EB-2022-0200

ONTARIO ENERGY BOARD

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

AND IN THE MATTER OF an Application by Enbridge Gas Inc., pursuant to section 36(1) of the *Ontario Energy Board Act, 1998,* for an order or orders approving or fixing just and reasonable rates and other charges for the sale, distribution, transmission and storage of gas as of January 1, 2024

COMPENDIUM OF THE SCHOOL ENERGY COALITION
(EGI – Capital Expenditures and AMP Panel)

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Table 1
Utility Rate Base & Capital Expenditures

Line No.	Particulars ($ millions)	Utility	2013 OEB-Approved	2013 Actual	2014 Actual	2015 Actual	2016 Actual	2017 Actual	2018 Actual
			(a)	(b)	(c)	(d)	(e)	(f)	(g)
1	Gross Property, Plant and Equipment	EGD	6,749.4	6,749.3	7,216.6	7,586.9	8,588.4	9,228.8	9,594.5
2	Accumulated Depreciation	EGD	(2,804.1)	(2,755.9)	(2,900.8)	(2,980.8)	(3,017.4)	(3,126.5)	(3,277.9)
3	Net Property, Plant and Equipment	EGD	3,945.3	3,993.4	4,315.8	4,606.1	5,571.0	6,102.3	6,316.6
4	Working Capital	EGD	216.7	299.8	385.5	473.7	338.0	362.9	412.6
5	Utility Rate Base	EGD	4,162.0	4,293.2	4,701.3	5,079.8	5,909.0	6,465.2	6,729.2
6	Capital Expenditures	EGD	449.9	517.8	612.3	1,015.4	593.9	431.4	413.3
7	Gross Property, Plant and Equipment	Union	6,361.5	6,401.2	6,674.3	7,029.5	7,683.0	8,628.2	9,398.6
8	Accumulated Depreciation	Union	(2,754.1)	(2,746.2)	(2,868.9)	(2,994.8)	(3,149.2)	(3,347.5)	(3,524.2)
9	Net Property, Plant and Equipment	Union	3,607.5	3,655.0	3,805.3	4,034.7	4,533.8	5,280.7	5,874.4
10	Working Capital	Union	196.8	198.2	225.8	235.5	254.1	210.5	148.5
11	Accumulated Deferred Income Taxes	Union	(69.7)	(69.3)	(54.7)	(41.8)	(29.5)	(17.3)	(4.5)
12	Utility Rate Base	Union	3,734.5	3,783.9	3,976.4	4,228.4	4,758.4	5,473.9	6,018.4
13	Capital Expenditures	Union	347.7	368.2	476.9	691.3	1,034.0	721.0	519.2
14	Total Utility Rate Base	Combined	7,896.5	8,077.1	8,677.7	9,308.2	10,667.4	11,939.1	12,747.6
15	Total Capital Expenditures	Combined	797.6	886.0	1,089.2	1,706.7	1,627.9	1,152.4	932.5

Table 2
Utility Rate Base & Capital Expenditures

Line No.	Particulars ($ millions)	Utility	2019 Actual (a)	2020 Actual (b)	2021 Actual (c)	2022 Actual (d)	2023 Bridge Year (e)	2024 Test Year (f)	
1	Gross Property, Plant and Equipment	EGI	19,765.5	20,582.1	21,539.8	22,585.9	23,716.5	24,736.3	/u
2	Accumulated Depreciation	EGI	(7,188.7)	(7,571.2)	(8,005.9)	(8,320.1)	(8,769.2)	(9,081.0)	/u
3	Net Property, Plant and Equipment(1)	EGI	12,576.8	13,010.8	13,533.9	14,265.9	14,947.3	15,655.3	/u
4	Allowance for Working Capital	EGI	562.3	551.2	687.7	1,115.5	689.4	557.0	/u
5	Utility Rate Base	EGI	13,139.0	13,562.0	14,221.6	15,381.4	15,636.7	16,212.3	/u
6	Capital Expenditures	EGI	1,087.4	1,007.4	1,310.8	1,437.1	1,427.2	1,470.3	/u

Note:
(1) 2023 Bridge Year forecast of Net Property, Plant and Equipment includes $66.9 million related to Dawn to Corunna, which is removed from the revenue deficiency as shown in Exhibit 2, Tab 5, Schedule 4, Table 12. /u
2024 Test Year forecast of Net Property, Plant and Equipment includes $343.0 million related to Dawn to Corunna, which is removed from the revenue deficiency as shown in Exhibit 2, Tab 5, Schedule 4, Table 12.

