-service date, the St. Laurent NPS 12 Replacement, the London Line Replacement, and the Sarnia Industrial Line Reinforcement have been proposed for ICM treatment as the capital requirements could not be met within the ICM threshold. These projects are of significant scope with the need for the projects being determined as part of a LTC application. The other ICM-eligible investments, Phase 1 of the SCOR: Meter Area-Upgrade, Station B new building, and North Shore – Section A: Retrofit ECDA to ILI, will be managed within base capital.

ENBRIDGE GAS INC.

Answer to Interrogatory from
School Energy Coalition ("SEC")

Interrogatory

Reference:

Ex. C/1/1, p. 63

Question:

The USP and the AMP assume that the EBO 188 and EBO 134 guidelines continue throughout the planning period. In light of the public policy pressures on carbon dependent businesses like that of the Applicant, what are the Applicant's views on whether the Board should reconsider the EBO 188 and EBO 134 guidelines to reduce the risk of overinvestment?

Response

The Company is of the view that the current forms of the EBO 188 and EBO 134 guidelines properly serves their purpose.

ENBRIDGE GAS INC.

Answer to Interrogatory from
School Energy Coalition ("SEC")

Interrogatory

Reference:

Ex. C/2/1, p. 19

Question:

Please provide the 2020 Strategic Plan referred to.

Response

Please see Attachment 1.

Strategic Plan 2020 Summary

Introduction

Each year, we review our priorities and strategies to ensure we pursue the right initiatives and opportunities as we seek to grow our business and add value. This year was no different. We need to make sure we have a plan that positions us to respond to evolving energy fundamentals (supply and demand) and industry conditions, and that we remain agile and resilient as we seek to execute that plan.

Resiliency is a key theme of this year's strategic plan. It refers not only to the strength of our assets and our business model, but also to our ability to adapt to changing market conditions. We have a long history of responding to change, and today it's about where we invest and how we approach the business, as well as our focus on our people, technology, and environment, social and governance (ESG) practices.

We've become more resilient in recent years by diversifying our assets to reflect an evolving global energy mix—the merger with Spectra is a notable example. This year, we tested the resiliency of our strategy against various energy transition scenarios and confirmed that our assets should be well utilized into the future.

Our strategic plan is focused on preserving and enhancing the strength of our best-in-class core businesses and positioning Enbridge to take advantage of emerging opportunities in an evolving energy environment.

Strategy

Entering 2020, our strategy has not changed, but our priorities and emphasis have been refreshed. We'll continue to optimize our base business and pursue growth through expansion and extension of our asset base and investment in platforms like renewable power generation—offshore wind in particular.

Core asset growth will be increasingly driven by the need for capacity to serve growing export markets as North America's production of crude oil and natural gas is expected to continue to exceed domestic demand. The energy transition continues, and our strategy seeks to ensure that we preserve and add value in the changing energy landscape. We're already well positioned by diversifying into natural gas pipelines, and we need to keep moving forward as energy evolves. To that end, we've added a new strategic priority: adapt to energy transition over time.

As we pursue growth in our core business and form new platforms, we'll continue to maintain a low-risk business model that generates reliable and predictable earnings and cash flow consistent with Enbridge's value proposition. That means pursuing development or acquisition of assets underpinned by long-term take-or-pay contracts, cost-of-service ratemaking or fixed-price toll arrangements with minimal volume exposure.

"Our strategy is focused on delivering safe, reliable energy to our customers and growing our three core lines of business—Liquids Pipelines, Natural Gas Pipelines and Gas Distribution and Storage—while maintaining a low-risk business model. This is key.

To improve our competitive position, we need to continue to optimize our operations, and find efficiencies by getting better at what we do and using technology to help us.

The energy export opportunity from North America is vast, and we're right in the middle of it. We'll continue to orient our liquids and natural gas pipeline infrastructure to support energy exports, which will enhance our growth and build resilience.

We're also excited about our renewable power business, which is anchored by recent investments in offshore wind power generation assets and aligns closely with our broader strategic priority to adapt to ongoing energy transition.

By executing on our strategic plan, we expect to grow annual DCF/share by 5-7% per year beyond 2020."

John Whelen, Executive Vice President & Chief Development Officer

Energy Fundamentals

As part of our strategic planning process, we review a variety of forecasts and scenarios to get a full picture of projected global energy supply and demand and where new infrastructure may be required, and to assess risks to our existing business. This produces a lot of information and insights that help us shape our strategy and action plans. There are four key trends that can be distilled from this data that are shaping our strategy and that you should be aware of:

1. **Global energy demand is expected to increase by about 25% by 2040** - Energy demand will be driven by global population growth, more people living in cities and improved living standards for an expanding middle class, particularly in developing countries.
2. **To meet demand, all energy sources are needed** - Renewables will grow at the fastest rate, from a small base, and natural gas and crude oil will continue to play a significant role in meeting energy needs (up to 25% and 28% of global primary energy demand, respectively, by 2040).
3. **North America energy supply is growing and outpacing domestic demand for natural gas and oil** - Liquids and gas production continue to grow, driven by our ability to deliver low-cost supply to global markets. North America is expected to become the world's second largest exporter of both oil and natural gas by 2030. Domestically, energy demand is decreasing due to the impact of conservation and efficiency improvements.
4. **Electricity is becoming the energy source of choice -** From an end-use perspective, electrification is expected to grow in developed countries, and overall generation for electricity is becoming lower carbon.

SOURCE: IEA NPS WEO 2018

Strategic priorities

This chart covers our strategic priorities—the areas we need to focus on to move our business forward. We've communicated similar priorities to the investment community, who will gauge our performance based on our ability to meet them.

You have a role here, too—you are critical to helping us achieve our strategies. To ensure we're all pulling in the same direction, all employees are expected to set their goals against these priorities and our strategic enablers. We'll review our progress over the course of the year.

Our priorities		
1	**Safety & Operational Reliability**	• Achieving and maintaining industry leadership in safety and system reliability
2	**Optimize the Base Business**	• Finding ways to improve the returns generated by our existing assets through improving tolls (e.g. through rate cases or negotiated contracts) and increasing revenue and/or reducing costs through operational efficiency improvements
3	**Execute the Capital Program**	• Completing the $11 billion of commercially secured projects in execution while we continue to grow our business
4	**Extend Growth**	• Growing our core business organically through extensions and expansions of our existing systems to support both LNG and crude oil export opportunities, and growing our utility business in response to growth in our franchises • Investing in new assets that fit well within our low-risk business model and help diversify our business and respond to energy transition
5	**Maintain Financial Strength & Flexibility**	• Ensuring we have the financial strength to respond to unforeseen events and take advantage of new opportunities • Maintaining a strong balance sheet (we target a consolidated Debt:EBITDA ratio of 4.5 to 5.0 times) • Maintaining strong, investment-grade credit ratings
6	**Disciplined Capital Allocation**	• Maintaining our low-risk business model that focuses on long-term contracted assets and utility or "utility-like" tolling and ratemaking constructs • Employing a "self-funded" model—where we rely on internally generated funds and available balance sheet capacity to finance future growth
7	**Adapt to Energy Transition Over Time**	• Continuing to invest in renewable power generation • Implementing self-powering initiatives—investing in lower carbon electric generation to power our systems and facilities • Pursuing investments in other low-carbon infrastructure and assets that further diversify our asset base in response to energy transition

Strategic Enablers

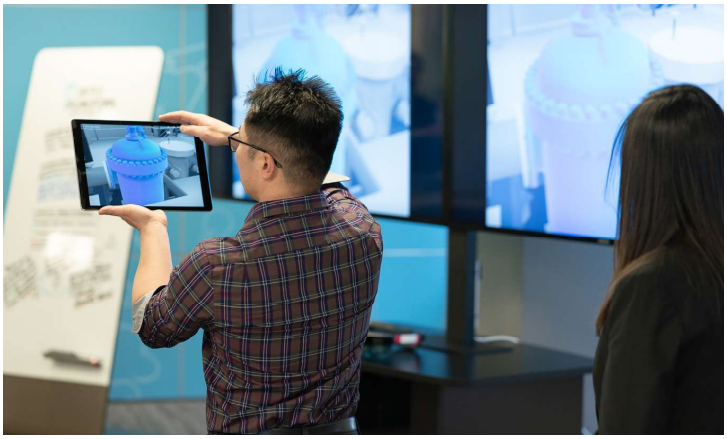
Our success is dependent on three things: 1) the quality and capability of our people; 2) the extent to which we embrace technology and encourage innovation; and 3) our approach to ESG—environment, social and governance issues. We call these "strategic enablers" and they will play a critical role in ensuring the successful execution of our strategy.

People

Investing in the attraction, retention, and development of our people is fundamental to executing our growth strategy and our long-term success. Our investment in the future continues, through leadership development, succession planning, and embedding diversity and inclusion in all we do. The wellness of our people matters, so we are stepping up our focus on mental health. We will bring a new focus on the employee experience, enhancing how we attract, retain, and leverage digital tools, like Workday, to bring greater efficiency to your everyday work. We know you want to grow a career within Enbridge, so we are looking for additional ways to match people with career opportunities. In addition to a rewarding career, we strive to maintain our industry competitive compensation and retention programs that provide both short-term and long-term performance incentives.

Technology

We're committed to pursuing innovation and technology solutions that drive higher levels of safety, reliability and productivity in how we deliver energy. Across the enterprise, our entire team is encouraged to think creatively, challenge conventional thinking and contribute bold new ideas. Our Technology + Innovation Lab, with locations in Calgary and Houston, embody our commitment to technology-driven business solutions. Here, we look at things like how advanced tools can be better used to inspect and assess the fitness of our system and how the application of advanced analytics can improve business performance.



> *We encourage our entire team to think creatively, challenge conventional thinking and contribute bold new ideas*

Environment, Social, Governance (ESG)

Delivering the energy people need and want in a way that is environmentally, socially and economically responsible is critical to the long-term sustainability of our business. Our everyday decision-making is increasingly informed by ESG issues. We're focused on reducing GHG emissions from our own operations, helping customers reduce their energy use and GHG impact, and investing in lower-carbon solutions such as natural gas and renewable energy.

We serve hundreds of communities across North America and our relationships with landowners, communities and Indigenous groups are essential to our long-term success. We focus on building partnerships that endure over the lifecycle of our assets by engaging early with stakeholders and Indigenous groups and taking time to understand community priorities, and to educate ourselves on Indigenous history, traditions and culture. Our aim is to be a force for good in the communities we serve and work in by creating mutually beneficial projects and maximizing social and economic opportunities.

> On the Line 3 Replacement project in Canada, we created over $400 million of economic opportunities for Indigenous businesses or partners and more than 1,100 Indigenous workers were employed on the project.

We strive for transparency and robust disclosure to measure, report and evaluate our performance across a wide range of disciplines, including safety and asset integrity, risk management, financial performance, workforce diversity, and community engagement. Our commitment to a comprehensive governance framework promotes the long-term interests of our shareholders, strengthens Board and management accountability, and builds stakeholder and public trust.

> We've launched Energy Matters on ELink to help people have knowledgeable conversations about Enbridge and the energy business with their families, friends and neighbors. Energy Matters is your resource for talking points, fact sheets, videos and podcasts about our company and our industry.
>
> **> elink.enbridge.com/energymatters/pages**

What we stand for

Last year, we introduced "What we stand for" to help employees know and consistently rally around the enduring elements that define and guide Enbridge. "What we stand for" assembles in one place—as a quick reference—our purpose, vision, values, strategic intents and our ways of working. These elements are the foundation of our company—connecting our people, bringing meaning to each individual's contributions, and inspiring our teams to safely and reliably deliver the energy society needs and wants.

Our ways of working are the actions or behaviors that our people have told us are most important to achieve our strategy and create a working environment that helps to energize our teams and build pride in our company.

"What we stand for" complements the goals and strategic priorities outlined in our strategic plan. Together, they help our teams focus their energy on what needs to be achieved and how we'll work together to deliver results.

Purpose

We fuel people's quality of life

Vision

To be the leading energy delivery company in North America

Values

Safety, Integrity, Respect

Strategic Intents

- Delivering the energy people need and want
- First choice of our customers
- An energized and proud team
- Trusted by our stakeholders
- A must-own investment

Ways of Working

- Being accountable
- Communicating effectively
- Building relationships and collaborating as one team
- Leading by example
- Engaging and developing our people

Our Business Units

Gas Transmission and Midstream (GTM)

Enbridge's natural gas transmission and midstream system connects diverse supply basins across the continent to major consuming markets, both domestic and for export. Our strategic footprint and the strong outlook for natural gas demand—in North America and globally—will continue to drive our growth opportunities.

Our system transports nearly 20% of natural gas consumed in the U.S. and feeds key industrial and commercial markets—totaling 170 million people—and power-generation facilities across Canada and the U.S. Simply put, our assets are foundational to providing the energy that North America needs.

Looking forward, we'll continue to make investments to modernize our system, making sure it's safe and reliable for our communities and customers. And we'll continue to execute our secured growth projects and capital-efficient system expansions and extensions.

Current growth priorities for GTM:

Optimize the Base Business

- Continue to achieve high contract-renewal rates
- Invest in modernization of existing infrastructure
- Advance strategy to ensure fair and timely cost recovery through rate proceedings
- Efficiency improvements (revenue optimization and cost management)

Execute Capital Program

- Atlantic Bridge Phase 2—connecting New York and Connecticut
- Penn East—helping meet growing energy demand in New Jersey and Pennsylvania
- T-South and T-North expansion projects—serving growing domestic demand and LNG export demand
- Vito offshore pipeline and Cameron Lateral in the U.S. Gulf Coast

Extend Growth

- Capital-efficient system extensions and expansions in four regions—Western Canada, U.S. Gulf Coast markets, U.S. Northeast and U.S. Southeast.
- Leverage footprint to participate in LNG export facility buildout in Canada and U.S. Gulf Coast

Liquids Pipelines (LP)

Our liquids pipelines assets make up the largest network of pipelines and terminals in North America, transporting 25% of all crude oil produced in Canada and the U.S. Our size, scale, geographical reach and connections for producers and refiners are unmatched and irreplaceable.

We provide globally competitive refiners—representing about 12 million barrels per day (bpd) of refining capacity—with the lowest-cost feedstock, and we connect producers to the best markets for their crude. That underlying demand for service positions our liquids systems to be heavily used for a very long time.

As supply and demand fundamentals change, we're well placed to grow in the U.S. Gulf Coast to support the refineries in that area as well as growing demand from export markets.

Current growth priorities for LP:

Optimize the Base Business

- Increase system efficiency
- Execute Mainline contracting
- Execute 2020 Mainline system-capacity optimizations
- Other operational efficiency improvements (revenue optimization and cost management)

Execute Capital Program

- Place Line 3 Replacement into service in the U.S.
- Place Southern Access Expansion to 1.2 million bpd into service

Extend Growth

- Enhance and extend existing systems:
  - Expand regional gathering systems
  - Further optimize Mainline
  - Expand Market Access pipelines
  - Enhance U.S. Gulf Coast presence; position for growing exports

Gas Distribution and Storage (GDS)

Enbridge Gas is now the largest natural gas utility in North America by throughput, and the third largest by number of customers. Our business supports Ontario, Quebec and the U.S. northeast, and we proudly serve over 12 million consumers with our 3.7 million meter connections. Our 280 billion cubic feet of storage assets are tied to large and growing demand centers in Canada and the U.S. and provide a critical link to low-cost natural gas supplies.

In Ontario, natural gas demand remains very strong, driven by population growth. Natural gas has a sustainable cost advantage over competing sources of energy in the province, which is helping to expand the use of natural gas into new communities. Our stable distribution rates and access to an abundant low-cost supply of gas makes natural gas significantly cheaper than electricity.

Current growth priorities for GDS :

Optimize the Base Business

- Achieve operational excellence in safety, reliability, quality and cost performance

Execute Capital Program

- Deliver near-term in-franchise growth—we expect to add roughly 50,000 new customers each year
- Advance planned reinforcement and expansion projects through the Ontario Energy Board, including:
  - Dawn-Parkway Expansion – pipeline expansion from Kirkwall to Hamilton
  - Windsor Line – pipeline integrity replacement project
  - Owen Sound Reinforcement and Sarnia Reinforcement supporting natural gas expansion and industrial growth, respectively

Extend Growth

- Secure future in-franchise growth and expand into new communities
- Expand Dawn Hub storage and transmission assets
- Invest in complementary lower-carbon and energy-efficient solutions, for example:
  - Renewable natural gas—captures gas from organic waste and injects the gas into our system
  - Compressed natural gas—lower carbon emissions, and lower-cost fuel for long-haul transportation
  - Hydrogen power-to-gas fuel cells to help balance electricity load

Power

Our Power business is focused on optimizing our existing North American onshore renewable assets and expanding our presence in European offshore wind. In North America, we're enhancing our assets to improve performance and output. Some of the assets are being upgraded and repaired to reduce downtime, and others will be repowered to enhance production. Self-powering our pipeline assets with our own renewable power plants is another significant North American growth opportunity.