Table 1
Utility Capital Expenditures by Asset Class

Line No	Particulars ($ millions)	Utility(1)	2013 Actual	2014 Actual	2015 Actual	2016 Actual	2017 Actual	2018 Actual	2019 Actual	2020 Actual	2021 Actual	2022 Actual	2023 Estimate	2024 Test Year	2025 Forecast	2026 Forecast	2027 Forecast	2028 Forecast
			(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)
1	Compression Stations	EGI		36.7	44.2	19.9	22.6	50.4	25.5	26.5	42.3	106.8	239.2	38.9	71.9	116.7	45.1	19.2
2	Customer Connections	EGI		175.4	162.0	154.8	147.0	151.1	190.4	178.7	260.7	297.0	220.4	249.2	249.2	250.3	260.6	250.1
3	Distribution Pipe	EGI		119.6	120.5	144.0	144.2	139.8	175.1	192.8	447.2	477.5	261.9	368.3	333.3	268.7	292.3	316.4
4	Distribution Stations	EGI		27.2	32.6	38.7	38.9	38.1	39.7	61.4	91.2	97.1	149.3	120.6	109.8	111.4	106.5	116.3
5	Fleet & Equipment	EGI		28.6	22.1	7.8	18.9	15.3	26.3	20.2	26.7	30.6	25.5	35.0	36.4	40.5	53.6	52.3
6	Growth - Distribution System Reinforcement	EGI		49.6	62.6	42.3	37.3	117.1	144.1	70.0	48.5	69.4	54.9	105.1	173.0	40.8	8.3	10.3
7	Real Estate & Workplace Services	EGI		24.9	36.3	30.3	17.4	21.2	42.0	38.3	70.5	64.4	52.1	56.6	75.6	103.5	54.6	56.4
8	Technology Information Services (TIS)	EGI		48.5	46.8	42.6	50.1	56.6	48.9	22.7	22.8	28.1	63.7	112.4	88.7	76.9	48.1	54.1
9	Transmission Pipe and Underground Storage	EGI		20.7	41.7	13.0	21.5	58.2	20.3	33.5	79.5	96.8	280.7	171.7	99.3	204.0	128.6	169.9
10	Utilization	EGI		66.9	71.7	73.3	74.6	75.2	99.3	62.9	80.7	98.4	136.5	146.5	148.5	153.2	166.3	168.4
11	EA Fixed Overhead	EGI		13.7	17.0	17.3	17.1	15.8	17.8	19.5	25.4	27.0	21.7	21.9	22.2	22.5	22.9	23.2
12	Capitalized Overheads	EGI		199.1	210.7	212.5	209.8	207.0	215.2	220.9	-	-	-	-	-	-	-	-
13	Integration Capital	EGI		-	-	-	-	-	21.7	39.8	87.5	28.7	43.6	-	-	-	-	-
14	Community Expansion	EGI		-	-	-	-	-	17.1	20.9	17.4	14.2	14.0	24.4	27.4	11.2	7.0	7.3
15	GTA	EGI		172.4	551.1	114.8	4.8	-	-	-	-	-	-	-	-	-	-	-
16	WAMS	EGI		19.3	27.5	35.7	2.0	-	-	-	-	-	-	-	-	-	-	-
17	CPT	EGI		92.7	267.5	690.8	365.0	-	-	-	-	-	-	-	-	-	-	-
18	Other	EGI		3.0	0.3	1.2	2.5	0.2	3.9	(0.9)	10.5	1.1	42.0	40.8	35.7	35.7	35.7	35.7
19	Union Unregulated	EGI		(9.2)	(7.9)	(11.0)	(21.2)	(13.4)	-	-	-	-	-	-	-	-	-	-
20	Total		886.0	1,089.2	1,706.7	1,627.9	1,152.4	932.5	1,087.4	1,007.2	1,310.8	1,437.1	1,605.7	1,491.3	1,471.1	1,435.6	1,229.5	1,279.5

(1) 2013 to 2018 represents the combined values of EGD and Union.

Table 1
Utility Capital Expenditures by Asset Class

Line No.	Particulars ($ millions)	Utility(1)	2013 Actual (a)	2014 Actual (b)	2015 Actual (c)	2016 Actual (d)	2017 Actual (e)	2018 Actual (f)	2019 Actual (g)	2020 Actual (h)	2021 Actual (i)	2022 Actual (j)	2023 Bridge Year (k)	2024 Test Year (l)	2025 Forecast (m)	2026 Forecast (n)	2027 Forecast (o)	2028 Forecast (p)	
1	Compression Stations	EGI		13.9	26.8	19.9	22.6	10.6	25.5	26.5	42.3	106.8	321.8	46.3	64.3	50.3	127.6	19.2	/u
2	Customer Connections	EGI		175.4	162.0	154.8	147.0	151.1	190.4	178.7	260.7	297.0	286.3	304.1	248.1	256.9	254.0	250.1	/u
3	Distribution Pipe	EGI		119.6	120.5	144.0	144.2	139.8	175.1	192.8	447.2	477.5	237.5	357.1	414.4	282.7	250.2	316.4	/u
4	Distribution Stations	EGI		27.2	32.6	38.7	39.0	38.1	39.7	61.4	91.2	97.1	67.5	83.5	113.1	105.5	79.0	116.3	/u
5	Fleet & Equipment	EGI		28.6	22.1	7.8	18.9	15.3	26.3	20.2	26.7	30.6	8.9	31.5	35.4	40.1	45.7	52.3	/u
6	Growth - Distribution System Reinforcement	EGI		20.2	20.3	42.3	26.6	36.4	144.1	70.0	48.5	69.4	55.1	85.2	200.0	43.4	46.0	10.3	/u
7	Real Estate & Workplace Services	EGI		24.9	36.3	30.3	17.4	21.2	42.0	38.3	95.0	66.6	63.0	63.0	61.3	92.0	32.0	56.4	/u
8	Technology Information Services (TIS)	EGI		48.5	46.8	42.6	50.1	56.6	48.9	22.7	22.8	28.1	47.1	102.4	78.0	71.0	44.9	54.1	/u
9	Transmission Pipe and Underground Storage	EGI		12.1	26.8	13.0	21.5	18.5	20.3	33.5	79.5	62.6	79.0	69.2	144.8	201.5	268.4	169.9	/u
10	Utilization	EGI		66.9	71.7	73.3	74.6	75.2	99.3	62.9	80.7	98.4	160.7	152.3	160.1	172.6	152.0	168.4	/u
11	EA Fixed Overhead	EGI		13.7	17.0	17.3	17.1	15.8	17.8	19.5	25.4	27.0	25.6	39.8	40.8	41.9	43.0	23.2	/u
12	Capitalized Overheads	EGI		197.8	200.2	212.5	209.8	207.0	215.2	220.9	-	-	-	-	-	-	-	-	/u
13	Integration Capital	EGI		-	-	-	-	-	21.7	39.8	63.0	26.5	20.0	-	-	-	-	-	/u
14	Community Expansion	EGI		-	-	-	7.8	4.1	17.1	20.9	17.4	14.2	20.6	11.2	19.6	20.5	21.5	7.3	/u
15	GTA	EGI		172.4	551.1	114.8	4.8	-	-	-	-	-	-	-	-	-	-	-	
16	WAMS	EGI		19.3	27.5	35.7	2.0	-	-	-	-	-	-	-	-	-	-	-	
17	CPT	EGI		154.6	352.6	690.8	367.9	156.1	-	-	-	-	-	-	-	-	-	-	/u
18	Other	EGI		3.0	0.3	1.2	2.5	0.2	3.9	(0.9)	10.5	1.1	34.3	124.6	43.9	28.3	28.0	35.7	/u
19	Union Unregulated	EGI		(9.2)	(7.9)	(11.0)	(21.2)	(13.4)	-	-	-	-	-	-	-	-	-	-	
20	Total		886.0	1,089.2	1,706.7	1,627.9	1,152.4	932.5	1,087.4	1,007.2	1,310.8	1,402.9	1,427.2	1,470.3	1,623.8	1,406.7	1,392.3	1,279.5	/u

(1) 2013 to 2018 represents the combined values of EGD and Union.
(2) Total capital expenditures excludes Panhandle Regional Expansion Project amounts of $34.2 million in 2022, $22.7 million in 2023, $194.9 million in 2024 and $6.7 million in 2025.