We achieved some exciting milestones in our European offshore wind business in 2019, and we plan to build on that momentum in 2020. In 2019, with our partner ENBW, we successfully brought on line the largest offshore wind farm in the German North Sea (HoHe See). And together with our partner EDF, we came to a positive final investment decision and commenced construction of our first French offshore wind project (Saint-Nazaire). These projects, and others we hope to sanction in 2020 and beyond, will generate contracted cash flow for Enbridge and make an important contribution to our corporate growth targets.

Currently, our Power business includes one electricity transmission construction project (East-West Tie). We're very pleased with the success of this project and are optimistic about its low-risk investment value proposition. Going forward, we'll explore the potential for further investment in electricity infrastructure where the investments fit with our investor value proposition.

> *Rampion offshore wind farm*

Our 2020 priorities are:

Optimize the Base Business

- Improve asset performance through repair and refurbishment and technology applications
- Enhance efficiency through data analytics and SCADA

Execute Capital Program

- Advance permitting and construction on French offshore wind projects
- Repower select assets
- Advance East-West Tie construction

Extend Growth

- Pursue self-powering opportunities with Liquids Pipelines and Gas Transmission and Midstream
- Acquire/develop European offshore wind assets
- Explore other low-risk electricity infrastructure investment opportunities

ENBRIDGE GAS INC.

Answer to Interrogatory from
School Energy Coalition ("SEC")

Interrogatory

Reference:

Ex. C/2/1, p. 32

Question:

Please provide a detailed breakdown of all actual and forecast reductions in capital spending in 2020 and 2021 as a result of Covid-19 or as a result of variations in load attributed to Covid-19.

Response

The most significant change in plans related to COVID-19 is the deferral of the Kirkwall-Hamilton project as noted in Exhibit I.STAFF.1 b).

In 2020, there were some delays in receipt of permits and materials that could have been related to the pandemic. However, this is not unusual and the degree to which this was caused by COVID-19 is difficult to determine.

Some work at Keil Drive and VPC was delayed as Enbridge Gas made changes to working practices to ensure worker safety. Additionally, there were increased costs as changes were made to critical facilities such as dispatch centres and control rooms to meet physical distancing requirements.

Construction procedures, particularly those that required workers to enter customers' homes (for example to inspect and light appliances) were adjusted to protect workers and members of the public, resulting in increases to cost and reduced productivity. As an example the number of copper service relays and copper riser replacements was impacted as noted in Exhibit I.FRPO.24.

Across the franchise areas, the impact to the Customer Connections was variable and, again, the degree to which this was the result of the pandemic is difficult to establish. For example, there was an increase in the number of greenhouse customers wanting to

connect in southern Ontario whereas there was some reduction in the customer connections in the Greater Toronto and Hamilton Area. Although it is not possible at this point to determine the long term effects of the pandemic, the effects on the housing market are expected to be short-term and are reflected in the customer additions forecast in the Asset Management Plan at Exhibit C, Tab 2, Schedule 1, Page 79.

Also, see Exhibit I.STAFF.9 a).

ENBRIDGE GAS INC.

Answer to Interrogatory from
School Energy Coalition ("SEC")

Interrogatory

Reference:

Ex. C/2/1, p. 37, 79

Question:

Please confirm that these customer and load forecasts do not include any assumption of downward pressure due to public policies associated with carbon reduction, including but not limited to carbon pricing.

Response

The customer and load forecasts do not include any assumptions of downward pressure due to public policies beyond those that were established at the time of the forecast. For additional detail about how carbon pricing was captured in the forecasts, please refer to Exhibit I.SEC.6 e) and f).

ENBRIDGE GAS INC.

Answer to Interrogatory from
School Energy Coalition ("SEC")

Interrogatory

Reference:

Ex. C/2/1, p. 42

Question:

Please confirm that Ex. C/3/1 is the full Ipsos study report. If it is not, please file the full report.

Response

Confirmed.

ENBRIDGE GAS INC.

Answer to Interrogatory from
School Energy Coalition ("SEC")

Interrogatory

Reference:

Ex. C/2/1, p. 44

Question:

If the Integrated Management System (IMS) is a document, please file that document. If, on the other hand, it is a process, please provide any internal report, manual, or other document that summarizes how it works and how it is used.

Response

Enbridge Gas is part of Enbridge's Gas Distribution and Storage Business Unit.

The Integrated Management System (IMS) outlines high-level management expectations across the organization to support the planning, execution and oversight of Enbridge Gas Distribution and Storage's top priority: safety and reliability. The Enbridge Gas Distribution and Storage Integrated Management System (IMS) uses systematic management processes to manage risk and assure safety, reliability and compliance for our assets, our employees, the public and for the environment. The IMS aligns internal, enterprise-wide management system requirements with external management system requirements, current industry standards and applicable regulations, and it applies across the complete lifecycle of Company assets including design, construction, operations, maintenance, and abandonment.

The IMS is part of the Enbridge Enterprise Management System Structure that has been implemented to ensure that business units (BUs) have systematic management processes in place to manage risk and assure compliance with internal and external requirements. The Enbridge Gas Distribution and Storage IMS contains eight Management Programs (Asset Management, Emergency Management, Environmental Protection, Health & Safety Management, integrity Management, Damage Prevention, Control Room Management) that consist of an ongoing scope of defined technical work to manage risk and meet safety, reliability and compliance requirements. The IMS also

contains 11 elements (Leadership & Governance, Risk Management, Requirements Management, Performance Management, Operational Controls, Management of Change, Capability Management, Documents & Records, Assurance, Stakeholder Engagement, Management Review) which consist of common processes and tools that are applied across all Management Programs to meet compliance requirements and deliver safety and reliability in a consistent and repeatable way.

All Enbridge Gas Distribution and Storage employees play a critical role in the success of the IMS and Enbridge Gas Distribution and Storage's safety and reliability performance by being aware of their role and responsibilities and raising concerns to be addressed to help drive continual improvement. The IMS Governance structure is fundamental in bringing all these pieces together to monitor overall performance and progress. The IMS Governance Standard helps ensure Enbridge Gas Distribution and Storage senior leadership have oversight of resources to effectively and consistently reduce operating risks, enhance the safety of operations, and provide reliable service to customers.

A schematic of the Enbridge Gas Distribution and Storage IMS is shown in Attachment 1

GDS' Integrated Management System (IMS)

Advancing safety and reliability

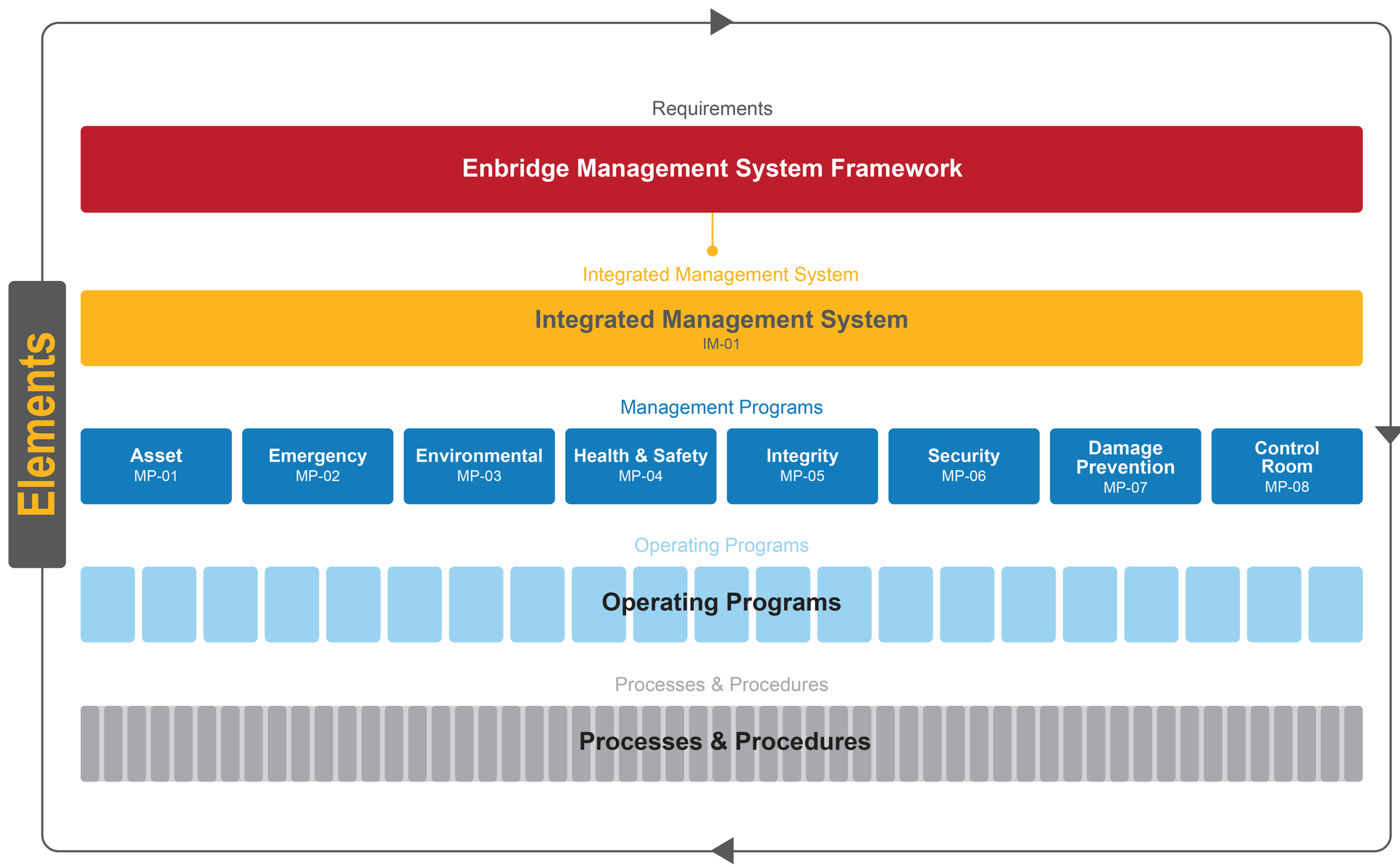
Providing the framework, governance, and common processes to continually improve safety and operational reliability, help manage risk and assure compliance to protect our assets, our people, our customers and the environment.

The Elements

1. Leadership and Governance
2. Risk Management
3. Requirements Management
4. Performance Management
5. Operational Controls
6. Management of Change
7. Capability Management
8. Documents and Records
9. Assurance
10. Stakeholder Engagement
11. Management Review

ENBRIDGE

Enbridge Gas Distribution & Storage (GDS) Integrated Management System Structure



ENBRIDGE GAS INC.

Answer to Interrogatory from
School Energy Coalition ("SEC")

Interrogatory

Reference:

Ex. C/2/1, p. 48, 76

Question:

Please confirm that:

a) Until the Board renders its decision in EB-2020-0091, the Applicant is not considering nonpipes alternatives as part of its capital planning. If that is not confirmed, please advise how the Applicant is currently considering non-pipes alternatives.
b) The USP and AMP do not include consideration of non-pipes alternatives or IRP in determining how to meet the needs of the customers as set out in the USP and AMP. If that is not confirmed, please provide references in the USP/AMP to consideration of non-pipes alternatives.

Response

a) Although Enbridge Gas did not consider non-pipe alternatives explicitly in its capital planning, DSM is built into volumes that feed into the USP. As well, DSM is considered during the development of growth-related leave to construct applications. It is anticipated that as part of the EB-2020-0091 proceeding, screening criteria will be established allowing for binary screening of projects to confirm which forecast need(s) should undergo an IRP assessment. Enbridge Gas anticipates that after the Board approves an IRP Framework in EB-2020-0091, the Company will be best situated to determine how non-pipe alternatives should be included in the planning process.

b) Please see response in part a).

ENBRIDGE GAS INC.

Answer to Interrogatory from
School Energy Coalition ("SEC")

Interrogatory

Reference:

Ex. C/2/1, p. 57, 59

Question:

Please provide the full investment value breakdown for each of the ICM projects in this Application, including the values assigned to each project under each of the categories listed. Please provide justification for each of the values assigned to each project.

Response

The Sarnia Industrial line was evaluated under EBO 188; therefore, no value assessment was conducted.

For London Lines and St Laurent, both were evaluated through the risk management process as shown in the Asset Management Plan, at Exhibit C, Tab 2, Schedule 1, Figure 4.2-3: Enbridge Risk Management Process, page. As needs of both projects were identified by respective legacy companies before integration, assessments were done outside C55. The following table shows how these projects were evaluated.

	St Laurent (Legacy EGD)	London Line (Legacy UG)
Identify Risk	• Hazard / Threat Identification: Met with stakeholders to identify applicable threats to the pipeline (segment by segment) • Understand Conditions – Based on hazards / threats identification – drove condition investigation activities	• Hazard / Threat Identification: Met with stakeholders to identify applicable threats to the pipeline (segment by segment) • Understand Conditions – Based on hazards / threats identification – drove condition investigation activities
Assess Risk – *Analyze current risk*	• Apply risk bowtie model (Figure 4.1-9: Risk Bowtie Model in AMP 2021-2025) with quantitative	• Apply risk bowtie model (Figure 4.1-9: Risk Bowtie Model in AMP 2021-2025) with semi-quantitative

	St Laurent (Legacy EGD)	London Line (Legacy UG)
	approach to address all risk categories as shown on page 58 of AMP 2021-2025. A more detailed analysis was conducted on evaluating H&S risks to the public • Segment by Segment approach • Quantification model with the support of SMAs, qualitative and quantitative data	approach to address all risk categories as shown on page 58 of AMP 2021-2025 • Segment by Segment approach • Ranked risks using risk matrix (Figure 4.1-7: Enbridge Risk Matrix) for each segment with the support of SMAs, qualitative and quantitative data
Assess Risk – *Evaluate current risk to determine if risk treatments are required*	• Apply Enbridge Risk Tolerability Model (Figure 4.1-8: Enbridge Risk Tolerability Model) in a quantification manner • Segments of the pipeline are in the "Conditionally tolerable region" which required the Company to reduce risks to as low as reasonably practicable	• Apply Enbridge Risk Tolerability Model (Figure 4.1-8: Enbridge Risk Tolerability Model) in a qualification manner • Segments of the pipeline are in medium to high risk rankings which required the Company to reduce risks to at least conditionally tolerable region with higher priority to segments of pipes with high risks
Treat Risks – Select options to treat risks	• Alternatives were considered with respect to size and location but the pipe required replacement as a result of condition and the fact that it is a major feed into Ottawa • Although value assessment was not created in C55 for this project, the following value measures would be appropriate o Public Safety Risk o Operational Disruption Risk o Reputational Risk o Avoided GHG Emissions o CAPEX and OPEX	• Alternative ways to bring the pipeline to address condition needs with varying pipe sizes were considered and are noted in the LTC • Although value assessment was not created in C55 for this project, the following value measures would be appropriate o Public Safety Risk o Operational Disruption Risk o Reputational Risk o Avoided GHG Emissions o CAPEX and OPEX

ENBRIDGE GAS INC.

Answer to Interrogatory from
School Energy Coalition ("SEC")

Interrogatory

Reference:

Ex. C/2/1, p. 64

Question:

With respect to the risk register:

a) Who maintains the register?
b) What is its structure (e.g. categories, rankings, etc.)?
c) How many risks are currently listed on the risk register (by category and by severity if possible)?
d) How is the risk register used, if at all, by:
    i. The Board of Directors
    ii. Executive Management
    iii. Departmental heads
    iv. Line managers
    v. Unionized and other on-the-ground workers?.

Response

a) The risk register is maintained by a centralized team who conduct risk and value assessments.

b) For each risk, the main data fields are risk elements of the risk bowtie model as shown in the Asset Management Plan ("AMP") at Exhibit C, Tab 2, Schedule 1, Figure 4.1-9, page 59. A general description of risk, associated hazards, risk treatment, risk ranking is provided in the AMP. Please see the AMP, Figure 4.1-7 for Enbridge Risk Matrix) and page 58 for the risk categories.

c) Due to the integration of legacy companies, there are hundreds of risks from both companies in the risk register which are being consolidated in phases to align the risk content with Enbridge Gas' requirements. Therefore, it is premature to provide

the distribution of risks by category and severity.

d) The risk register is a core tool in Enbridge Gas to communicate and review operational risks. It is applied in the following manner:

   i. The risk register at Enbridge Gas is one of the inputs to risk reporting to the Enbridge Board of Directors, providing information to understand principal risks of the business and ensure that these risks are accounted for in strategic planning of the business and that controls are in place to manage these risks.

   ii. Significant risks from the Enbridge Gas risk register are reported to senior management through Management Program Reviews that are part of the Integrated Management System (see Exhibit I.SEC.20).

   iii & iv) Department heads and line managers use the risk register as one of many ways to manage and monitor risks within their areas of accountabilities.

   v) Unionized and other workers identify risks and hazards which are incorporated into the risk register through a common process.