Utility Capital Expenditures by Asset Class (Including PREP)

	Particulars ($ millions)	Utility(1)	2013 Actual (a)	2014 Actual (b)	2015 Actual (c)	2016 Actual (d)	2017 Actual (e)	2018 Actual (f)	2019 Actual (g)	2020 Actual (h)	2021 Actual (i)	2022 Actual (j)	2023 Bridge Year (k)	2024 Test Year (l)	2025 Forecast (m)	2026 Forecast (n)	2027 Forecast (o)	2028 Forecast (p)	2018-2022 Average	2023-2024 Average	2024-2028 Average
1	Compression Stations	EGI		13.9	26.8	19.9	22.6	10.6	25.5	26.5	42.3	106.8	321.8	46.3	64.3	50.3	127.6	19.2	42.3	184.1	61.5
2	Customer Connections	EGI		175.4	162.0	154.8	147.0	151.1	190.4	178.7	260.7	297.0	286.3	304.1	248.1	256.9	254.0	250.1	215.6	295.2	262.6
3	Distribution Pipe	EGI		119.6	120.5	144.0	144.2	139.8	175.1	192.8	447.2	477.5	237.5	357.1	414.4	282.7	250.2	316.4	286.5	297.3	324.2
4	Distribution Stations	EGI		27.2	32.6	38.7	39.0	38.1	39.7	61.4	91.2	97.1	67.5	83.5	113.1	105.5	79.0	116.3	65.5	75.5	99.5
5	Fleet & Equipment	EGI		28.6	22.1	7.8	18.9	15.3	26.3	20.2	26.7	30.6	8.9	31.5	35.4	40.1	45.7	52.3	23.8	20.2	41.0
6	Growth - Distribution System Reinforcement	EGI		20.2	20.3	42.3	26.6	36.4	144.1	70.0	48.5	69.4	55.1	85.2	200.0	43.4	46.0	10.3	73.7	70.2	77.0
7	Real Estate & Workplace Services	EGI		24.9	36.3	30.3	17.4	21.2	42.0	38.3	95.0	66.6	63.0	63.0	61.3	92.0	32.0	56.4	52.6	63.0	60.9
8	Technology Information Services (TIS)	EGI		48.5	46.8	42.6	50.1	56.6	48.9	22.7	22.8	28.1	47.1	102.4	78.0	71.0	44.9	54.1	35.8	74.8	70.1
9	Transmission Pipe and Underground Storage	EGI		12.1	26.8	13.0	21.5	18.5	20.3	33.5	79.5	96.8	101.7	264.1	151.5	201.5	268.4	169.9	49.7	182.9	211.1
10	Utilization	EGI		66.9	71.7	73.3	74.6	75.2	99.3	62.9	80.7	98.4	160.7	152.3	160.1	172.6	152.0	168.4	83.3	156.5	161.1
11	EA Fixed Overhead	EGI		13.7	17.0	17.3	17.1	15.8	17.8	19.5	25.4	27.0	25.6	39.8	40.8	41.9	43.0	23.2	21.1	32.7	37.7
12	Capitalized Overheads	EGI		197.8	200.2	212.5	209.8	207.0	215.2	220.9	-	-	-	-	-	-	-	-	128.6	-	-
13	Integration Capital	EGI		-	-	-	-	-	21.7	39.8	63.0	26.5	20.0	-	-	-	-	-	30.2	10.0	-
14	Community Expansion	EGI		-	-	-	7.8	4.1	17.1	20.9	17.4	14.2	20.6	11.2	19.6	20.5	21.5	7.3	14.8	15.9	16.0
15	GTA	EGI		172.4	551.1	114.8	4.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16	WAMS	EGI		19.3	27.5	35.7	2.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17	CPT	EGI		154.6	352.6	690.8	367.9	156.1	-	-	-	-	-	-	-	-	-	-	31.2	-	-
18	Other	EGI		3.0	0.3	1.2	2.5	0.2	3.9	(0.9)	10.5	1.1	34.3	124.6	43.9	28.3	28.0	35.7	3.0	79.5	52.1
19	Union Unregulated	EGI		(9.2)	(7.9)	(11.0)	(21.2)	(13.4)	-	-	-	-	-	-	-	-	-	-			-
20	**Total**		**886.0**	**1,089.2**	**1,706.7**	**1,627.9**	**1,152.4**	**932.5**	**1,087.4**	**1,007.2**	**1,310.8**	**1,437.1**	**1,450.1**	**1,665.1**	**1,630.5**	**1,406.7**	**1,392.3**	**1,279.5**	**1,157.7**	**1,557.6**	**1,474.8**

(1) 2013 to 2018 represents the combined values of EGD and Union.

(2) Transmission Pipe and UG Storage includes Panhandle Regional Expansion Project amounts of $34.2 million in 2022, $22.7 million in 2023, $194.9 million in 2024 and $6.7 million in 2025.