ENBRIDGE GAS INC.

Answer to Interrogatory from
School Energy Coalition ("SEC")

Interrogatory

Reference:

Ex. C/2/1, p. 82, 86

Question:

With respect to the design temperature for each location:

a) Please provide a reference to the source document (study, first OEB decision, etc.) for each of those figures, and the year that design temperature was first determined.
b) Please explain why geographically similar locations have different design temperatures (e.g. Halton and Toronto, Hamilton and Niagara) and why Windsor has a higher design temperature than Toronto and Niagara.
c) Please provide details of any plan to develop and implement a design temperature system throughout the province that uses consistent methods for identifying the appropriate local design temperatures.
d) Please provide details of any studies the Applicant has done, or plans to do, of trends in "design day or peak hourly consumption".

Response

a) The Degree Day values in tables 5.1-2 and 5.1-3 in the Asset Management Plan are the values used for purposes of Distribution system design. In multiple rates applications to the Ontario Energy Board, both legacy utilities have received approval for Degree Days that have been integral to the gas supply plans approved by the OEB as part of these applications. System Design Degree days can be slightly different. For example, in the Legacy Union North there are more Degree Day zones for System Design than Gas Supply planning because system design needs to be more specific/granular to ensure minimal pressures will be maintained on peak days. Legacy EGD is similar in that there are more Degree Day zones/regions for System Design than there are for Gas Supply. The System Design degree days are part of the analysis for all growth projects that are filed and approved by the OEB as part of the Leave to Construct application. As part of utility harmonization and integration, Degree Days for both Gas Supply and System Design will be reviewed as well as forecasting methodologies.

b) Historically, the two legacy utilities have used different methodologies (both approved by the OEB) to determine Design Temperature[1]. As part of the integration process, a review of the methodologies is being undertaken.

[1] Enbridge Gas Inc – 5 Year Gas Supply Plan, EB-2019-0137, p.35 and p.74

c) Please refer to the response for part b).

d) Enbridge Gas is currently reviewing the two methodologies used to determine design day and peak hour at this time but no formal study has been launched to review trends.

ENBRIDGE GAS INC.

Answer to Interrogatory from
School Energy Coalition ("SEC")

Interrogatory

Reference:

Ex. C/2/1, p. 84

Question:

Please provide the most recent Long Range Plan for the EGD rate zone and Facilities Business Plan for the Union rate zone.

Response

The Long Range Plan for EGD rate zone and the Facilities Business Plan for Union rate zones are created every three years and are based on the most current system modelling and forecasting at the time. The assumptions underpinning these plans are subject to change as growth forecasts evolve over time. The annual Asset Management Plan is the most current and up to date summary of forecast projects.

ENBRIDGE GAS INC.

Answer to Interrogatory from
School Energy Coalition ("SEC")

Interrogatory

Reference:

Ex. C/2/1, p. 89

Question:

The customer connections forecast shows in the EGD rate zone $150 million for commercial/industrial connections, and $546 million for residential connections, while in the Union rate zone it shows zero for commercial/industrial connections, and $383 million for residential connections. Please explain the zero forecast for the Union rate zone over the next five years.

Response

Legacy Union and Legacy EGD have slightly different processes for forecasting the Customer Connections Asset Class. Legacy EGD forecasts by customer type (Residential/Commercial/Industrial/etc.). Legacy Union forecasts at a higher level: scattered mains, scattered services and install costs, based on who will execute the work. Due to these variations, the Asset Management Plan rolls all Customer Connections forecast items for Legacy Union into the Residential sub asset class. Harmonization of the forecasting process will be assessed through integration.

ENBRIDGE GAS INC.

Answer to Interrogatory from
School Energy Coalition ("SEC")

Interrogatory

Reference:

Ex. C/2/1, p. 103

Question:

Please confirm that, in its current planning, the Applicant is considering the future need for replacement or life extension of assets that will see a "sharp increase in failures per year" between 2037 and 2057.

Response

a) Enbridge Gas can confirm that there is a strategy in place to manage those assets with predicted sharp increases to failure rates. Please refer to the Asset Management Plan, at Exhibit C, Tab 2, Schedule 1, section 5.2.6.1.4, page 109.

ENBRIDGE GAS INC.

Answer to Interrogatory from
School Energy Coalition ("SEC")

Interrogatory

Reference:

Ex. C/2/1, p. 105

Question:

Please describe the interaction, if any, between the NPS20 KOL – Cherry to Bathurst project with the project referred to in EB-2020-0198. Please advise whether a leave to construct has been filed for Cherry to Bathurst.

Response

EB-2020-0198 refers to a Leave To Construct filed by Enbridge Gas on October 13, 2020 for NPS 20 Natural Gas Pipeline Waterfront Relocation Project in order to facilitate Waterfront Toronto's Port Lands Flood Protection Project (PLFPEI). There is no interaction between EB-2020-0198 and the NPS 20 KOL - Cherry to Bathurst project. The Leave To Construct for the NPS 20 KOL - Cherry to Bathurst project was filed and approved by the Board in EB-2020-0136.

ENBRIDGE GAS INC.

Answer to Interrogatory from
School Energy Coalition ("SEC")

Interrogatory

Reference:

Ex. C/2/1, p. 126

Question:

Please confirm that, if the Applicant manages its business on the assumption of a long term decline in demand for carbon-based fuels, then it is reasonable to expect that the average age of station assets should increase over time.

Response

Enbridge Gas does not agree with this statement. Age is not the only factor in determining the risk and performance of station assets and it is difficult to say whether the average age of station assets will increase over time.

The strategy for Distribution Stations is described in the Asset Management Plan, at Exhibit C, Tab 2, Schedule 1, Section 5.3.5.4, page 137 and is:

> "proactive replacement of stations based on obsolescence and condition" and the strategy "targets the replacement and/or rebuild of station components at sites prioritized based on condition, age and observations identified through site inspections and SMA reviews. Station investments are selected based on value framework assessment results and compliance/design standards. The goal of this strategy is to proactively replace or rebuild station components prior to end-of-life to reduce risk and maintain a safe and reliable distribution system. This is aligned with 2020 Customer Engagement survey results where customers are supportive of investing to maintain current levels of safety and reliability. Despite this strategy, there may be instances where reactive replacement occurs."

ENBRIDGE GAS INC.

Answer to Interrogatory from
School Energy Coalition ("SEC")

Interrogatory

Reference:

Ex. C/2/1, p. 227

Question:

Please confirm that the 2021 capital budget includes the following $39 million of real estate capital investments. For each investment, please describe why it could not have been deferred to make room for some of the ICM projects.

a) 50 Keil St. Renovations ($4.7) – merger related
b) Dryden ($3.0) – building in good condition
c) North Bay/Orillia ($10.0) – buildings in good condition being replaced with a consolidated operations centre
d) Station B Eastern Avenue ($15.5) – building in good condition being demolished and replaced Belleville ($5.8) – new building

Response

Not all of these investments are scheduled to go into service in 2021 and, as such not all would have the effect of making room within the base capital amount for an ICM project if they could be deferred. Furthermore, some of the projects are already underway. The Asset Management Plan (AMP) reflects the investments that Enbridge Gas believes are required and deferral of these projects would only add to the amount of work to be done in later years. However, Enbridge Gas acknowledges that the AMP reflects the needs for its assets at a moment in time and changes to plans and schedules are managed throughout the year whether as a result of changing asset needs or evolving working conditions.

For example, in 2020 there were delays in receiving permits and materials, and some types of work were slower to complete – this resulted in work moving from 2020 to 2021, something which must be accommodated within the existing plan.

a) Enbridge Gas disagrees with SEC's characterization of this investment as merger related. This facility, which is more than 50 years old, requires Building Code (barrier free) and Life Safety improvements such as sprinkler systems. Furthermore, the building has inadequate HVAC systems that are beyond its intended lifespan. Upgrades to the main building systems will decrease energy use and O&M costs. The renovated space will reduce building energy costs. The renovations to the Keil Drive building began in 2020 and will be completed in 2021.

b) Enbridge Gas disagrees with SEC's characterization of this building as being in good condition. Exhibit C, Tab 2, Schedule 1, Table 5.6-3 notes that by all measures this building and site are functionally and physically obsolete. The current facility hinders administrative and operations activities. Core functional elements required by operations are missing such as a fabrication and welding shop. The current building and site are not suitable for renovation and expansion, so a larger site is required.

c) Enbridge Gas understands that SEC is referring to Investment Code 101136 which is titled New Site No. 4. This new site will support operations within the Union Gas Rate Zone. The investment was allocated to the North Bay/Orillia District at the time that the AMP was created because the specific location had not been identified. The investment details can be found in the AMP Appendix (Exhibit C, Tab 2, Schedule 1) and reflect the planned spend profile. There is no in-service capital related to this project in 2021.

d) Enbridge Gas disagrees with SEC's characterization of the Station B building as being in good condition. Please refer to Exhibit C, Tab 2, Schedule 1, Table 5.6-3 which indicates the rating for this building is obsolete. The work at Station B is underway and these long overdue improvements are planned to be completed prior to the construction of the adjacent Ontario line project (Metrolinx). On-site changes to the pipeline infrastructure and demolition have been completed and Enbridge Gas is awaiting permits from the City of Toronto to allow for work to continue.

   The improvements to the Belleville facility are underway and include the purchase of land and the building of a new facility. The existing site is leased and as noted in the Appendix, Investment 48693 has insufficient space, water quality problems and does not meet current building code and life safety requirements.

ENBRIDGE GAS INC.

Answer to Interrogatory from
School Energy Coalition ("SEC")

Interrogatory

Reference:

Ex. C/2/1, p. 252

Question:

It appears to SEC that some of the capital expenditures in this plan are driven by the merger, particularly in areas such as new technology. For the entire five year 2021-2025 capital plan as set out on pages 260 and 261, please identify for each line and each year all capital spending that the Applicant considers merger-related.

Response

Enbridge Gas does not agree that there are any investments contained in the five year 2021-2025 capital plan that are merger related.

ENBRIDGE GAS INC.

Answer to Interrogatory from
School Energy Coalition ("SEC")

Interrogatory

Reference:

Ex. C/2/1, p. 260-1

Question:

Please provide, for each year and line in the period 2021 to 2025, the amount that represents the labour costs of the Applicant (averaging 83% of the total).

Response

Work in each asset class is done by a mix of company and contractor crews. Where completed by a contractor, there are a mix of payment types from time and materials through to unit rates which include the labour, materials, and equipment. Budgeted costs are not broken out in such a way that the labour could be extracted.

ENBRIDGE GAS INC.

Answer to Interrogatory from
School Energy Coalition ("SEC")

Interrogatory

Reference:

Ex. C/2/1, p. 260-1

Question:

Please confirm that the attached table entitled "Enbridge Capital Budget and Actuals 2016-2025" correctly sets out the combined capital spending plans set out in the AMP.

Please confirm that all figures are in-service additions rather than capital expenditures. (The Excel spreadsheet that formed the basis of this table is also attached.)

Enbridge Combined Capital Budget and Actual 2016-2025

Category	2016	2017	2018	2019	2020	Subtotal	2021	2022	2023	2024	2025	Subtotal	Increase
Utilization	$76.7	$81.4	$80.3	$99.3	$82.5	$420.2	$110.5	$110.3	$117.8	$123.4	$124.9	$586.9	39.7%
Trans. Pipe and U/G Storage	$179.5	$202.5	$47.0	$19.8	$16.4	$465.2	$65.6	$280.5	$71.2	$173.9	$34.1	$625.3	34.4%
TIS	$78.3	$52.0	$56.6	$48.8	$46.1	$281.8	$39.5	$57.6	$45.0	$64.7	$58.0	$264.8	-6.0%
Real Estate and Workplace Services	$36.5	$18.9	$21.2	$42.1	$34.8	$153.5	$104.5	$80.6	$47.9	$37.8	$73.4	$344.2	124.2%
LNG	$1.1	$2.4	$0.1	$0.0	$0.3	$3.9	$0.3	$0.2	$16.0	$0.2	$8.7	$25.4	551.3%
Growth	$382.5	$177.4	$261.8	$337.4	$261.0	$1,420.1	$277.0	$286.5	$367.2	$263.9	$429.6	$1,624.2	14.4%
Fleet and Equipment	$7.7	$18.0	$15.3	$26.3	$17.5	$84.8	$22.6	$23.1	$24.6	$24.6	$26.7	$121.6	43.4%
EA Fixed O/H	$17.3	$17.0	$15.8	$16.7	$16.4	$83.2	$18.2	$18.4	$18.6	$18.8	$19.0	$93.0	11.8%
Distribution Stations	$39.4	$39.0	$35.3	$39.7	$51.2	$204.6	$94.4	$96.9	$65.4	$52.7	$53.0	$362.4	77.1%
Distribution Pipe	$137.7	$142.6	$139.6	$173.9	$279.9	$873.7	$482.4	$344.9	$232.1	$289.5	$255.4	$1,604.3	83.6%
Compression Stations	$457.7	$190.1	$50.4	$25.7	$17.1	$741.0	$55.4	$107.2	$157.5	$303.2	$28.9	$652.2	-12.0%
TOTALS	$1,414.4	$941.3	$723.4	$829.7	$823.2	$4,732.0	$1,270.4	$1,406.2	$1,163.3	$1,352.7	$1,111.7	$6,304.3	33.2%
Overheads in Historical Data	$216.5	$209.7	$206.9	$207.9	$207.8	$1,048.8							
OH Included Total	$1,630.9	$1,151.0	$930.3	$1,037.6	$1,031.0	$5,780.8	$1,270.4	$1,406.2	$1,163.3	$1,352.7	$1,111.7	$6,304.3	9.1%

Response

The numbers in the Table that SEC provided seem to be derived from those in the AMP at Exhibit C, Tab 2, Schedule 1, Figures 6.2-1 and 6.2-2. Further, SEC has summed the values in these Tables to provide total expenditure by Asset Class from 2016-2025 for Enbridge Gas and added columns to sum the expenditures from 2016-2020 and 2021-2025. Enbridge Gas notes that the column identified as “% increase” is not an accurate characterization of the increase or decrease in each asset class as the historical numbers (2016-2020) do not include the overheads whereas those in 2021-2025 include the overheads. Further, it should be noted that the numbers in 2021-2025 reflect all investments including those that Enbridge Gas has identified as ICM Eligible.

Enbridge Gas does not confirm that the numbers in the Table are in-service additions. The numbers in the Table reflect capital expenditures by year.

ENBRIDGE GAS INC.

Answer to Interrogatory from
OEB Staff ("STAFF")

Interrogatory

Reference:

Exhibit B, Tab 2, Schedule 1, pp. 4-5
Enbridge Gas has provided capital expenditures by category for the Enbridge Gas Distribution (EGD) and Union Gas Limited (Union Gas) rate zones for the period 2016 to 2025.

Question:

a) Please update the table with Actual 2020 data and any changes for the 2021 to 2025 period.

b) If there are any changes in capital expenditures from that filed in the evidence, please explain the changes.

Response

a) The actual data for 2020 is not available yet as Enbridge has not completed year-end reporting. The forecast in the pre-filed evidence represents the latest forecast.

b) There is one change related to the Union rate zones. The in-service date for the Windsor Line Replacement project has been impacted by the Section 101 Application (EB-2020-0160). As a result, a portion of the Windsor Line was put into service in 2020 and the remaining section will go into service in 2021. This change in forecast does not impact the 2021 in-service capital for ICM determination purposes as the Windsor Line was previously approved in EB-2019-0194.

ENBRIDGE GAS INC.

Answer to Interrogatory from
OEB Staff ("STAFF")

Interrogatory

Reference:

Exhibit B, Tab 2, Schedule 1, pp. 16-20

Enbridge Gas requested Incremental Capital Module (ICM) funding for the St. Laurent NPS 12 Replacement Project. The project will be completed in multiple phases over multiple years. The evidence indicates that the project is required to address integrity issues with the existing pipeline and is considered necessary to maintain the safe and reliable delivery of natural gas to the Ottawa and Gatineau regions. The St. Laurent project consists of four phases. Phase 2 of the project was approved as part of the Decision and Order in EB-2019-0006 and was placed into service in September 2020. A leave to construct application is expected to be filed in December 2020 for the remaining two phases of the project. For ICM eligibility purposes, each phase of the project has been evaluated individually based on the total in-service capital of that phase. In this application, Enbridge Gas is seeking ICM funding for Phase 3 of the project with a projected in-service date of December 2021. Phase 3 of the project involves replacement of approximately 9 kms of the pipeline. The total budgeted capital spend is $15.3 million of which Enbridge Gas has requested $13.0 million in ICM funding representing the in-service capital spend in 2021.

Question:

a) Please indicate whether Enbridge Gas requested ICM funding for Phase 2 of the project which was approved in EB-2019-0006.

b) Has Enbridge Gas completed other pipeline replacement projects in multiple phases during the 2016 to 2020 period? If yes, please provide a list of such projects.

c) The OEB's Advanced Capital Module funding report (EB-2014-0219) states that the amount requested for incremental capital funding must be based on discrete projects and should be directly related to the claimed driver. Please explain how the St. Laurent project which is being completed in four phases is a discrete project.

d) If the Ontario Energy Board (OEB) does not approve ICM funding for Phase 3 of the project, will Enbridge Gas proceed with completing the remaining phases of the pipeline replacement project?

Response

a) Enbridge Gas did not request ICM funding for Phase 2 of the project.

b) Yes. Enbridge Gas has completed other pipeline replacement projects in multiple phases over the 2016 to 2020 period.

- EB-2008-0139 - East Owen Sound Replacement Exemption Request. This application was for approval to be exempt from LTC requirements and was related to pipe being constructed in two phases starting in 2008 and finishing in 2009. The exemption was approved on September 4, 2008. Phase I of the project was placed into service on September 23, 2009. Phase II of the project was placed into service on December 3, 2010.

- EB-2012-0432 - 2013 Panhandle (Ojibway Park) Replacement Project - LTC granted January 31, 2013; pipeline placed into service on April 24, 2013. Construction completed in two phases – (1) complete a directional drill through Ojibway Park during the winter of 2013; and (2) complete the tie-in at either end of the project in the summer of 2013.

- EB-2012-0451 – GTA Reinforcement Project – LTC granted January 30, 2014 - two segments of natural gas pipeline to upgrade the existing distribution system; project deemed in service on March 31, 2016.

- EB-2016-0122 - 2016 Sudbury Replacement Project – LTC granted July 7, 2016; construction was completed on Section 1 on October 28, 2016; construction on Section 2 was completed on December 5, 2017.

- EB-2016-0222 - Sudbury Maley Replacement – LTC granted November 10, 2016; construction for the crossing of Notre Dame Ave. was completed on December 2, 2016; construction for the remainder of the project was completed on December 5, 2017.

- EB-2017-0147 - Fenelon Falls Pipeline Project - LTC granted March 1, 2018; the Fenelon Falls project was completed in two phases: the Distribution Pipeline to Fenelon Falls Segment (in-service February 26,

2019) and the Sunderland Reinforcement Segment (in-service November 4, 2020).

- EB-2019-0012 - Ladysmith Storage Pool. This project was not a reinforcement but it was the first phase of a broader project to increase deliverability and storage capacity at Enbridge Gas' storage facilities. It was an application for approval to drill an exploratory well within the designated storage area of the Ladysmith Storage Pool so not a LTC.

- EB-2020-0136 - NPS 20 Replacement Cherry to Bathurst - In the Leave to Construct application and in its Asset Management Plan, Enbridge Gas has indicated that it intends to replace that part of the KOL line west of the Cherry to Bathurst segment in multiple phases.

c) Please see Exhibit I.CME.1 d).

d) Please see Exhibit I.PP.3 c).

ENBRIDGE GAS INC.

Answer to Interrogatory from
OEB Staff ("STAFF")

Interrogatory

Reference:

Exhibit B, Tab 2, Schedule 1, p. 17-24 and Interrogatory Responses in EB-2020-0192

Enbridge Gas has requested ICM funding for the London Line Replacement project in the amount of $124.0 million. Enbridge Gas filed a leave to construct application with the OEB for the project on September 2, 2020 under docket number EB-2020-0192. This project is needed to replace the existing London Lines in their entirety. The proposed project involves replacing the existing London Lines with approximately 90.5 km of NPS 4 and NPS 6 dual feed pipeline. Analysis conducted by Enbridge Gas Inc. has shown that the existing London Lines are in poor condition and have several active degradation factors, including loss of containment, shallow depth of cover, and corrosion induced wall loss. Enbridge Gas has identified that the existing lines are an operational risk and should be replaced to manage the safety and reliability of the natural gas distribution in the area. The total budgeted cost of the project is $161.1 million of which the in-service capital spend for 2021 is $124.0 million.

Question:

a) Is there any incremental revenue associated with the project? If yes, please provide the incremental revenue for the 2021 to 2023 period.

Response

The London Line Replacement project leave to construct evidence states, "The Project has been designed to match the same capacity (current and growth) that the existing pipelines provide and will not create a significant change in capacity available on the London Line."[1] As such, there is no incremental revenue associated with the project.

[1] EB-2020-0192, Exhibit F, Tab 1, Schedule 1, Paragraph 3.

ENBRIDGE GAS INC.

Answer to Interrogatory from
OEB Staff ("STAFF")

Interrogatory

Reference:

Exhibit B, Tab 2, Schedule 1, pp. 25-27 and Applicant Evidence in EB-2019-0218

Enbridge Gas has requested ICM funding for the Sarnia Line Industrial Line Replacement project. In a Decision and Order (EB-2019-0218) dated March 12, 2020, the OEB approved the leave to construct project. In the leave to construct evidence (p. 4), Enbridge Gas estimated the total cost of the project to be $30.8 million. These costs include materials, construction and labour, environmental protection measures, land acquisition, contingencies, indirect overheads and interest during construction. In this application, the budget has been updated to $32.9 million. The variance between the budget and the leave to construct is due to a change in overhead allocations.

Question:

a) Please provide a table with the original and revised overhead allocations.

b) Please explain the changes in overhead allocations and the reasons for the changes.

c) Is there any incremental revenue associated with the project? If yes, please provide the estimated incremental revenue for the 2021 to 2023 period.

Response

a) Please see the table below:

Sarnia Industrial Line	**LTC (M $)**	**ICM (M $)**
Direct Capital	27.5	27.5
Interest During Construction	0.3	0.3
Indirect Overheads	2.9	5.0
Total Project Cost	**30.8**	**32.9**

b) The ICM overhead amount is based on the revised indirect overhead capitalization policy that Enbridge Gas implemented effective 2020. Please refer to Exhibit I.LPMA.7 c) for a description of the overhead policy change.

c) Please see Attachment 1 for the schedule setting out the incremental revenues on a project year basis starting November 2021 that was filed in the 2021 Sarnia Industrial Line Reinforcement Project leave to construct application. The following table provides the incremental revenue on a calendar year basis.

$000's	2021	2022	2023	Total
Project Revenue	434	2,616	2,763	5,813

Also, please see Exhibit I.OGVG.1.

Calculation of Revenue

NPS 20 Dow to Bluewater Pipeline
InService Date: Nov-01-2021

Line	Project Year ($000's)		1	2	3	4	5	6	7	8	9	10
	NOVA											
1	Transmission & Distribution Margin $/M3/mont	0.169369										
2	Incremental Contract Demand 10^3m^3/month		1,280	1,280	1,280	1,280	1,280	1,032	1,032	1,032	1,032	1,032
3	Transmission & Distribution Margin		$2,602	$2,602	$2,602	$2,602	$2,602	$2,097	$2,097	$2,097	$2,097	$2,097
	Future Growth											
4	Transmission Margin $/M3/month	0.168903										
5	Incremental Contract Demand 10^3m^3/month			261	261	261	261	261	261	261	261	261
6	Transmission Margin		$0	$88	$529	$529	$529	$529	$529	$529	$529	$529
7	Total Project Revenue		$2,602	$2,690	$3,131	$3,131	$3,131	$2,626	$2,626	$2,626	$2,626	$2,626

Calculation of Revenue

NPS 20 Dow to Bluewater Pipeline
InService Date: Nov-01-2021

Line	Project Year ($000's)		11	12	13	14	15	16	17	18	19	20
	NOVA											
1	Transmission & Distribution Margin $/M3/mont	0.169369										
2	Incremental Contract Demand 10^3m^3/month		1,032	1,032	1,032	1,032	1,032	1,032	1,032	1,032	1,032	1,032
3	Transmission & Distribution Margin		$2,097	$2,097	$2,097	$2,097	$2,097	$2,097	$2,097	$2,097	$2,097	$2,097
	Future Growth											
4	Transmission Margin $/M3/month	0.168903										
5	Incremental Contract Demand 10^3m^3/month		261	261	261	261	261	261	261	261	261	261
6	Transmission Margin		$529	$529	$529	$529	$529	$529	$529	$529	$529	$529
7	Total Project Revenue		$2,626	$2,626	$2,626	$2,626	$2,626	$2,626	$2,626	$2,626	$2,626	$2,626

ENBRIDGE GAS INC.

Answer to Interrogatory from
OEB Staff ("STAFF")

Interrogatory

Reference:

Exhibit B, Tab 2, Schedule 1, p. 30

The evidence states that incremental income taxes as a result of the 2021 ICM requested projects are calculated using the current tax rates. The income taxes calculated reflect 100% of the accelerated Capital Cost Allowance.

Question:

a) Please provide the Accelerated CCA income tax (Bill C-97) calculations for the individual 2021 ICM requested projects.

Response

The accelerated Capital Cost Allowance is included in each project's current year tax deductions. Please see the attached schedules that provide the supporting calculations for the current year tax deductions as shown at Exhibit B, Tab 2, Schedule 1, Appendix E, Line 12 for each project.

Current Year Tax Deductions and CCA Continuity
St Laurent NPS 12 Replacement Phase 3
2021 to 2023

Line No.	Particulars ($000's)	2021	2022	2023	Total
		(a)	(b)	(c)	(d)
1	CCA	(1,085)	(658)	(619)	(2,362)
2	IDC & Overhead	(976)	-	-	(976)
3	Current Year Tax Deductions	(2,061)	(658)	(619)	(3,338)
	CCA Continuity				
	CCA Class 51 - Rate 6%				
4	Opening UCC	-	10,969	10,311	
5	Additions	12,054	-	-	
6	CCA	(1,085)	(658)	(619)	(2,362)
7	Closing UCC	10,969	10,311	9,692	
	Non-Deductible (Land)				
8	Opening	-	5	5	
9	Additions	5	-	-	
10	Closing	5	5	5	
	Total CCA				
11	Opening UCC	-	10,974	10,316	
12	Additions	12,059	-	-	
13	CCA	(1,085)	(658)	(619)	(2,362)
14	Closing UCC	10,974	10,316	9,697	

Current Year Tax Deductions and CCA Continuity
London Line Replacement
2021 to 2023

Line No.	Particulars ($000's)	2021	2022	2023	Total
		(a)	(b)	(c)	(d)
1	CCA	(10,227)	(6,206)	(5,834)	(22,267)
2	IDC & Overhead	(8,762)	-	-	(8,762)
3	Current Year Tax Deductions	(18,989)	(6,206)	(5,834)	(31,029)
	CCA Continuity				
	CCA Class 14.1 - Rate 5%				
4	Opening UCC	-	1,609	1,529	
5	Additions	1,740	-	-	
6	CCA	(130)	(80)	(76)	(287)
7	Closing UCC	1,609	1,529	1,452	
	CCA Class 51 - Rate 6%				
8	Opening UCC	-	102,087	95,961	
9	Additions	112,183	-	-	
10	CCA	(10,096)	(6,125)	(5,758)	(21,979)
11	Closing UCC	102,087	95,961	90,204	
	Non-Deductible (Land)				
12	Opening	-	1,354	1,354	
13	Additions	1,354	-	-	
14	Closing	1,354	1,354	1,354	
	Total CCA				
15	Opening UCC	-	105,050	98,844	
16	Additions	115,277	-	-	
17	CCA	(10,227)	(6,206)	(5,834)	(22,267)
18	Closing UCC	105,050	98,844	93,010	

Current Year Tax Deductions and CCA Continuity
Sarnia Industrial Line Reinforcement
2021 to 2023

Line No.	Particulars ($000's)	2021	2022	2023	Total
		(a)	(b)	(c)	(d)
1	CCA	(2,978)	(1,759)	(1,626)	(6,364)
2	IDC & Overhead	(2,132)	-	-	(2,132)
3	Current Year Tax Deductions	(5,111)	(1,759)	(1,626)	(8,496)
	CCA Continuity				
	CCA Class 1 - Rate 6%				
4	Opening UCC	-	57	53	
5	Additions	62	-	-	
6	CCA	(6)	(3)	(3)	(12)
7	Closing UCC	57	53	50	
	CCA Class 14.1 - Rate 5%				
8	Opening UCC	-	93	89	
9	Additions	101	-	-	
10	CCA	(8)	(5)	(4)	(17)
11	Closing UCC	93	89	84	
	CCA Class 49 - Rate 8%				
12	Opening UCC	-	17,443	16,048	
13	Additions	19,822	-	-	
14	CCA	(2,379)	(1,395)	(1,284)	(5,058)
15	Closing UCC	17,443	16,048	14,764	
	CCA Class 51 - Rate 6%				
16	Opening UCC	-	5,931	5,575	
17	Additions	6,518	-	-	
18	CCA	(587)	(356)	(335)	(1,277)
19	Closing UCC	5,931	5,575	5,241	
	Non-Deductible (Land)				
20	Opening	-	151	151	
21	Additions	151	-	-	
22	Closing	151	151	151	
	Total CCA				
23	Opening UCC	-	23,676	21,917	
24	Additions	26,655	-	-	
25	CCA	(2,978)	(1,759)	(1,626)	(6,364)
26	Closing UCC	23,676	21,917	20,291	

ENBRIDGE GAS INC.

Answer to Interrogatory from
OEB Staff ("STAFF")

Interrogatory

Reference:

Exhibit B, Tab 2, Schedule 1, Appendix A

Enbridge Gas has provided tables (Tables A to H) with a breakdown of capital expenditures by category for the period 2016 to 2025.

Question:

a) Please update the tables with 2020 Actuals.

Response

a) The actual data for 2020 is not available yet as Enbridge Gas has not completed year-end reporting. The forecast in the pre-filed evidence represents the latest forecast. Please see Exhibit I.STAFF.1.

ENBRIDGE GAS INC.

Answer to Interrogatory from
OEB Staff ("STAFF")

Interrogatory

Reference:

Exhibit B, Tab 2, Schedule 1, Appendix A, Table A and EB-2019-0194

Enbridge Gas provided General Plant Capital Expenditures by category for the EGD rate zone in the current application and the 2020 IRM rate application (EB-2019-0194). For the IT implementation category, the expenditures differ across the two applications.

General Plant Capital Expenditures by Category - EGD Rate Zone ($ Millions)					
Category	2019 Actual	2020 Forecast	2021 Budget	2022 Budget	2023 Budget
IT Implementation - EB-2019-0194	43.0 (F)	15.1	21.5	24.9	22.3
IT Implementation - EB-2020-0181	32.7	14.6	28.3	39.4	30.8

F=Forecast

Question:

a) What projects were postponed or cancelled in 2019 to reduce the spending in Information Technology (IT), from $43.0 million to $32.7 million.

b) What are the drivers for the increased spending in 2021 to 2023 budget years as compared to that filed in the 2020 IRM application (EB-2019-0194)?

Response

a) Please note that the 2019 Actual for IT implementation was incorrectly shown as $32.7 million in Table A in the pre-filed evidence. The correct amount should be $22.3 million as shown in Exhibit 1.LPMA.10 a) in EB-2019-0194. The correction to Table A is filed as Attachment 1. Please note that the total amount in the General

Plant category did not change. The error was due to mis-classification of some of the capital cost by asset type in the General Plant category.

The variance of $20.7 million between the 2019 forecast of $43.0 million and actual of $22.3 million is due to $11 million of spend for the Customer Experience Program and $2 million for the HANA system upgrade, which are excluded from all in-service Capital schedules for ICM consideration. These are excluded as per the Decision and Order for EB-2018-0305, section 4.3.3. The remaining $7.7 million variance is due to computer hardware purchases which were ordered in 2019 but the timing of delivery and subsequent in-service were delayed until 2020.

b) The annual IT budgets are dependent on changing business requirements and application solution upgrades. Also, from 2021 to 2023, the budget amounts include overheads (which were previously presented separately). Please see below for a summary of the variances by year:

2021 – allocation of overheads ($5.2 million) and Meter Reading Handheld Replacement Project ($1.5 million).

2022 – allocation of overheads ($7 million), Geographic Information System (eGIS) upgrade project ($5 million), Material Traceability Project ($3 million).

2023 – allocation of overheads ($7 million), Material Traceability Project ($1 million).