Source: 2.5-SEC-107u

Table 1
Utility In-Service Capital Expenditures by Asset Class

Line No	Particulars ($ millions)	Utility	2019 Actual	2020 Actual	2021 Actual	2022 Actual	2023 Bridge Year	2024 Test Year	2025 Forecast	2026 Forecast	2027 Forecast	2028 Forecast
			(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)
1	Compression Stations	EGI	11.5	40.5	51.8	62.6	262.1	21.0	41.4	164.1	32.3	18.7
2	Customer Connections	EGI	157.8	221.7	268.6	282.2	220.4	249.2	249.2	250.3	260.6	250.1
3	Distribution Pipe	EGI	209.4	127.0	387.2	505.2	257.5	341.5	350.8	304.2	292.3	316.4
4	Distribution Stations	EGI	32.8	100.2	82.7	68.4	159.5	122.6	116.4	110.6	112.0	116.7
5	Fleet & Equipment	EGI	28.8	20.3	25.3	35.1	25.5	35.0	36.4	40.5	53.6	52.3
6	Growth - Distribution System Reinforcement	EGI	134.9	77.2	49.7	90.7	51.3	102.5	185.6	41.2	5.9	12.7
7	Real Estate & Workplace Services	EGI	41.3	19.4	72.0	58.8	15.7	93.7	79.5	121.5	40.0	88.5
8	Technology Information Services (TIS)	EGI	51.6	34.0	21.5	37.7	52.0	83.2	59.2	147.5	48.1	54.1
9	Transmission Pipe and Underground Storage	EGI	10.8	42.9	95.0	57.9	295.0	168.4	49.5	273.6	75.0	130.7
10	Utilization	EGI	133.0	65.4	90.2	93.9	136.5	146.5	148.5	153.2	166.3	168.4
11	EA Fixed Overhead	EGI	25.9	27.0	19.8	28.2	21.7	21.9	22.2	22.5	22.9	23.2
12	Capitalized Overheads	EGI	180.5	200.6	-	-	-	-	-	-	-	-
13	Integration Capital	EGI	18.8	18.7	75.4	67.4	59.4	-	-	-	-	-
15	Other	EGI	15.5	30.8	11.5	4.3	12.2	30.0	21.6	17.0	7.0	7.3
16	Community Expansion	EGI	8.9	9.7	2.1	3.2	42.8	41.1	36.3	35.7	49.7	36.1
17	Union Unregulated Allocations		(3.6)	(7.2)	(12.9)	(36.2)	-	-	-	-	-	-
18	Total		1,057.8	1,028.2	1,239.9	1,359.3	1,611.5	1,456.5	1,396.7	1,681.9	1,165.6	1,275.2

Table 1
Utility In-Service Capital Expenditures by Asset Class

Line No.	Particulars ($ millions)	Utility	2019 Actual	2020 Actual	2021 Actual	2022 Actual	2023 Bridge Year	2024 Test Year	2025 Forecast	2026 Forecast	2027 Forecast	2028 Forecast	
			(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	
1	Compression Stations	EGI	11.5	40.5	51.8	62.6	362.7	43.9	53.5	17.8	26.8	18.7	/u
2	Customer Connections	EGI	157.8	221.7	268.6	282.2	286.3	304.0	248.4	257.8	254.1	250.1	/u
3	Distribution Pipe	EGI	209.4	127.0	387.2	505.2	272.4	350.7	356.2	299.9	250.2	316.4	/u
4	Distribution Stations	EGI	32.8	100.2	82.7	68.4	58.7	101.2	133.6	91.4	92.6	116.7	/u
5	Fleet & Equipment	EGI	28.8	20.3	25.3	35.1	8.9	31.5	35.4	40.1	45.7	52.3	/u
6	Growth - Distribution System Reinforcement	EGI	134.9	77.2	49.7	90.7	45.4	75.5	219.9	34.2	56.9	12.7	/u
7	Real Estate & Workplace Services	EGI	41.3	19.4	96.5	58.8	32.1	19.2	72.9	203.7	23.2	88.5	/u
8	Technology Information Services (TIS)	EGI	51.6	34.0	21.5	37.7	33.7	68.9	53.4	143.1	44.9	54.1	/u
9	Transmission Pipe and Underground Storage	EGI	10.8	42.9	95.0	57.9	44.8	52.4	174.8	177.1	292.6	130.7	/u
10	Utilization	EGI	133.0	65.4	90.2	93.9	160.7	152.3	160.2	173.0	152.0	168.4	/u
11	EA Fixed Overhead	EGI	25.9	27.0	19.8	28.2	25.6	39.8	40.8	41.9	43.0	23.2	/u
12	Capitalized Overheads	EGI	180.5	200.6	-	-	-	-	-	-	-	-	
13	Integration Capital	EGI	18.8	18.7	50.9	67.4	22.7	-	-	-	-	-	/u
15	Other	EGI	15.5	30.8	11.5	4.3	10.6	22.2	13.8	26.8	24.4	7.3	/u
16	Community Expansion	EGI	8.9	9.7	2.1	3.2	4.5	52.0	61.6	28.3	28.0	36.1	/u
17	Union Unregulated Allocations		(3.6)	(7.2)	(12.9)	(36.2)	-	-	-	-	-	-	
16	Total		1,057.8	1,028.2	1,239.9	1,359.3	1,369.1	1,313.6	1,624.7	1,535.0	1,334.4	1,275.2	/u

Excludes in-service additions for PREP of $252M in 2024 and $6.8M in 2025. /u

Utility In-Service Capital Expenditures by Asset Class Inc PREP

Line No.	Particulars ($ millions)	Utility	2019 Actual	2020 Actual	2021 Actual	2022 Actual	2023 Bridge Year	2024 Test Year	2025 Forecast	2026 Forecast	2027 Forecast	2028 Forecast	2019-2022 Average	2023-2024 Average	2024-2028 Average
1	Compression Stations	EGI	11.5	40.5	51.8	62.6	362.7	43.9	53.5	17.8	26.8	18.7	41.6	203.3	32.1
2	Customer Connections	EGI	157.8	221.7	268.6	282.2	286.3	304.0	248.4	257.8	254.1	250.1	232.6	295.2	262.9
3	Distribution Pipe	EGI	209.4	127.0	387.2	505.2	272.4	350.7	356.2	299.9	250.2	316.4	307.2	311.6	314.7
4	Distribution Stations	EGI	32.8	100.2	82.7	68.4	58.7	101.2	133.6	91.4	92.6	116.7	71.0	80.0	107.1
5	Fleet & Equipment	EGI	28.8	20.3	25.3	35.1	8.9	31.5	35.4	40.1	45.7	52.3	27.4	20.2	41.0
6	Growth - Distribution System Reinforcement	EGI	134.9	77.2	49.7	90.7	45.4	75.5	219.9	34.2	56.9	12.7	88.1	60.5	79.8
7	Real Estate & Workplace Services	EGI	41.3	19.4	96.5	58.8	32.1	19.2	72.9	203.7	23.2	88.5	54.0	25.7	81.5
8	Technology Information Services (TIS)	EGI	51.6	34.0	21.5	37.7	33.7	68.9	53.4	143.1	44.9	54.1	36.2	51.3	72.9
9	Transmission Pipe and Underground Storage	EGI	10.8	42.9	95.0	57.9	44.8	304.4	181.6	177.1	292.6	130.7	51.6	174.6	217.3
10	Utilization	EGI	133.0	65.4	90.2	93.9	160.7	152.3	160.2	173.0	152.0	168.4	95.6	156.5	161.2
11	EA Fixed Overhead	EGI	25.9	27.0	19.8	28.2	25.6	39.8	40.8	41.9	43.0	23.2	25.2	32.7	37.7
12	Capitalized Overheads	EGI	180.5	200.6	-	-	-	-	-	-	-	-	95.3	-	-
13	Integration Capital	EGI	18.8	18.7	50.9	67.4	22.7	-	-	-	-	-	39.0	22.7	
15	Other	EGI	15.5	30.8	11.5	4.3	10.6	22.2	13.8	26.8	24.4	7.3	15.5	16.4	18.9
16	Community Expansion	EGI	8.9	9.7	2.1	3.2	4.5	52.0	61.6	28.3	28.0	36.1	6.0	28.3	41.2
17	Union Unregulated Allocations		(3.6)	(7.2)	(12.9)	(36.2)	-	-	-	-	-	-	-	-	-
16	Total		1,057.8	1,028.2	1,239.9	1,359.3	1,369.1	1,565.6	1,631.3	1,535.1	1,334.4	1,275.2	1,186.3	1,478.7	1,468.3

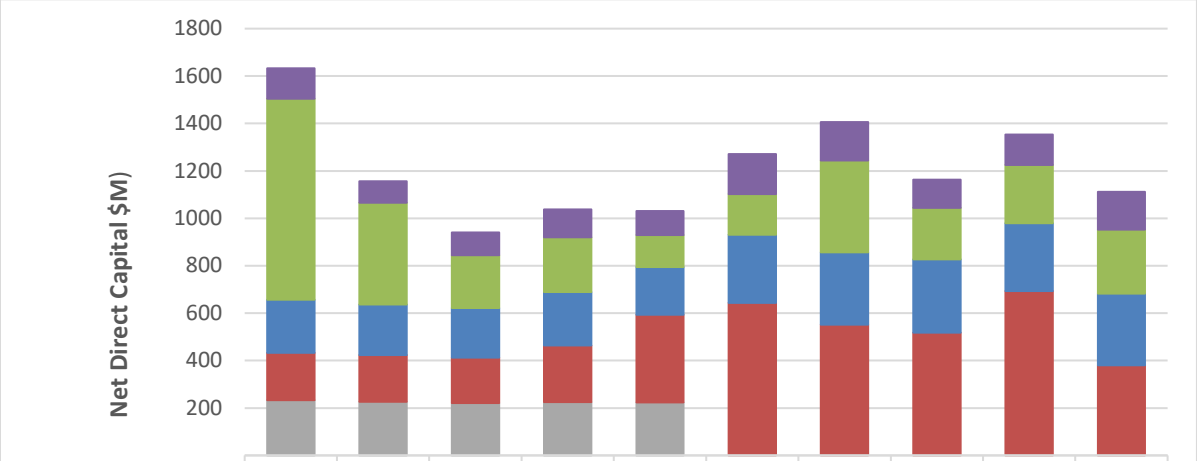
(1)Tx Pipe and UG Storage includes in-service additions for PREP of $252M in 2024 and $6.8M in 2025.
Source: 2-SEC-108u

Table 1
Utility Property, Plant & Equipment - Continuity of Gross Assets

Line No.	Particulars ($ millions)	Utility	2019 Actual (a)	2020 Actual (b)	2021 Actual (c)	2022 Actual (d)	2023 Bridge Year (e)	2024 Test Year (f)	/u
1	Opening Gross Property, Plant and Equipment	EGI	19,467.7	20,402.8	21,259.9	22,221.4	23,402.3	24,643.7	/u
2	Opening Balance Adjustments (1)	EGI	0.0	0.0	0.0	11.7	0.0	(241.3)	/u
3	In-service Additions	EGI	1,056.2	1,023.4	1,211.7	1,379.3	1,428.1	1,300.9	/u
4	Retirements and Disposals	EGI	(121.0)	(166.2)	(250.2)	(210.1)	(170.8)	(176.3)	/u
5	Adjustments and Other	EGI	0.0	0.0	0.1	0.0	(15.9)	(15.3)	/u
6	Closing Property, Plant and Equipment	EGI	20,402.8	21,259.9	22,221.4	23,402.3	24,643.7	25,511.6	/u
7	Average of Monthly Averages	EGI	19,765.5	20,582.1	21,539.8	22,585.9	23,716.5	24,736.3	/u
8	Variance of Gross PPE to Prior Year			857.1	961.5	1,180.9	1,241.4	867.9	/u
9	Variance of Avg of Monthly Avg to Prior Year			816.6	957.7	1,046.1	1,130.6	1,019.8	/u

Note:
(1) Includes asset harmonization and unregulated cost allocation adjustments.