Table A

General Plant Capital Expenditures[1] by category (2016-2025) – EGD Rate Zone ($ Millions)

Line No.	Category	2016 Actual	2017 Actual	2018 Actual	2019 Actual	2020 Fcast	2021 Budget	2022 Budget	2023 Budget	2024 Budget	2025 Budget
1	Equipment & Materials	-	2.4	2.1	0.1	2.7	3.8	3.9	4.2	4.1	4.3
2	Furniture/Structures & Improvements	22.1	9.4	8.7	33.6	35.1	56.5	10.0	67.7	16.1	23.7
3	IT Implementation	18.6	27.7	32.7	22.3	14.6	28.3	39.4	30.8	27.3	23.8
4	Land – Storage	-	-	-	-	-	0.3	0.2	1.5	0.1	0.1
5	Leasehold Improvements	-	-	-	-	-	-	-	-	-	-
6	Structures and Improvement - Storage	3.9	-	0.2	-	0.2	-	-	-	-	-
7	Tools	0.7	-	1.3	7.3	1.1	1.1	1.1	1.2	1.2	1.2
8	Vehicles	1.7	6.6	2.3	7.1	7.3	5.9	6.1	6.4	6.4	6.6
9	WAMS	35.7	2.0	-	-	-	-	-	-	-	-
10	**General Plant - EGD Rate Zone**	**82.6**	**48.1**	**47.3**	**70.4**	**61.0**	**95.9**	**60.7**	**111.8**	**55.2**	**59.7**

[1] Overheads are included in project costs in years 2021-2025

ENBRIDGE GAS INC.

Answer to Interrogatory from
OEB Staff ("STAFF")

Interrogatory

Reference:

Exhibit B, Tab 2, Schedule 1, Appendix A, Table G and EB-2019-0194

Enbridge Gas provided expenditures related to integrity initiatives. The amounts differ in the two applications (EB-2019-0194 and EB-2020-0181) for the period 2020 to 2022.

System Service Capital Expenditures by Category - EGD Rate Zone ($ Millions)				
Category	2020 Forecast	2021 Budget	2022 Budget	2023 Budget
Integrity Initiatives - EB-2019-0194	3.3	3.4	3.7	2.4
Integrity Initiatives - EB-2020-0181	15.1	31.2	21.7	6.7

Question:

a) Please provide the reasons for the significant increase in the budget related to integrity initiatives for the years 2020, 2021 and 2022 in this application as compared to that filed in the 2020 IRM rate application (EB-2019-0194).

b) Why were the integrity projects not identified in the 2020 IRM rate application?

Response

a) and b)

The table below shows the mapping of Asset Class Programs to the Integrity Initatives in Table G in the prefiled evidence. The 2020 Budget/Forecast information provided in EB-2019-0194 and EB-2020-0181 is very consistent.

Mapping of Asset Class Programs to Table G Integrity Initiatives

Category ($ Millions)	2020 Forecast	2021 Budget	2022 Budget	2023 Budget
EB-2019-0194 – Integrity Initiatives (Table G)	3.3	3.4	3.7	2.4
EB-2019-0194 – Records Integrity (Table G)	0.1	0.1	0.1	0.1
EB-2019-0194 – Integrity Digs (Table E)	4.1	-		-
EB-2019-0194- Integrity Retrofits (Table E)	8.6	-	-	-
Total	**16.1**	**3.5**	**3.8**	**2.5**
EB-2020-0181 – Integrity Initiatives (Table G)	15.1	31.2	21.7	6.7
EB-2020-0181 -Records Integrity (Table G)	-	-	-	-
EB-2020-0181 – Integrity Digs (Table E)	-	-	-	-
EB-2020 – 0181 – Integrity Retrofits (Table E)	-	-	-	-
Total	**15.1**	**31.2**	**21.7**	**6.7**
EB-2020-0181 vs EB-2019-0194	**(1.0)**	**27.7**	**17.9**	**4.2**

Note: Overheads are included in the numbers for 2021-2023 in the submission for EB-2020-0181 whereas they are not in any of the numbers reflected in EB-2019-0194 or the 2020 Forecast submitted as part EB-2020-0181.

For 2021-2023, the variance between the budget in EB-2020-0181 and EB-2019-0194 is driven by five factors which are described below.

Variance Drivers (2021-2023)

1. Station Asset Investment reflected as integrity investment in EB-2020-0181

In order to better manage all Integrity programs, Enbridge Gas has established an Integrity Program within each Asset Class. As stations are rebuilt, launchers and receivers are installed to provide flexibility in the execution of the ILI plan each year and to allow for cleaning runs to be done off-cycle to the inspection runs. As a result, some investments have been moved from the Stations Asset Class (which is mapped to System Renewal) to the Distribution Pipe Asset Class – Integrity which is mapped to System Service. Campbell Street Station is an example of this. Note that this investment cost is taken from the AMP and

does not reflect overheads.

There was also some movement of work from the Storage asset class to the integrity investments. This amounted to less than $500k in the years 2020-2023.

Enbridge Gas has determined that Campbell Street Station, although included in the AMP that was filed as part of the 2019 Rate Case (EB-2018-0305, Exhibit C1, Tab 2), was inadvertently excluded from EB-2019-0194, Exhibit B, Tab 2, Schedule 1, Appendix A, Table E.

Investment	Description	Net Base Capex	In-Service Year
1775	Campbell Street Station, Collingwood	$4.0M	2021/2022

2. <u>ILI Dig Blanket</u>

   Each year when the ILI tools are used, the need for immediate and scheduled digs will be identified. Because the location of the digs is not known until the ILI runs have been completed, Enbridge Gas uses a blanket account that reflects the expected number of integrity digs based on historical data and the number of ILI's to be completed. The 2023 Blanket for digs on the Distribution and Storage & Transmission Systems were inadvertently omitted in EB-2019-0194 and are shown in the Table below.

Investment	Description	Net Base Capex	In-Service Year
102758	2023 Integrity Dig Program	$1.6M	2023
1917	2023 Dig Program S&T	$2.0M	2023

3. <u>Additional Scope in the Integrity Management Program</u>

As described in Exhibit C, Tab 2, Schedule 1, Section 5.2.5, pipelines are identified to be in the Enbridge Gas Transmission Integrity Management Program ("TIMP") on the basis of their operating above 30% SMYS (Specified Minimum Yield Strength) or on the basis of their criticality.

Following a review of maximum operating pressures some pipelines have been added to the TIMP. As a result of this, retrofits have been included in this AMP so that ILI can be completed on these pipelines. Enbridge Gas notes in Section 5.2.5.3 that ILI provides the best data for predicting the condition of the pipeline. Furthermore, the quality of ILI data reduces uncertainty about the condition of a pipeline and can be used to extend its useful life (Section 5.2.5.4).

Some specific examples are included in the Appendix to the AMP and are noted below. Note that these investment costs are taken from the AMP and do not reflect overheads.

Investment	Description	Net Base Capex	In-Service Year
22444	NPS 12 & NPS 8 Blackhorse Gate to Chippewa Creek NW 8983 Retrofit	$3.8M	2021/2022
22445	NPS 12 & NPS 8 Blackhorse Gate to Forks Road NW 8980 Retrofit	$6.7M	2021/2022
17365	NPS 8 Eagleson Rd (Kanata) Retrofit for ILI	$4.4 M	2021
12268	NPS 8 East Valley – Lancaster to Alexandria Pipeline – retrofit/replacement	$3.2M	2021
17363	Clarington – Cathcart Retrofits	$4.7M	2021

4. Project Delays in 2020

Enbridge Gas notes that while the AMP reflects capital expenditure, Table G reflects in-service capital. The higher in-service capital shown for 2021 is in part a result of delays on 2 projects which, although started in 2020 were sufficiently delayed that their in-service date moved to 2021. The projects are shown in the Table below.

		Capital Expenditure			In-Service
Investment	Description	2019 Actuals	2020 Forecast	2021 Budget	2021 Budget
12268	NPS 8 East Valley - Lancaster to Alexandria Pipeline - Retrofit/Replacement	-	$2.0	$1.2	$3.2
17365	NPS 8 Eagleson Rd (Kanata) Retrofit for ILI	-	$1.2	$2.9	$4.1

5. Overheads

Overheads are included in the numbers for 2021-2023 in the submission for EB-2020-0181 whereas they are not in any of the numbers reflected in EB-

2019-0194. Please see Exhibit I.EP.14 for the alignment in the approach for overhead allocation to capital projects. .

ENBRIDGE GAS INC.

Answer to Interrogatory from
OEB Staff ("STAFF")

Interrogatory

Reference:

EGI Asset Management Plan, pp. 19-20

Enbridge Gas has stated that given the impact of COVID-19 to resourcing and potential uncertainty surrounding longer term forecasting, the development of the Asset Management Plan (AMP) has been affected in 2020. Adjustments were made in these new working arrangements to 2020 planned activities as well as an adjustment to the scope of the 2021 AMP from ten years to five years.

Question:

a) What adjustments were made to the new working arrangements in 2020 and how did these working arrangements affect the completion of projects in 2020?

b) Did Enbridge Gas postpone or cancel any projects in 2020 on account of the COVID-19 pandemic? If yes, please provide details including costs.

c) Please confirm if Enbridge Gas has adjusted the scope of the 2021 AMP in this application. How does the scope differ from that filed in the 2020 rate application (EB-2019-0194)? Please provide a detailed response.

d) Has Enbridge Gas postponed or cancelled any major projects (projects over $2 million) in 2021 as a result of the COVID-19 pandemic? If yes, please provide details.

Response

a) During the COVID-19 pandemic, Enbridge Gas adjusted work practices to ensure the safety of workers and members of the public while continuing to work as productively as possible. Many office-based workers transitioned to working from home while field workers adopted new practices and methods to allow work to continue safely.

As noted in the Asset Management Plan ("AMP"), Exhibit C, Tab 2, Schedule 1, Enbridge Gas adjusted the scope of the Asset Plan from ten years to five years. It also became more difficult to conduct the workshops required for value assessments of the investments, resulting in delays. In turn this meant that the value assessments for some investments were not completed prior to optimization and decisions were made based on risk assessment and risk treatment decisions through the risk management process.

Although no work was stopped specifically as a result of the pandemic, delays in receiving materials and permits, as well as changing municipal priorities did cause some work to be deferred and other work to be completed with cost increases. The only significant project that has been deferred in the AMP as a result of the pandemic is the Dawn Parkway Expansion (Kirkwall – Hamilton NPS 48).

As Enbridge Gas modified work protocols to ensure the safety of workers and the public, there were reductions in the work that could be completed for certain programs such as copper risers and copper services (Exhibit I.FRPO.24) which require access to customer premises to complete relights.

Further, there were some changes in the plans for the Real Estate and Workplace Services work with progress on VPC and 50 Keil Drive slowing to allow for COVID-19 related improvements to the dispatch and control room areas in the two legacy companies. These changes are reflected in the AMP filed with this rates application and have been managed through the regular processes to manage emergent work.

b) See response to part a).

c) Aside from the time horizon noted above, the scope of the AMP filed as part of this proceeding is the same as that reflected in the AMP addendum filed as part of EB-2019-0194 at Exhibit C, Tab 1, Schedule 1. It reflects capital expenditures required to meet the needs of customers and maintain the safe and reliable operations of the Enbridge Gas's OEB regulated assets. Where capital investments are recovered through other mechanisms (e.g. Community Expansion, Voluntary Renewable Natural Gas) the capital investments are not included in the AMP.

d) Aside from the Dawn Parkway Expansion (Kirkwall – Hamilton NPS 48), Enbridge Gas has not postponed any major projects in 2021 as a result of the COVID-19 pandemic.

ENBRIDGE GAS INC.

Answer to Interrogatory from
OEB Staff ("STAFF")

Interrogatory

Reference:

EGI Asset Management Plan, p. 151

Enbridge Gas is forecasted to spend an average of $42 million (EGD rate zone) and $30 million (Union rate zones) for the distribution stations asset class during the 2021 to 2025 period.

Question:

a) One of the projects includes Compressed Natural Gas (CNG) distribution stations. Please explain the need for CNG distribution stations and how they are different from the other distribution stations.

Response

The need for CNG distribution stations is to promote the use of natural gas to customers who traditionally would fuel their vehicles with gasoline or diesel as an alternate fuel source to provide a lower-cost and lower-emission fueling solution for vehicles.

Central refueling stations for natural gas vehicle (NGV) fleets differ from other Distribution stations as they include additional equipment that allows the use and storage of compressed natural gas (CNG) on site at up to 4,000 psi. This includes additional equipment and maintenance requirements.

ENBRIDGE GAS INC.

Answer to Interrogatory from
OEB Staff ("STAFF")

Interrogatory

Reference:

EGI Asset Management Plan, p. 163

Consistent with the majority of utilities, Enbridge Gas is considering the deployment of Advanced Metering Infrastructure (AMI). This initiative would modernize and allow two-way communication with the meters by way of a network. The project is expected to provide significant benefits to customers by reducing meter reading and call centre costs, and eliminating estimated bills while providing customers insight into their gas usage at a granular level to allow customers to make informed decision.

Question:

a) Has Enbridge Gas implemented a pilot project to test the deployment of AMI? If yes, please provide the details.

b) Will the entire metering infrastructure be moved to AMI or is the project expected to convert a subset of metering infrastructure?

c) Is the AMI project expected to be completed during the planning period (2021 to 2025)?

d) What is the estimated cost of the AMI project (if Enbridge Gas decides to proceed with the project)?

Response

a) No, there are no pilot projects that have been implemented to test the deployment of AMI. There are two pilot projects related to Integrated Resource Planning ("IRP"), but those installed ERTs (Encoded Receiver Transmitter) to existing meters. ERTs only allow for data to be sent from the meter set to a meter reader, not AMI which sends and receives data and therefore better enables IRP.

b) The proposed implementation of AMI is still being assessed.

c) The timing to roll out AMI is still being assessed but is unlikely to be completed within the 2021 to 2025 window.

d) Enbridge Gas is currently assessing the full cost for AMI.

ENBRIDGE GAS INC.

Answer to Interrogatory from
OEB Staff ("STAFF")

Interrogatory

Reference:

EGI Asset Management Plan, pp. 196 and 204, Investment Code: 6377

Wells at Crowland are much older than other wells. Most wells possess only two casings while the current standard requires a minimum of three casings. The Crowland storage pool in the Niagara region is used to balance natural gas demand in the local market. Enbridge Gas is currently evaluating local market options that may simplify the operation of the pool if sufficient market demand is available in the local distribution market. An integrity assessment of each well is required to determine if existing wells can be upgraded or will need to be abandoned. The condition of the Crowland compressor station facility is considered poor due to aging. Enbridge Gas intends to review alternatives regarding future operation of storage both with and without compression.

Question:

a) Please confirm that the total spending on the Crowland wells including compression renewal is $27.9 million for the planning period (2021 to 2025).

b) How many storage wells are currently operating at the Crowland facility? How many wells have been abandoned?

c) Is Enbridge Gas planning to abandon additional wells during the plan period (2021 to 2023)? If yes, please indicate the number of wells that will be abandoned?

d) If the Crowland operation proceeds without compression, what will be the estimated savings in capital spending?

Response

a) As stated in the Asset Management Plan, Enbridge Gas continues to evaluate the alternatives of operating Crowland storage with and without compression. The

recent review indicates the estimated total capital spend to renew Crowland storage, including both wells and compressor renewal, would be approximately $38 million for the period of 2021 to 2025, while the estimated total capital spend to renew Crowland assets without compression is approximately $28 million. Enbridge Gas is planning to proceed with the alternative to operate Crowland storage without compression.

b) As per Enbridge Gas Asset Management Plan, Exhibit C, Tab 1, Schedule 1 , page 204, there are currently 16 storage wells and 8 observation wells operating at the Crowland storage facility. Two other storage wells have been previously abandoned at Crowland.

c) Enbridge Gas's current plan is to abandon the existing 8 observation wells and 4 storage wells and replace them with 8 new observation wells and 2 new storage wells during the plan period. The exact timing of the well abandonment will be dependent on the result of the new well installation.

d) From the recent economic analysis of the alternatives, the difference of capital spending required for asset renewal between Crowland storage with compression and without compression is approximately $10 million in the period 2021-2025.

ENBRIDGE GAS INC.

Answer to Interrogatory from
OEB Staff ("STAFF")

Interrogatory

Reference:

EGi Asset Management Plan, Section 5.8 – Technology and Information Services

The Technology Information Services (TIS) asset class includes the hardware, software and communications subclasses. In response to OEB staff interrogatory #67 in EB-2018-0305, Enbridge Gas indicated that it had not yet completed a detailed review of the EGD and Union Gas rate zones' Information Technology (IT) business applications. In response to OEB staff interrogatory #20 in EB-2019-0194, Enbridge Gas indicated that the review has been completed.

Question:

a) Please outline the revisions to the Asset Management Plan and the capital budget that resulted from the detailed review of TIS.

b) Did Enbridge Gas implement any packaged or custom-built applications that resulted solely from the amalgamation between EGD and Union Gas? If yes, please provide details including costs.

c) Did Enbridge Gas discontinue the use of certain software applications as a result of the amalgamation? If yes, please provide details including when amounts were last spent on the particular application.