Figure 6
Enbridge Gas's Capital Expenditure

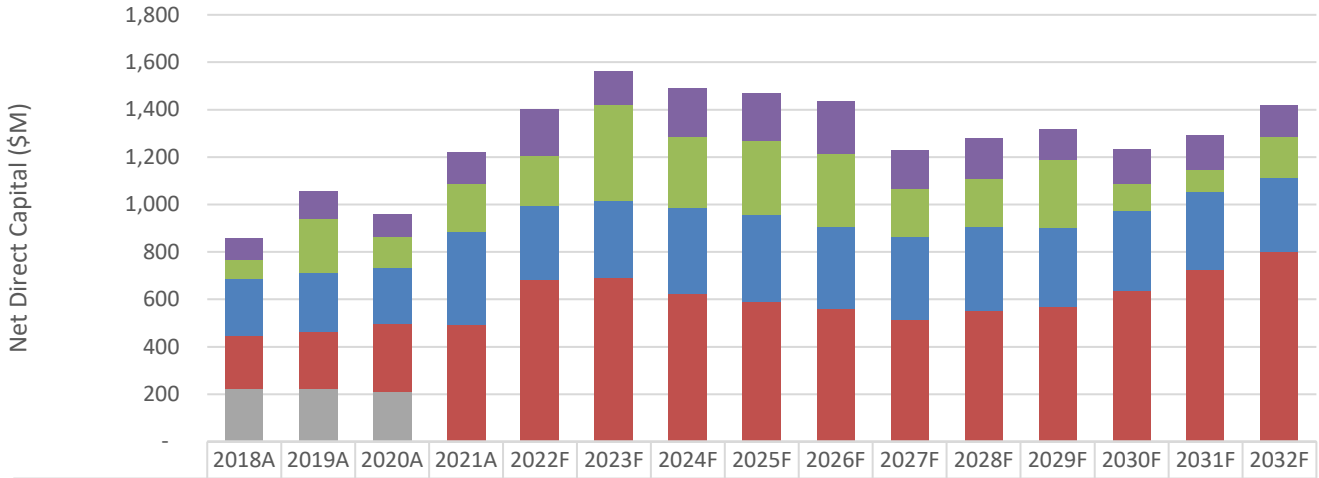


	2016A	2017A	2018A	2019A	2020B	2021F	2022F	2023F	2024F	2025F
General Plant	127	91	95	117	101	169	163	119	128	159
System Service	848	429	224	231	135	171	387	217	245	271
System Access	224	213	209	226	202	287	305	310	286	302
System Renewal	199	196	191	239	369	644	551	518	693	380
Overhead	234	227	221	225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

Note: The total forecasted capital expenditures for 2021-2025 in Figure 6, Figure 7, and Figure 8 are comprised of each investment's direct costs and the associated overheads. 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.

86. The EGD rate zone component of Enbridge Gas's capital expenditure profile is presented in Figure 7. The EGD rate zone projected spend remains at a consistent level and totals $3.1 billion over the five years. Historical spend for the System Service and General Plant investment categories are higher than projected due to large one-time initiatives approved through separate OEB approvals that have taken place, such as the GTA and WAMS projects.

Figure 6: Enbridge Gas's Capital Expenditures /u



	2018A	2019A	2020A	2021A	2022F	2023F	2024F	2025F	2026F	2027F	2028F	2029F	2030F	2031F	2032F
General Plant	91	117	93	134	195	145	205	202	222	163	169	128	146	146	131
System Service	78	231	130	205	214	403	301	311	306	200	206	284	116	95	175
System Access	242	246	238	391	311	323	362	369	349	353	350	332	335	327	315
System Renewal	220	239	287	494	683	691	623	589	559	514	554	571	639	724	799
Overhead	226	225	209	-	-	-	-	-	-	-	-	-	-	-	-
Grand Total	857	1,058	958	1,223	1,403	1,562	1,491	1,471	1,436	1,229	1,279	1,315	1,235	1,292	1,420

Note: Overheads are included in the Investment Categories starting in 2021.

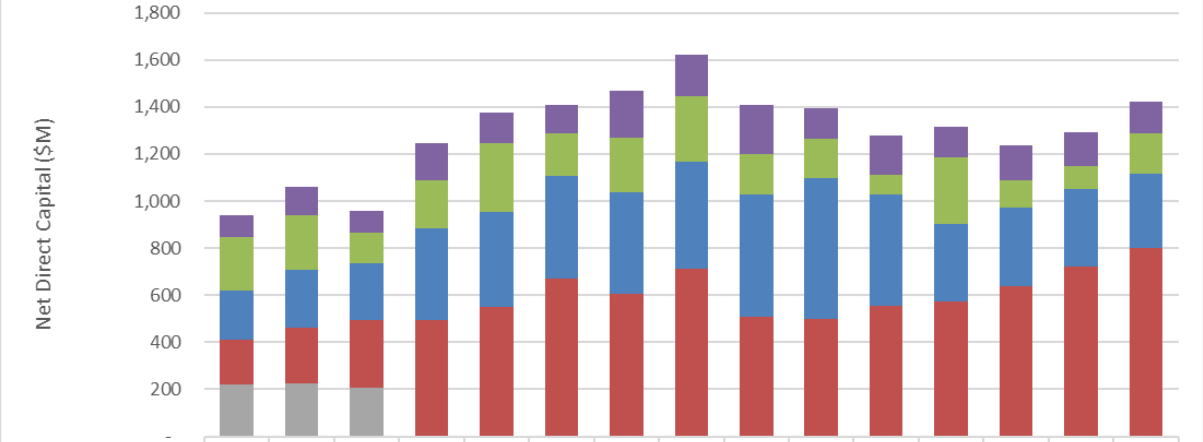
5. Asset Management Plan

78. The 2023 to 2032 Enbridge Gas AMP has been filed separately as part of this Enbridge Gas USP and provided at Exhibit 2, Tab 6, Schedule 2.

5.1 Description of Plan

79. The AMP outlines Enbridge Gas's asset management policies and strategies, processes and governance; asset class objectives and life-cycle strategies; asset inventory, condition methodology and findings; risks, opportunities and strategies; and the 10-year capital plan. Asset Management at Enbridge Gas ensures that value is realized through its assets while managing risk and opportunity.

Figure 6: Enbridge Gas's Capital Expenditures /u



	2018A	2019A	2020A	2021A	2022A	2023F	2024F	2025F	2026F	2027F	2028F	2029F	2030F	2031F	2032F
General Plant	95	117	93	158	129	120	198	177	205	129	169	128	146	146	131
System Service	224	231	130	205	294	180	234	281	171	166	80	284	116	95	175
System Access	209	246	238	391	403	436	431	454	522	599	476	332	335	327	315
System Renewal	191	239	287	494	552	672	606	712	508	499	554	571	639	724	799
Overhead	221	225	209	-	-	-	-	-	-	-	-	-	-	-	-
Grand Total	940	1,058	958	1,248	1,377	1,407	1,470	1,624	1,407	1,392	1,279	1,315	1,235	1,292	1,420

Note:

1. Overheads are included in the Investment Categories starting in 2021.
2. Integration Capital is excluded in the USP. /u
3. The table excludes PREP capital expenditures of $34.2M in 2022, $22.7M in 2023, $194.9M in 2024 and $6.7M in 2025

5. Asset Management Plan

81. The 2023 to 2032 Enbridge Gas AMP has been filed separately as part of this Enbridge Gas USP and provided at Exhibit 2, Tab 6, Schedule 2.