Response

a) The Asset Management Plan reflects the revised portfolio. TIS capital portfolio review will be an ongoing process as more information becomes available to address the business priorities of the company.

   For legacy Union, there was a net reduction of $25.8 million in total TIS capital expenditures as integration investments were removed from the budget.

#	Legacy Union TIS Investment changes	AMP Capital Cost (2021) $ millions	Revised Capital Cost (2021) $ millions	Difference $ million
1.	Banner Enhancements	2.1	0	(2.1)
2.	Classify Allocation Report and Exchange (CARE) Application Replacement	11.2	0	(11.2)
3.	Construction Administration Records Systems (CARS) application Replacement	7.2	0	(7.2)
4.	Corrosion Application Replacement	2.0	0	(2.0)
5.	Service Suite Application Upgrade	1.0	0	(1.0)
6.	Geographic Information Services (GIS) Application Enhancements	0.75	0	(0.75)
7.	Material Traceability Application Project	0.75	0	(0.75)
8.	Cloud Applications Upgrade	0.60	0	(0.60)
9.	Enterprise Data Warehouse	0.20	0	(0.20)
	Subtotal	25.8	0	(25.8)

For legacy EGD, adjustments were made to the portfolio and there was a net increase to the total TIS capital expenditures. There was $6.8 million increase from $21.5 million to $28.3 million largely due to allocation of overheads ($5.2 million) and Meter Reading Handheld Replacement Project ($1.5 million). The cost pressures driving the increase are being managed through the Asset Management process.

b) Enbridge Gas implemented Bill Print and Presentment Project for $107,269 in 2020 funded by integration capital. The implementation moved Legacy Union bill print

processing and composition to Kubra resulting in a single bill image for Enbridge Gas customers.

c) These are the software licensing that Enbridge Gas discontinued as a result of the amalgamation and the associated maintenance cost savings:

i. LMKR - Geographix
   - Consolidated licensing for Legacy EGD and Legacy Union to a single contract and eliminated redundant licensing
   - Savings of $34,000/ year in license maintenance costs starting in 2020

ii. IHS Markit - Welltest
   - Consolidated licensing for Legacy EGD and Legacy Union to a single contract and eliminated redundant licensing
   - Savings of $5,500/ year in license maintenance costs starting in 2020

iii. Legacy Union Bill Print
   - Moved Legacy UG bill print processing and composition to Kubra resulting in a single bill image for Enbridge Gas customers.
   - Savings of $8,000/year in license maintenance costs starting in 2021.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Vulnerable Energy Consumers Coalition ("VECC")

Interrogatory

Reference:

Exhibit B, Tab 2, Schedule 1

Question:

a) Please reconcile the 2019 distribution revenues shown in Table for the EGD rate zones with the revenues shown for 2019 for EGI used to calculated the earning sharing in EB-2020-0134 (EGI Utility Income Table Exhibit B, Tab 1, Schedule 2, page 1).

Response

The two sets of referenced revenues are not comparable / analogous. Therefore, Enbridge Gas is not able to reconcile the 2019 revenues shown in Table 4 at Exhibit B, Tab 2, Schedule 1, Page 11 with the 2019 revenues shown in EB-2020-0134 (EGI Utility Income Table, Exhibit B, Tab 1, Schedule 2, Page 1).

The 2019 actual revenues shown in EB-2020-0134 are based on the 2019 Board-approved rates charged to customers, include revenues that recovered gas costs (i.e. gas cost revenues), are not weather normalized, and contain other reconciling amounts (i.e., offsets to amounts recorded in deferral accounts, Federal Carbon Charge facility revenues, etc.) reflected in actual results.

The 2019 revenues shown in Table 4 are used to derive the 2021 growth factor "g" in the Board-approved ICM Threshold formula. Table 4 shows the derivation of the growth factor for 2021.

It is important to recall that the growth factor "g" is calculated by comparing the percentage difference in annual revenues between the most recent complete year and the base year, while keeping the rates constant (i.e. frozen) at the base year level. This ensures that the growth factor only captures the change in revenues because of growth

and not due to change in rates. The revenues used in the derivation of the growth factor "g" exclude gas cost revenues.

Specifically, the 2021 growth factor for the EGD rate zone has been calculated by comparing the percentage difference in annual revenues between 2019 (the most recent complete year) and 2018 as the approved base year revenues. The revenue amounts for the EGD rate zone are calculated at the 2018 base year rates.

The 2021 growth factor for the Union rate zones has been calculated by comparing the percentage difference in annual revenues between 2019 (the most recent complete year) and 2013 as the approved base year revenues. The revenue amounts are calculated at the 2013 base year rates.

Further, to determine the revenue from general service rate classes, Enbridge Gas used the actual customer count and held the normalized average consumption/average use ("NAC/AU") per customer constant with the NAC/AU in base rates. This approach is consistent with the calculation of general service revenue in the 2019 and 2020 growth factor calculation. Enbridge Gas calculated the 2019 revenue from contract rate class using actual volumes, as contract-rate customers are generally less weather sensitive and have a higher proportion of fixed cost recovery as compared to general service customers.

Given that the revenues referenced in the question are based on different parameters and are not conceptually / practically comparable, the Company cannot carry out the requested reconciliation.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Vulnerable Energy Consumers Coalition ("VECC")

Interrogatory

Reference:

Exhibit B, Tab 2, Schedule 1, page 12, Table 5

Question:

a) Is line 1 of Table 5 which shows EGD's **2013 Board Approved** rate base and depreciation (6,246 and 305 respectively) the 2013 amounts or the **2018** amounts as described in paragraph 27 of the same page?

Response

The Rate Base and Depreciation amount as provided in Table 5 for the EGD rate zone was inadvertently described as 2013 Board-Approved. These are the 2018 Board-Approved amount as described in paragraph 27.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Vulnerable Energy Consumers Coalition ("VECC")

Interrogatory

Reference:

Exhibit B, Tab 2, Schedule 1, page 16

Preamble:

The Board's 2014 ACM Report does not preclude disallowance of an ICM if a utility is overearning by an amount less than 300 basis points. The policy does allow distributors "*the option of explaining any overearning*." (Report of the Board, EB-2014-0219, September 18, 2014, page 16).

Question:

a) Please explain the rationale for seeking further funding from ratepayers when the EGD rate zone are providing earnings earnings above the Board approved cost of capital rate.

Response

a) As per the ICM policy, a distributor must pass the Means Test[1] for ICM eligibility. Under the Means Test, if a distributor's regulated return on equity (ROE) in its most recent calculation exceeds 300 basis points above the deemed ROE embedded in the distributor's rates, then the funding for any incremental capital project will not be allowed. Enbridge Gas filed its most recent regulated return in EB-2020-0134, which included its 2019 utility results. Enbridge Gas's 2019 actual ROE was 149.5 basis points above the 2019 Board-approved ROE and has therefore satisfied the Means Test for ICM eligibility as the most recent regulated return did not exceed 300 basis points above the Board-approved ROE. Also, please see the Board's decision in EB-2018-0305[2] on the Means Test.

[1] EB-2014-0219 Report of the OEB – New Policy Options for the Funding of Capital Investments: The Advanced Capital Module, September 18, 2014, p.15.
[2] EB-2018-0305, Decision and Order, dated September 2019, p.26

ENBRIDGE GAS INC.

Answer to Interrogatory from
Vulnerable Energy Consumers Coalition ("VECC")

Interrogatory

Reference:

Exhibit B, Tab 2, Schedule 4, page 2 of 15 – St. Laurent

Preamble:

EI provided this response in the EB-2020-0134 with respect to financial reporting: *The new reporting format is the result of harmonizing organization structures and the restatement of operating cost categories for the amalgamated utility. This reporting format is utilized by management of Enbridge Gas since operating as a single entity began in 2019. O&M expenses are no longer tracked and analyzed along legacy zone-specific basis but are viewed as a whole for Enbridge Gas*. (EB-2020-0134 Interrogatory Response Exhibit I.EP.3)

Question:

a) Given the consolidated operations does it then follow that all retained earnings and other resources of the merged utility are available to both EGI and Union rate zones for capital and operating purposes. If so, would it then be more appropriate to use consolidated earnings for the purpose of calculating the ICM threshold?

b) Please provide a table showing the 2019 consolidated (EGD and Union zone) earnings showing the material revenue and cost categories.

Response

a) Consolidated Earnings are not an input in the calculation of the ICM threshold. Please see section 4.5 of the "Report of the Board: New Policy Options for the Funding of Capital Investments: Supplemental Report, EB-2014-0219" for the ICM Threshold Formula. Also, as per the MAADs decision, the Board stated that the ICM threshold is to be "calculated individually for both Union Gas and Enbridge Gas"[1].

[1] EB-2017-0306/EB-2017-0307, Decision and Order, August 30, 2018, p.33

b) EGI's 2019 actual utility results have been presented within the EB-2020-0134 proceeding. For reference, utility earnings (or net income applicable to common equity) was presented as part of Exhibit B, Tab 1, Schedule 1 of that proceeding, while details of material revenue and cost categories were shown throughout the remainder of the B series of exhibits in that proceeding.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Vulnerable Energy Consumers Coalition ("VECC")

Interrogatory

Reference:

Exhibit B, Tab 2, Schedule 1, page 19 – St. Laurent

Question:

a) Please provide a table showing for each of the four phases of the St. Laurent project showing:
   i. the capital investments (actual/forecast) for each phase of the St. Laurent pipeline project showing for each phase: materials/ construction/ labour/contingences/interest during construction and indirect overheads)
   ii. the forecast (or actual) start and in-service date for each phase
   iii. a (short) description of each phase i.e.: pipeline length/NPS and point-to-point locations.
   iv. Whether the phase requires leave-to-construct approval and whether that approval has been filed for and granted.
   v. Please explain the relationship between each of these phases and the amounts shown in Investment Summary Reports Codes 10290, 10288, 10292.
   vi. Please list all the Summary Report Codes related to this project and as set out in Appendix 7 (PDF 445) EGI Asset Management Plan 2021-2025.

Response

a) Refer to Exhibit I.EP.6 a).

ENBRIDGE GAS INC.

Answer to Interrogatory from
Vulnerable Energy Consumers Coalition ("VECC")

Interrogatory

Reference:

Exhibit B, Tab 2, Schedule 1, page 19/ Decision and Order EB- 2019-0006, September 26, 2019. – St. Laurent

Preamble:

The Board made the following findings and comments in the above noted decision (page 8):

- *The OEB is concerned that the Proposed Project will only be required if the new XHP St. Laurent pipeline is approved.*
- *The OEB has not been able to test all of the typical considerations of a leave to construct project. To be clear the OEB has not assessed the prudence of the costs of the Proposed Project. Enbridge will need to defend the prudence at the rate proceeding where Enbridge Gas seeks inclusion of this investment in their rate base or recovery of costs.*
- *The OEB expects that approvals for the remaining multi-phases of the St.* ***Laurent Project will be dealt with on a comprehensive basis****, and that the OEB will not be seeing separate applications for leave to construct individual phases of the project in the future. The single application covering the remaining phases should be filed to meet Enbridge Gas' timelines and allow the OEB to complete its review using normal decision metrics.*
- *The OEB expects there will be better opportunities for the potentially impacted Indigenous communities to engage as part of the new XHP St. Laurent pipeline project*. (emphasis added)

Question:

a) Please explain how EGI has fulfilled the requirement or addressed the concerns of the Board in its EB-2019-0006 Decision.

b) If the Board approves the proposed related ICM is it also providing a ruling on the prudence of the project?
c) Please address the comments of the Board which imply that need for the project is yet to be determined (bullet point 1).

Response

a) Enbridge Gas will be fulfilling the requirements and addressing the concerns of the Board from the EB-2019-0006 decision by filing a comprehensive Leave to Construct application for Phase 3 and Phase 4 of the St. Laurent Project. This application will include all remaining work required as part of the St. Laurent Project.

b) Please see I.PP.3 a). A ruling on the prudence of the project will be made as part of the comprehensive Phase 3 and Phase 4 Leave to Construct application.

c) The need for the project will be further detailed as part of the comprehensive Phase 3 and Phase 4 Leave to Construct application. It is expected that this application will be filed early in 2021.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Vulnerable Energy Consumers Coalition ("VECC")

Interrogatory

Reference:

Exhibit B, Tab 2, Schedule 1, page 119

Question:

a) The St. Laurent NPS 12 project is for 9 kms of pipe. How many pipelines of a similar or greater size and a similar or greater distance has EGI put into service in the last 5 years in either the EGD or Union rate zones?

Response

a) The number of pipelines of a similar or greater size and a similar or greater distance as the St. Laurent project that Enbridge Gas has put into service in the last 5 years are as follows:
   - EGD Rate Zone: 1
   - Union Rate Zones: 5

ENBRIDGE GAS INC.

Answer to Interrogatory from
Vulnerable Energy Consumers Coalition ("VECC")

Interrogatory

Reference:

Exhibit B, Tab 2, Schedule 1, page 20-23 – London

Question:

a) Please provide an update to EB-2020-0192 Exhibit F, Tab 1, Schedule 1 page 1 showing the London Line Replacement Project Total Estimated Project Capital Costs.
b) Please describe the incremental activities and their costs which are incurred and being allocated to overheads to this project.
c) Please show the original (EB-2020-0192) and current detailed derivation of overhead costs.

Response

a) Please see Exhibit.I.CME.2 c).

b) The inclusion of indirect overheads as part of the total project cost represents the fully burdened cost of the project. This is consistent with the Board's decision on the inclusion of indirect overheads for ICM project costs (Decision and Order EB-2018-0305). There are no specific incremental activities as a result of the London Line Replacement project, rather the indirect overheads represent the allocation of all capital related support costs such as Engineering, Finance, Human Resources, etc. required to support the completion of the project.

c) The overheads presented in the EB-2020-0192 LTC application for the London Line Replacement Project are $30.2M. The overheads presented in EB-2020-0181 (this proceeding) are $27.2M. Overheads are calculated during the annual budget process and are based on total direct capital spend and total indirect overheads expected. The calculated overhead percentage is applied to all capital projects by year of spend. Please see the tables below. The amounts in the LTC filing are

based on a draft version of the AMP and budget. The overheads presented in the ICM evidence represent the final version of the AMP and budget.

London Line Replacement Project
Total Estimated Project Capital Costs
EB-2020-0192

Category ($000's)		Total	Average OH %
Materials	$	7,564	
Construction & Labour		109,323	
Contingencies		15,964	
Interest During Construction		1,058	
Indirect Overhead		30,189	22.5%
Total Estimated Capital Costs	**$**	**164,098**	

London Line Replacement Project
Total Estimated Project Capital Costs
EB-2020-0181

Category ($000's)		Total	Average OH %
Materials	$	7,564	
Construction & Labour		109,323	
Contingencies		15,964	
Interest During Construction		1,058	
Indirect Overhead		27,155	20.3%
Total Estimated Capital Costs	**$**	**161,064**	

ENBRIDGE GAS INC.

Answer to Interrogatory from
Vulnerable Energy Consumers Coalition ("VECC")

Interrogatory

Reference:

Exhibit B, Tab 2, Schedule 1, page 25 / EB-2019-0218 – Sarnia

Preamble:

Enbridge Gas stated that the total estimated cost of the Project is $30.8M, which includes $2.9M in indirect overhead costs. This comprises $23.4M in pipeline costs and $7.3M for station costs. (Decision and Order, EB-2019-0218, March 12, 2020 page 6)

Question:

a) The project is listed in the evidence as having a budget of $32.9 million. Please explain the $2.1 million variance.
b) Please explain how overheads are considered an incremental cost for this ICM project. Specifically, please provide the budget showing the incremental activities incurred which are being included in this budget as overheads.

Response

a) The $2.1 million variance is due to an increase in the estimated indirect overheads that will be allocated to the project. There are no changes to the direct capital spend on the project. See Exhibit I.APPrO.2.

b) The inclusion of indirect overheads as part of the total project cost represents the fully burdened cost of the project. This is consistent with the Board's decision on the inclusion of indirect overheads for ICM project costs (Decision and Order, EB-2018-0305). There are no specific incremental activities as a result of the Sarnia Industrial Line Reinforcement project, rather the indirect overheads represent the allocation of all capital related support costs such as Engineering, Finance, Human Resources, etc. required to support the completion of the project.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Vulnerable Energy Consumers Coalition ("VECC")

Interrogatory

Reference:

Exhibit B, Tab 2, Schedule 1, pages 4-5

Question:

a) Please explain why Tables 1 and 2 showing 2016-2025 capital expenditures by category for each rate zone do not include overhead forecasts for the period 20121-2025.

Response

a) Please see Exhibit I.EP.14 a).

ENBRIDGE GAS INC.

Answer to Interrogatory from
Vulnerable Energy Consumers Coalition ("VECC")

Interrogatory

Reference:

Exhibit C, Tab 1, Schedule 1, pages 38-39

Preamble:

EGI explains that the IRP Framework being considered in EB-2020-0091 will "*enable consideration of IRPAs as part of the utility asset management planning process going forward*." This proceeding is scheduled for a hearing in early March 2021 (EB-2020-0091 Procedural Order No. 7).

Question:

a) Has EGI's IRP proposal been integrated into the Utility System Plan filed in this proceeding? If yes, please explain what impacts this proposal had on the plan.
b) If it has not been integrated as part of the Plan, please explain what impacts are expected to the Plan upon acceptance and integration of an IRP component. Specifically, please comment on the precision of the estimates with and without IRP consideration.

Response

a) Enbridge Gas's IRP proposal has not been integrated into the Utility System Plan.

b) Enbridge Gas cannot speculate on the nature of the IRP framework that may be approved by the Ontario Energy Board and as such cannot explain the impacts of such a framework. Enbridge Gas acknowledges that the IRP Framework approved by the Board may impact future facilities planning, and would therefore have impact on the Utility System Plan.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Vulnerable Energy Consumers Coalition ("VECC")

Interrogatory

Reference:

Exhibit B, Tab 2, Schedule 1, pages 4-5

Question:

a) EGI has used the standard electric distribution cost categories of /General Plan/System Service/System Access/System Renewal. Within which of those categories does those categories does EGI include Transportation and Storage capital costs?
b) Please explain why it is not more transparent (better) to segregate Storage and Transportation costs from those other categories which address strictly distribution services, but also include ex-franchise costs.

Response

a) Transportation and Storage capital costs can be found in the following categories as per Exhibit C, Tab 1, Schedule 1, Table 2:

- System Access – Transmission Pipe & Underground Storage Growth Projects
- System Renewal – Transmission Pipe & Underground Storage Improvements and Replacements
- System Service – Transmission Pipe & Underground Storage Integrity
- General Plant – Transmission Pipe & Underground Storage Land and Structure Improvements

b) The categories listed in a) only include in-franchise Transmission Pipe and Underground Storage projects. All ex-franchise projects are unregulated and are not included in the Utility System Plan.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Vulnerable Energy Consumers Coalition ("VECC")

Interrogatory

Reference:

Exhibit C, Tab 1, Schedule 1, pages 55-61 Asset Management Plan 2021-2025 Table 6.1-1 page 253

Question:

a) Please provide the criteria EGI applied to derive the list of Potential ICM projects shown in Table 4.
b) Figures 11-13 show no ICM projects post 2023. Please explain why?
c) Does EGI only consider projects with a capital cost above $10 million to be eligible for ICM treatment?
d) Table 6.1-1 also states "*ICM eligibility does not confirm that EGI will seek ICM recovery for these projects*." Under what circumstances will EGI not seek ICM recovery for projects it considers ICM eligible?

Response

a) Enbridge Gas applies the ICM eligibility criteria[1] of Materiality, Needs and Prudence when determining ICM eligible projects. Please see the Asset Management Plan at Exhibit C, Tab 2, Schedule 1, Table 6.1-1.

b) Please see Exhibit I.EP.1 b).

c) Please see response to part a).

d) Whether Enbridge Gas will seek ICM recovery for these projects will depend on the capital needs as determined by the Asset Management Plan and the ICM materiality threshold in any given year during the deferred rebasing period.

[1] EB-2014-0219 Report of the OEB – New Policy Options for the Funding of Capital Investments: The Advanced Capital Module, September 18, 2014

ENBRIDGE GAS INC.

Answer to Interrogatory from
Vulnerable Energy Consumers Coalition ("VECC")

Interrogatory

Reference:

Exhibit C, Tab 1, Schedule 1, pages 65-66

Question:

a) Figure 14 shows the 2012-2019 **Investment Portfolio** results for the Union and EGD investments. Those results show the PI being approximately between 1.5 and 1.00. Figure 15 shows the **Rolling Project Portfolio** PIs for the period 2008 to 2019. During the similar period as Figure 14 (2012- 2019) the Rolling Portfolio PI is significantly higher than that of the Investment Portfolio (closer to 1.5). Please explain why. Specifically, please explain why the PIs for both types of portfolios are not (roughly) the same over time. That is, why do does the investment portfolio based on attachments for a test year and with a targeted PI of 1.0 not equal over time the 12-month rolling portfolio which has the same threshold of 1.0? Do these portfolios (over time) measure the same projects?

Response

The PIs of both type of portfolios are not expected to be same for the following reasons:

- Investment Portfolio (IP) includes the cost and revenue associated with new customers attaching in a test year including infills (attaching to existing mains).
- Rolling Project Portfolio (RPP) on the other hand includes cost and revenues of all future customer attachment up to 10-years. RPP excludes infill customers.

In Investment Portfolio calculations, the revenue is limited to only test-year customers and future customers are not included in RPP calculations. Also, the cost per customer for infills which are included in Investment Portfolio (and not in RPP) is higher relative to other customer segments. These factors make the PI of Investment Portfolio lower relative to the Rolling Project Portfolio.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Vulnerable Energy Consumers Coalition ("VECC")

Interrogatory

Reference:

Exhibit C, Tab 1, Schedule 1

Question:

a) In considering an ICM proposal the Board generally considers the pacing of other capital programs over the period of the utility's 5-year capital plan. Please explain how EGI considered pacing of projects in its Utility System Plan in order to mitigate the need for ICM projects.

Response

a) Enbridge Gas does include a consideration of pacing for certain proactive programs such as MOP Verification and AMP fittings (Exhibit C, Tab 2, Schedule 1, Page 97 and 123), in order to mitigate the need for ICM projects. However, for some significant investments, there is no ability to mitigate the need for ICM projects through pacing. Capital investments are driven by asset class strategies, which include program work that has sufficient risk and/or history to warrant continuation that is supported by base rate, and projects that are of significant scope that cannot be constructed economically without an ICM rate adjustment. Projects of significant scope includes reinforcement projects needed to provide supply to a significant part of the franchise/customer area, significant maintenance projects that cannot be accommodated through a re-prioritization of other capital spending and significant real estate investments. Please see Exhibit C, Tab 1, Schedule 1, Table 4 and 5 for examples of these projects. Please see also Exhibit I.SEC.1.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Vulnerable Energy Consumers Coalition ("VECC")

Interrogatory

Reference:

Exhibit C, EGI Asset Management Plan 2021-2025, page 235

Question:

a) Please amend Tables 5.7-6 and 5.7-7 (Fleet and Equipment) to show the amounts for 2016 through 2020.

Response

a) This information is contained in the AMP at Exhibit C, Tab 2, Schedule 1, page 276.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Vulnerable Energy Consumers Coalition ("VECC")

Interrogatory

Reference:

Exhibit C, EGI Asset Management Plan 2021-2025, page 251

Question:

a) Please amend Tables 5.8-6 and 5.8-7 (TIS Capital Summary) to show the amounts for 2016 through 2020.

Response

a) This information is contained in the AMP at Exhibit C, Tab 2, Schedule 1, page 277.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Vulnerable Energy Consumers Coalition ("VECC")

Interrogatory

Reference:

Exhibit C, EGI Asset Management Plan Appendix (PDF pgs. 446-), page 251

Question:

a) Please create a table for years 2021 to 2025 by categories System Access/System Service/System Renewal/General Plant (i.e., in the format shown in Tables 1 and 2 at B/T2/S1/pgs. 4-5) which includes all the projects in the Investment Summary Report and shows: Investment Code, Investment Name and Base Capex, NPV and Net Base Capex.

b) Please reconcile any variances as between that table and the amounts shown in Table 1 & 2 at Exhibit B, Tab 2, Schedule 1, pages 4-5.

c) Please provide an explanation and numerical example showing how the NPV and Net Base Capex of an Investment Project is calculated.

Response

a) Please see Attachment 1, a report from C55 which shows the Investment Code, Investment Name, Base Capex, NPV, and Net Base Capex.

b) Tables 1 & 2 in Exhibit B, Tab 2, Schedule 1 represent Capital Expenditure in 2016-2019 and In-Service Capital in 2020-2025.

   The Tables in Attachment 1 represent Capital Expenditure in each year and do not include project overheads.

   The Net Present Value that is shown in Attachment 1 represents the NPV over the whole Investment whereas the Base Capex and Net Capex in the attachment are shown in the years 2021-2025.

c) The Base Capex and the Net Base Capex are equal unless the project has a rebillable component (as a result of a municipal franchise or other agreement) or is subject to a Contribution in Aid of Construction. This can be seen in the Attachment 1 where the Base Capex and Net Base Capex are the same for all projects.

The NPV is Net Present Value of the sum of monetized Risk Reduction, Benefits, and Costs. The training documentation in Attachment 2 provides a worked example to determine the NPV.

			Base Capex (excl OH)					Net Present Value	Net Base Capex (excl OH)				
USP Investment Category	**Investment Code**	**Investment Name**	**2021 Base Capex**	**2022 Base Capex**	**2023 Base Capex**	**2024 Base Capex**	**2025 Base Capex**	**NPV**	**2021 Net Base Capex**	**2022 Net Base Capex**	**2023 Net Base Capex**	**2024 Net Base Capex**	**2025 Net Base Capex**
General Plant	**3634**	VPC-1	3,700,000	-	-	-	-	(5,925,926)	3,700,000	-	-	-	-
	3639	Kennedy Road Expansion	1,000,000	12,000,000	2,000,000	-	-	(17,334,254)	1,000,000	12,000,000	2,000,000	-	-
	3640	Station B New Building	15,500,000	-	-	-	-	(15,851,852)	15,500,000	-	-	-	-
	3642	SMOC/Coventry Facility Consolidation	8,000,000	12,000,000	10,825,000	-	-	(26,288,707)	8,000,000	12,000,000	10,825,000	-	-
	6087	New Mechanical Services Building	9,000,000	-	-	-	-	(5,430,811)	9,000,000	-	-	-	-
	8602	Operation Digital	2,000,000	-	-	-	-	10,232,705	2,000,000	-	-	-	-
	8701	Kelfield Operations Centre Obsolescence.	5,000,000	4,700,000	1,100,000	-	-	(9,532,338)	5,000,000	4,700,000	1,100,000	-	-
	8782	VPC Core and Shell Obsolescence	-	-	-	10,000,000	10,000,000	(11,965,850)	-	-	-	10,000,000	10,000,000
	48606	50 Keil Old 2nd Floor Renovations	4,700,000	-	-	-	-	(1,471,316)	4,700,000	-	-	-	-
	48607	50 Keil Old 3rd Floor Renovation	4,737,250	-	-	-	-	(7,186,343)	4,737,250	-	-	-	-
	48693	CS-Belleville PropertyPurch&En*C/O 2019*	5,833,333	520,833	-	-	-	(6,993,599)	5,833,333	520,833	-	-	-
	49978	2021- 484 Light and Medium duty vehicles	4,864,800	-	-	-	-	(4,504,444)	4,864,800	-	-	-	-
	49980	2021 - 485 Heavy Work Equipment	3,135,200	-	-	-	-	(2,902,963)	3,135,200	-	-	-	-
	100492	Dryden Operations Centre	3,000,000	500,000	-	-	-	(726,942)	3,000,000	500,000	-	-	-
	100607	Thunder Bay Regional Operations Centre	-	-	-	600,000	9,600,000	(3,038,944)	-	-	-	600,000	9,600,000
	101136	New Site No. 4	10,000,000	10,000,000	8,800,000	-	-	(19,338,724)	10,000,000	10,000,000	8,800,000	-	-
	101362	IT - 00 - Microsoft Enterprise Agreement 2021	2,100,000	-	-	-	-	(1,944,444)	2,100,000	-	-	-	-
	102060	2021 - OS - Transportation-Replacements	4,946,400	-	-	-	-	(4,580,000)	4,946,400	-	-	-	-
	102181	2021 - OS - Heavy Work Equipment	3,053,600	-	-	-	-	(2,827,407)	3,053,600	-	-	-	-
	102292	Nominations Application Replacement (2024-2025)	-	-	-	12,500,000	12,500,000	(17,695,163)	-	-	-	12,500,000	12,500,000
	102392	LUG Micro Operations Sites Program	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000	14,494,855	2,000,000	2,000,000	2,000,000	2,000,000	2,000,000
System Access	**19968**	[Low Carbon Energy Project]: TOC Hydrogen Blending Facility	2,184,735	-	-	-	-	(2,622,902)	2,184,735	-	-	-	-
	101995	Dawn Dehy Expansion (Core)	4,100,000	22,777,486	12,807,569	1,314,945	-	(34,457,904)	4,100,000	22,777,486	12,807,569	1,314,945	-

System Renewal	**1790**	Coniston Lateral Replacement	3,000,000	-	-	-	-	(2,777,778)	3,000,000	-	-	-	-
	1791	Augusta 8	6,000,000	-	-	-	-	(5,555,556)	6,000,000	-	-	-	-
	1811	SCOR:Meter Area-Upgrade (Phase 1)	12,898,501	-	-	-	-	(4,879,734)	12,898,501	-	-	-	-
	1938	Glenridge Avenue, St. Catharines	-	-	435,000	5,912,929	5,456,526	(8,367,776)	-	-	435,000	5,912,929	5,456,526
	2142	Sudbury section 1 Sturgeon River - other side	2,300,000	-	-	-	-	(2,129,630)	2,300,000	-	-	-	-
	2143	Sudbury Section 1 - Yellek	2,400,000	-	-	-	-	(2,222,222)	2,400,000	-	-	-	-
	3455	Harmer District Station	-	13,078,928	-	-	-	(11,213,073)	-	13,078,928	-	-	-
	3460	SCOR:60007-Fdn Blk-Replace	2,050,000	-	-	-	-	(1,898,148)	2,050,000	-	-	-	-
	3609	CONSUMERS RD	4,110,865	413,616	-	-	-	(5,317,687)	4,110,865	413,616	-	-	-
	6377	PCRW:Wells-Upgrade	-	-	-	443,352	1,290,371	(7,207,017)	-	-	-	443,352	1,290,371
	7061	BRAMPTON GATE	2,507,760	-	-	-	-	(2,362,000)	2,507,760	-	-	-	-
	8567	STJOHN SIDEROAD FEEDER	2,947,995	1,920,959	-	-	-	(4,559,188)	2,947,995	1,920,959	-	-	-
	10086	NPS 12 Martin Grove Rd Main Replacement (2019+)	6,818,951	-	-	-	-	(6,349,544)	6,818,951	-	-	-	-
	10088	NPS 20 Lake Shore Replacement (Cherry to Bathurst) (2019+)	64,118,854	39,315,232	-	-	-	(94,067,357)	64,118,854	39,315,232	-	-	-
	10288	St. Laurent Plastic - Lower Section	4,289,202	200,000	-	-	-	(4,152,951)	4,289,202	200,000	-	-	-
	10290	St. Laurent Plastic - Coventry/Cummings/St Laurent	2,581,554	1,081,020	-	-	-	(3,322,128)	2,581,554	1,081,020	-	-	-
	10292	St. Laurent Plastic (Montreal to Rockcliffe)	3,582,985	652,770	-	-	-	(3,882,224)	3,582,985	652,770	-	-	-
	10293	NPS 12 St. Laurent Aviation Pkwy	250,000	27,737,880	1,550,000	-	-	(25,442,683)	250,000	27,737,880	1,550,000	-	-
	10294	NPS 12 St. Laurent Queen Mary/Prince Albert	100,000	10,340,071	530,000	-	-	(9,448,268)	100,000	10,340,071	530,000	-	-
	11443	NPS 12 Martin Grove Rd Main Replacement: Lavington to St. Albans Rd.	-	-	400,000	17,292,755	600,000	(13,436,574)	-	-	400,000	17,292,755	600,000
	12957	SCOR:100MOD Hdr Valves-Replace	5,118,230	-	-	-	-	(4,839,102)	5,118,230	-	-	-	-
	13034	SCRW:Station-Renewal In-Place	-	5,629,668	12,171,192	5,495,028	4,607,196	(21,663,007)	-	5,629,668	12,171,192	5,495,028	4,607,196
	21947	Burleigh Rd Fort Erie - Replacement	3,641,872	-	-	-	-	(4,826,853)	3,641,872	-	-	-	-
	23230	Black Creek Rd and River Trail, Fort Erie - VPM Aldyl-A MP lined in steel	2,174,990	2,174,990	-	-	-	(3,939,405)	2,174,990	2,174,990	-	-	-