5.1 Description of Plan

82. The AMP outlines Enbridge Gas's asset management policies and strategies, processes and governance; asset class objectives and life-cycle strategies; asset

Capital Expenditures by USP Categories

Total Expenditures ($M)	**2021**	**2022**	**2023**	**2024**	**2025**	**2021-2025**
EB-2020-0181	1,271	1,406	1,164	1,352	1,112	6,305
Application	*1,223*	1,403	1,562	1,491	1,471	7,150
Capital Update	*1,248*	*1,378*	1,408	1,469	1,624	7,127
Capital Update (w PREP)	*1,248*	*1,412*	1,431	1,664	1,631	7,386

General Plant ($M)	**2021**	**2022**	**2023**	**2024**	**2025**	**2021-2025**
EB-2020-0181	169	163	119	128	159	738
Application	*134*	195	145	205	202	881
Capital Update	*158*	*129*	120	198	177	782
Capital Update (w PREP)	*158*	*129*	120	198	177	782

System Service ($M)	**2021**	**2022**	**2023**	**2024**	**2025**	**2021-2025**
EB-2020-0181	171	387	217	245	271	1,291
Application	*205*	214	403	301	311	1,434
Capital Update	*205*	*294*	180	234	281	1,194
Capital Update (w PREP)	*205*	*328*	203	429	288	1,453

System Access ($M)	**2021**	**2022**	**2023**	**2024**	**2025**	**2021-2025**
EB-2020-0181	287	305	310	286	302	1,490
Application	*391*	*311*	*323*	*362*	*369*	1,756
Capital Update	*391*	*403*	*436*	*431*	*454*	2,115
Capital Update (w PREP)	*391*	*403*	*436*	*431*	*454*	2,115

System Renewal ($M)	**2021**	**2022**	**2023**	**2024**	**2025**	**2021-2025**
EB-2020-0181	644	551	518	693	380	2,786
Application	*494*	*683*	*691*	*623*	*589*	3,080
Capital Update	*494*	*552*	*672*	*606*	*712*	3,036
Capital Update (w PREP)	*494*	*552*	*672*	*606*	*712*	3,036

Italics denotes Actuals

Sources:

EB-2020-0181	EB-2020-0181, C-1-1, p.45, Figure 6
Application	2-6-1,. p.38, Figure 6
Capital Update	2-6-1,. p.38, Figure 6 (Updated)
Capital Update (w PREP)	2-6-1,. p.38, Figure 6 (Updated) with addition of PREP

ENBRIDGE GAS INC.

Answer to Undertaking from
School Energy Coalition (SEC)

Undertaking

Tr: 32

For the numbers in Table 1 at SEC-120, to reconcile the AMP and the USP, the capital forecast that flow to the revenue requirement, for the years 2013 to 2028.

Response:

The numbers provided in response at Exhibit I.2.6-SEC-120 range from 2019 to 2032. Enbridge Gas has included data for the years 2029 to 2032 in this undertaking to be consistent with the presentation at Exhibit I.2.6-SEC-120. Please note the 2019 to 2021 actuals for Total AMP Capital originally provided at Exhibit I.2.6-SEC-120 have been corrected in the chart below. Attachment 1 contains the corrected table set out in response at Exhibit I.2.6-SEC-120. Enbridge Gas will provide an updated response to Exhibit I-2.6-SEC-120 with the package of interrogatory response updates currently expected on April 11, 2023.

	2019 Actual	2020 Actual	2021 Actual	2022F	2023	2024	2025
Total AMP Capital	1,037.6	934.9	1,195.2	1,359.0	1,506.0	1,426.1	1,408.0
Add Regulated Non-Core:							
Community Expansion	17.1	20.9	17.4	20.7	14.0	24.4	27.4
RNG	1.8	1.5	2.7	10.1	34.4	33.2	25.6
CNG	8.1	0.1	3.0	12.9	7.6	7.6	10.2
Other(1)	(5.9)	-	4.7	-	-	-	-
Total USP Capital	1,058.7	957.4	1,223.0	1,402.7	1,562.0	1,491.3	1,471.1

Note:
(1) "Other" in 2019 represents costs related to the SRM/DARTS project. "Other" in 2020 represents costs related to the Phase 1 Low Carbon Energy Project.

	2026	2027	2028	2029	2030	2031	2032
Total AMP Capital	1,388.6	1,186.7	1,236.4	1,282.7	1,206.0	1,263.5	1,391.9
Add Regulated Non-Core:							
Community Expansion	11.2	7.0	7.3	6.7	3.1	3.0	2.9
RNG	25.6	25.6	25.6	25.6	25.6	25.6	25.6
CNG	10.2	10.2	10.2	-	-	-	-
Other	-	-	-	-	-	-	-
Total USP Capital	1,435.6	1,229.5	1,279.5	1,315.0	1,234.7	1,292.1	1,420.3

ENBRIDGE GAS INC.

Answer to Undertaking from
School Energy Coalition (SEC)

Undertaking

Tr: 32

For the numbers in Table 1 at SEC-120, to reconcile the AMP and the USP, the capital forecast that flow to the revenue requirement, for the years 2013 to 2028.

Response:

The following response has been updated to reflect the Capital Update provided at Exhibit 2, Tab 5, Schedule 4 filed on June 16, 2023. /u

The table below reconciles the capital expenditures shown in Attachment 1 with the capital expenditures shown in Figure 6 of the USP. Please note that PREP has been excluded from both Attachment 1 and Figure 6 in the USP.

	2019 Actual	2020 Actual	2021 Actual	2022 Actual	2023	2024	2025	
Total AMP Capital	1,037.3	934.9	1,220.0	1,361.1	1,352.3	1,334.5	1,560.5	/u
Add Regulated Non-Core:								
Community Expansion	17.1	20.9	17.4	14.2	20.6	11.2	19.6	/u
RNG	1.8	1.5	2.4	0.2	23.7	94.6	33.9	/u
CNG	8.1	0.1	3	1.2	7.6	30.0	10.0	/u
Other(1)	(5.9)	0.0	5.0	(0.3)	3.0	0.0	(0.1)	/u
Total USP Capital	1,058.4	957.5	1,247.9	1,376.4	1,407.2	1,470.3	1,623.8	/u

Note:
(1) "Other" in 2019 represents costs related to the SRM/DARTS project. "Other" in 2020 to 2023 represents costs related to the Phase 1 Low Carbon Energy Project.