	48215	Trafalgar 26 - Branchton Class Location Replacement	7,155,661	-	-	-	-	(8,115,787)	7,155,661	-	-	-	-
	48318	WIND-03D-301 Leamington North Gate	5,489,637	-	-	-	-	(5,082,997)	5,489,637	-	-	-	-
	48691	Bruce Lake Lateral	5,000,000	-	-	-	-	(13,550,989)	5,000,000	-	-	-	-
	48715	Obsolete RB211-24A C Plant	-	16,212,000	69,636,000	40,908,000	4,200,000	(102,105,529)	-	16,212,000	69,636,000	40,908,000	4,200,000
	48732	Waubuno	-	-	867,043	11,540,651	482,106	(6,150,055)	-	-	867,043	11,540,651	482,106
	49058	WATE: Waterloo Gate Rebuild, Waterloo, Growth	2,011,601	-	-	-	-	(1,862,594)	2,011,601	-	-	-	-
	49459	HAMI - 20" Shorted Casing on Hwy 5 -Phase 1	2,946,000	-	-	-	-	(2,727,778)	2,946,000	-	-	-	-
	49607	LOND-London Lines Replacement	97,899,180	8,302,453	-	-	-	(101,814,948)	97,899,180	8,302,453	-	-	-
	100086	NPS 12 Detroit River Crossings	-	1,619,900	24,757,660	3,393,719	-	(23,536,717)	-	1,619,900	24,757,660	3,393,719	-
	100295	NPS 8 Port Stanley Replacement	-	-	480,000	20,161,920	-	(15,200,653)	-	-	480,000	20,161,920	-
	100504	Kipling Lake Shore - Phase 1	2,443,077	-	-	-	-	(1,294,978)	2,443,077	-	-	-	-
	100901	SCOR: K701/2/3 Reliability - Replacement	-	800,000	9,300,000	172,000,000	3,100,000	(136,603,453)	-	800,000	9,300,000	172,000,000	3,100,000
	101078	HALT- Milton Gate, Milton, Boiler Replacement	3,000,000	-	-	-	-	(2,777,778)	3,000,000				
	101343	A60: Sparks St, Ottawa, Replacement	2,305,000	2,305,000	2,305,000	2,203,580	-	(5,563,120)	2,305,000	2,305,000	2,305,000	2,203,580	-
	102128	Kirkland Lake Lateral	600,000	16,200,000	-	-	-	4,614,115	600,000	16,200,000	-	-	-
	103275	TIMM: Macassa Mine New Shaft #3 SMS	2,280,600	-	-	-	-	(2,111,667)	2,280,600				
	500440	SCOR:Meter Area-Upgrade (Phase 2)	2,434,760	18,884,388	-	-	-	(11,568,698)	2,434,760	18,884,388	-	-	-
System Service	**1024**	Rideau Reinforcement	-	-	268,000	5,348,000	47,070,000	(24,506,425)	-	-	268,000	5,348,000	47,070,000
	1213	York Region Reinforcement	2,656,000	15,400,000	280,000	6,260,000	1,280,000	(22,997,686)	2,656,000	15,400,000	280,000	6,260,000	1,280,000
	7732	AJAX Reinforcement	3,103,655	-	-	-	-	(2,982,124)	3,103,655	-	-	-	-
	12268	NPS 8 East Valley - Lancaster to Alexandria Pipeline - Retrofit/Replacement	1,260,864	-	-	-	-	(3,148,967)	1,260,864	-	-	-	-
	16744	Amaranth System Reinforcement	200,000	200,000	-	9,894,684	-	(6,871,221)	200,000	200,000	-	9,894,684	-
	16751	Thornton XHP reinforcement	-	3,669,622	7,266,014	-	-	(8,914,106)	-	3,669,622	7,266,014	-	-
	17365	NPS 8 Eagleson Rd (Kanata) Retrofit for ILI	2,857,440	-	-	-	-	(4,145,778)	2,857,440	-	-	-	-
	22444	NPS 12 & NPS 8 Blackhorse Gate to Chippewa Creek NW8983 Retrofit	2,436,291	1,447,592	-	-	-	(3,496,902)	2,436,291	1,447,592	-	-	-

22445	NPS 12 & NPS 8 Blackhorse to Forks Rd NW8980 Retrofit	3,433,404	3,281,109	-	-	-	(5,992,100)	3,433,404	3,281,109	-	-	-
23189	Almonte Reinforcement - Phase 2	3,760,000	-	-	-	-	(3,881,481)	3,760,000	-	-	-	-
48248	INTE: Owen Sound Section 5: Replace Road Crossing for 2021 ILI	2,700,000	-	-	-	-	(4,000,366)	2,700,000				
48252	INTE: North Shore - Section A (TBD) : Retrofit ECDA to ILI	12,000,000	-	-	-	-	(11,411,111)	12,000,000	-	-	-	-
48257	INTE: Dawn - Cuthbert - ECDA to ILI Retrofit NPS 42, 34, 26	1,000,000	23,600,000	-	-	-	(21,559,122)	1,000,000	23,600,000	-	-	-
48654	2021 Dawn Parkway Expansion Project (Kirkwall-Hamilton NPS 48)	-	171,097,289	4,973,539	-	-	(155,052,376)	-	171,097,289	4,973,539	-	-
48657	SIL Reinf Proj - Phase 1 - DowVS to BWVS	18,161,923	1,038,370	-	-	-	(18,987,323)	18,161,923	1,038,370	-	-	-
48658	2023 Sarnia Expansion Project- SIL Expansion Build A1 - 100 TJ	281,562	281,562	2,377,968	58,606,438	2,940,670	(47,468,659)	281,562	281,562	2,377,968	58,606,438	2,940,670
48659	2023 Sarnia Expansion Project - SIL Customer Facility	-	10,110	31,853	11,217,088	471,088	(8,599,463)		10,110	31,853	11,217,088	471,088
48660	2023 Sarnia Expansion Project- SIL Expansion Build A2 - 150 TJ	-	500,000	1,500,000	31,500,000	500,000	(25,113,150)		500,000	1,500,000	31,500,000	500,000
48661	SIL Reinf Proj - Phase 1 - Novacor Stn	6,421,822	34,357	-	-	-	(6,035,064)	6,421,822	34,357	-	-	-
48757	Dunnville Line ReinforcementLoop 10" reinforcement from outlet of Caledonia Trans, ending at Stoneman Rd	600,000	8,500,000	-	-	-	(4,337,382)	600,000	8,500,000	-	-	-
49004	Byron Transmission Stn Rebuild 13N-501	8,050,000	-	-	-	-	(7,953,704)	8,050,000	-	-	-	-
49116	NBAY: Install 12.5 km of NPS 6, Parry Sound	-	-	15,000,000	-	-	(10,730,406)	-	-	15,000,000	-	-
49773	WATE - 2025 Owen Sound Reinforcement	-	-	141,000	4,580,000	77,000,000	(50,149,743)	-	-	141,000	4,580,000	77,000,000
49774	NPS 10 Goderich Looping	-	-	-	67,341	2,170,347	(11,557,680)	-	-	-	67,341	2,170,347
49793	Sudbury Transmission - 2 x 2100 HP Compressor upstream of coniston at Marten River takeoff	-	-	51,600,000	-	-	(27,030,191)	-	-	51,600,000	-	-
49796	Ingersoll Transmission Station Rebuild	500,000	7,870,000	-	-	-	(7,210,219)	500,000	7,870,000	-	-	-
49925	Greenstone *C/O 2018*	3,407,000	-	-	-	-	(3,654,630)	3,407,000	-	-	-	-
49929	WATE - Owen Sound Reinforcement Ph 4	1,920,625	-	-	-	-	(56,481,627)	1,920,625	-	-	-	-
100203	Customer Stratford Reinforcement	10,300,000	23,900,000	-	-	-	(12,109,053)	10,300,000	3,000,000	-	-	-
102211	INTE: Norwich South: ECDA to ILI	2,750,000	-	-	-	-	(2,546,296)	2,750,000	-	-	-	-

How Value is Calculated in C55

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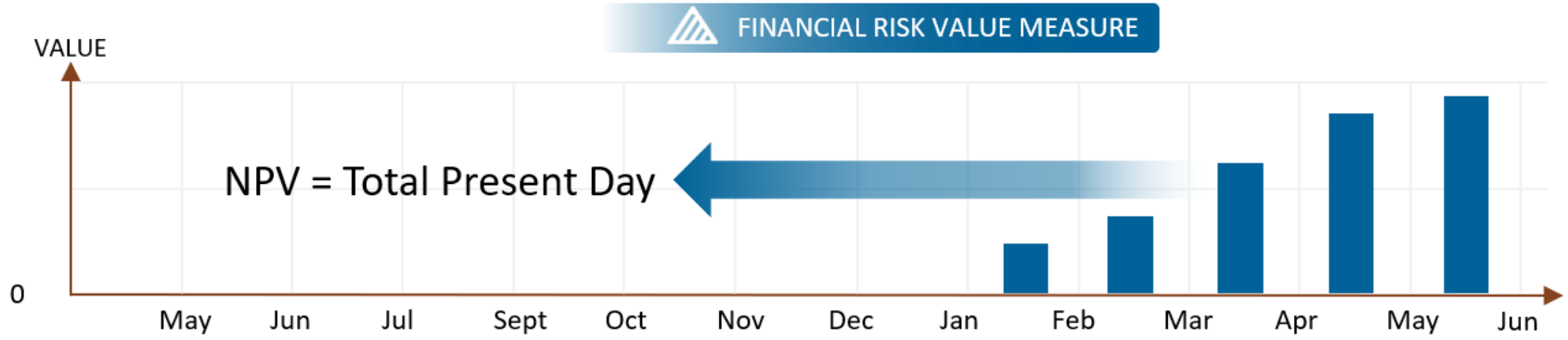
C55 Alternative Value

- Once each value for the value measure is calculated by the value model, the Net Present Value is calculated and summed to get the total value

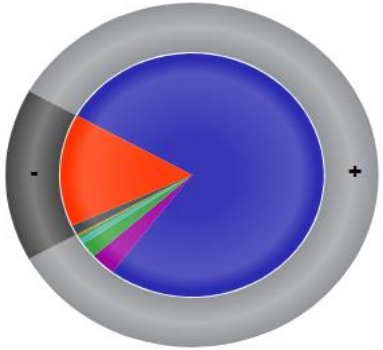
- This is done on a **monthly** basis



Total Alternative Value

- Summed Net Present Value (NPV) of each alternative = Total Alternative Value
  - Value Measures that are output from more than one model have their values summed

- Each value can have a positive or negative value (e.g. investment cost)



Value Measure	Value
Lost Generation Ri...	70,724.78
Compliance Risk	2,786.05
Environmental Im...	1,907.83
O&M Budget Savi...	677.23
Financial Benefits	457.67
Safety Risk	190.78
Project Execution ...	(1,147.93)
Total Investment C...	(13,674.12)
Total	61,922.29

How the Total Alternative Value is Calculated

Answer Value Model Questionnaires to estimate the **likelihood** and **consequence**

- **Consequence:** The measure of how great the benefit, cost or risk is.
- **Likelihood:** The frequency that the consequence will be occur.
- Consequence and Likelihood for each risk type model:
  - *Risk Light*: user specifies likelihood and consequence
  - *Risk Medium*: user is guided through questionnaires and C55 calculates the likelihood and consequence based on the programmed equations
  - *Risk Heavy*: calculated by the user outside C55 and imported to C55

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Example: Financial Risk Model - Questionnaires

Baseline Questionnaire | Outcome Questionnaire

Keenan Test Actuals
Financial Risk

Questionnaire: Financial Risk Baseline

All Time | Oct 2019 To No End Date

Oct 2019 To No End Date

1. What is the risk consequence?
   4 - Medium
2. Override: If available, what is the dollar value of the risk consequence? (Investment Currency)
3. What is the frequency of the risk?
   6 - Occurs several times in 10 years
4. Override: If available, what is the annual frequency of this risk occurring? (Events/Year)

Consequence Risk Matrix Selection

Likelihood Risk Matrix Selection

*Optional Risk Matrix Overrides

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Example: Financial Risk Model–Value Measure Output

In C55, for the Baseline and Outcome Scenario:

Value = Consequence * Likelihood

For Value Measures such as the Cost Avoidance value measures where the consequence is guaranteed, the total value is taken to be the consequence value (Likelihood set to 1)

Consequence and Likelihood

Consequence * Likelihood

Financial Risk - Financial Risk		
Baseline	Level	High
	Value Units	320.00
Consequence	Level	4 - Medium
	Value Units	3,200.00
Likelihood	Level	6 - Occurs several ti
	Events Per Year	0.100000

Consequence Only

Name	Unit	FY21
Enterprise General Risks Cost Avoidance OPEX (CA) -		
Outcome	CA$	$100
Consequence	CA$	$100
Likelihood	Events Per Year	1.000000

Value Measure Types

There are two types of ways that Value Measures are calculated:

- Baseline and Outcome Value Measures (Risk Value Measures)
  - The change in Outcome vs Baseline determines the value
- Outcome Only Value Measures (Benefit and Cost Value Measures)
  - The impact of the Outcome determines the value

Value Measures are defined as one of the two. They don’t change how they are calculated from Value Model to Value Model.

Value Measure Types

Baseline and Outcome	Outcome Only	
Risk	**Benefits**	**Costs**
Environmental Risk and Remediation	Avoided GHG Emissions	Total Investment Cost
Financial Risk	Avoided Reactive Replacement	Installation Gross Margin Impact
Gas Storage Reliability	Budget Savings CAPEX	
IT And Facilities Capacity Risk	Budget Savings OPEX	
Operational Risk	Cost Avoidance CAPEX	
Public Safety Risk	Cost Avoidance OPEX	
Reputational Risk	Employee Productivity	
Operational Disruption Risk (Gas)	Energy Efficiency	
Operational Disruption Risk (Liquids)	Revenue Impact	

Baseline and Outcome Value Measures

The value used when calculating the total Net Present Value for Baseline and Outcome Value Measures is the **Change** (Baseline – Outcome)

Name	Unit	FY20	FY21	FY22
Financial Risk - Financial Risk				
Baseline	Level	High	High	High
	Value Units	320.00	320.00	320.00
Consequence	Level	4 - Medium	4 - Medium	4 - Medium
	Value Units	3,200.00	3,200.00	
Likelihood	Level	6 - Occurs several ti	6 - Occurs several ti	6 - Occurs
	Events Per Year	0.100000	0.100000	0.100000
Outcome	Level	High	Low	Low
	Value Units	320.00	0	0
Consequence	Level	4 - Medium	1 - Insignificant	1 - Insignificant
	Value Units	3,200.00	0	
Likelihood	Level	6 - Occurs several ti	1 - Not known to oc	1 - Not kno
	Events Per Year	0.100000	0	0
Change	Value Units		320.00	320.00

Baseline Value = Consequence * Likelihood

Outcome Value = Consequence * Likelihood

Change = Baseline - Outcome

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Outcome Only Value Measures

The value used when calculating the total Net Present Value for Outcome Only Value Measures is the **Outcome** value

Value = Consequence * Likelihood

Name	Unit	FY19
Financial Benefits And Costs Budget Savings CAPEX (CA) - Budge		
Outcome	CA$	$100,000
Consequence	CA$	$100,000
Likelihood	Events Per Year	1.000000

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Name	Unit	FY20	FY21	FY22
Financial Risk - Financial Risk				
Baseline	Level	High	High	High
	Value Units	320.00	320.00	320.00
Consequence	Level	4 - Medium	4 - Medium	4 - Medium
	Value Units	3,200.00	3,200.00	3,200.00
Likelihood	Level	6 - Occurs several ti	6 - Occurs several ti	6 - Occurs several ti
	Events Per Year	0.100000	0.100000	0.100000
Outcome	Level	High	Low	Low
	Value Units	320.00	0	0
Consequence	Level	4 - Medium	1 - Insignificant	1 - Insignificant
	Value Units	3,200.00	0	0
Likelihood	Level	6 - Occurs several ti	1 - Not known to oc	1 - Not known to oc
	Events Per Year	0.100000	0	0
Change	Value Units		320.00	320.00

To calculate the value for this project:

1) Change in Value Units per year is divided by 12 months to get the monthly value= 320/12=26.67 value unit per month
2) The monthly value is discounted to get the NPV – Each monthly NPV will be different depending on the number of months to be discounted for
3) The monthly NPV is summed up to the Total Net Value = 3558.55 (next slide)

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Net Present Value - Example

Summed Monthly Values

Months to Discount to get NPV

Calculated Monthly Value

	A	B	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM
1			Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22
2	Month #		24	25	26	27	28	29	30	31	32	33	34	35	36
3	Financial Risk	Value													
4	**Financial Risk**	22,080.00	26.67	26.67	26.67	26.67	26.67	26.67	26.67	26.67	26.67	26.67	26.67	26.67	26.67
5	*Present Value*	3,558.55	22.86	22.72	22.57	22.43	22.28	22.14	22.00	21.86	21.72	21.58	21.44	21.31	21.17
6															
7															
8	**Net Value**	**3558.55**													
9															
10	Discount Rate	8%													
11	Monthly Discou	1.0064340													

Month's NPV

Summed Net Present Value

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