	2026	2027	2028	2029	2030	2031	2032	
Total AMP Capital	1,357.9	1,342.8	1,236.4	1,282.7	1,206.0	1,263.5	1,391.9	/u
Add Regulated Non-Core:								
Community Expansion	20.5	21.5	7.3	6.7	3.1	3.0	2.9	/u
RNG	18.3	18.0	25.6	25.6	25.6	25.6	25.6	/u
CNG	10.0	10.0	10.2	-	-	-	-	/u
Other	0.0	0.1	-	-	-	-	-	/u
Total USP Capital	1,406.7	1,392.3	1,279.5	1,315.0	1,234.7	1,292.1	1,420.3	/u

AMP Capital ($M)	2021	2022	2023	2024	2025	2021-2025	2021-2024	Source
2021 AMP	1050.4	1406.2	1163.3	1352.7	1111.4	6084.0	4972.6	EB-2020-0181, AMP 2021-2025, Figure 6.2-1, 6.2-2
AMP Application	*1310.8*	1359.0	1506.0	1426.1	1408.0	7009.9	5601.9	JT 5.9
AMP Capital Update w PREP	*1310.8*	*1395.3*	1375.0	1529.4	1567.2	7177.7	5610.5	JT 5.9u + PREP

Italics denotes Actuals

6 Summary of Capital Expenditure

6.1 Portfolio Optimization

Using the methodology for optimization outlined in **Section 4.3.3**, this section describes the summary of the capital expenditures required to meet EGI's asset management goals and to balance risk, cost and performance. Through careful consideration of the key inputs to the asset investment planning and management process (risk, opportunity, customer engagement feedback, and resource constraints), this plan provides critical direction for the baseline facility need over the next 10 years.

6.1.1 Investment Criteria

In preparation for optimization, comprehensive governance reviews were completed on proposed investments using the following criteria:

- 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/opportunity, cost and performance.
- Execution risks were reasonable (resource capacity).
- Initiatives identified as mandatory were justified, based on:
    - Exceeding an established risk threshold
    - Third-party relocation
    - Program work with sufficient history and risk to warrant continuation
    - Projects that meet the economic feasibility tests in EBO 188 and EBO 134
    - Compliance requirements
    - Investments that were already executing with costs continuing into 2023 to 2032 and the remaining work could not be shifted.

In total, 1,500 EGD rate zone (RZ) investments and 1,901 Union RZ investments were included in the initial pre-optimized request for capital. The initial pre-optimized request is illustrated in **Figure 6.1-1** and **Figure 6.1-2**, generated from the asset investment planning tool (Copperleaf).

6.1.2 Capital Considerations

The optimization process is based on EGI management setting a capital constraint or threshold from which a portfolio of work driven by asset needs is defined. The capital constraint is determined based on the asset needs and financial considerations. Determining the capital constraint involves EGI's Asset Management, Finance and Regulatory departments. To complete EGI's latest portfolio optimization, EGI considered optimization constraints for 2023 and for the remainder of the 10-year plan separately.

For 2023, the assets for the EGD RZ and Union North and South RZs, were maintained separately for capital planning purposes as 2023 is the final year of the approved five-year (2019 to 2023) deferred rebasing term from the MAADS Decision (*EB-2017-0306/EB-2017-0307*). For the 2024 to 2032 optimization constraint, EGI considered historical spend levels, inflation, smoothing the impact to ratepayers and the capital to meet asset class strategy needs.

EGI's optimization constraints were determined through the following efforts:

- For 2023, EGI recognized that two significant projects are expected to go into service in that year - Dawn to Corunna Project (see **Appendix A, Pg. 1**) and the Panhandle Regional Expansion Project (see **Appendix A, Pg. 55**). EGI first attempted to leverage the materiality threshold as the constraint for 2023 but was unable to accommodate the significant volume of compliance, must-do, and in-flight work. In the end, the 2023 Budget was constrained to $1.5B, the amount that had previously been included in the long-range plan created in 2022.

- To set a constraint for the remainder of the 10-year plan, EGI looked at scenarios between the 2023 Materiality Threshold of ~1.4B and the historical average spend of ~$1.17B[37]. In each case an escalation of 2% for inflation was applied (see **Table 6.4-1** for inflation assumptions). Through the process of moving the optimization constraint line downwards from $1.4B to $1.1B, EGI examined:
  - Implications to asset class strategies
  - Implications to in-service capital (as a proxy for impact to ratepayers)
  - Implications for the management of identified risk
  - Ability to complete mandatory work
  - Ability to complete work that supports the energy transition
  - Ability to complete work that is in keeping with customers' stated preferences
  - Organizational capacity to complete work

  Through consultation with a wide range of internal stakeholders, EGI determined that the 2024-2032 optimization constraint of $1.2B with an annual escalation of 2% for inflation allowed for safe and reliable outcomes through execution of EGI's asset class strategies. EGI had to treat specific significant investments (Dawn C Compression Lifecycle in 2026 [see **Appendix A, Pg. 3**] and Dawn-Parkway Expansion [Dawn-Enniskillen NPS 48 in 2029 [see **Appendix A, Pg, 53**]) as exceptions to the optimization constraint in order to obtain the optimized result in those years.

  The increase in capital for 2024 relative to the historical average is attributed to the following:
  - +$129M in market driven growth with several large growth investments identified with spend in 2024 including: Panhandle Regional Expansion Project (PREP), PREP: Leamington Interconnect, Wheatley 1B PREP Reinforcement, East Kingston Creekford Road Reinforcement and the Dawn Parkway Expansion Project (Kirkwall-Hamilton NPS 48). The timing for these investments is based on the market requirements, EGI will evaluate the market driven investments for technically and economically feasible IRPAs.
  - +$107M in planned replacements have shifted into 2024 to provide additional time for EGI to assess and adequately demonstrate the condition of the pipelines as an outcome of the St. Laurent LTC Decision.
  - +$95M in compliance related investments including increases to meter and regulator exchanges due to increased costs for meters and large numbers of meters reaching expected end of seal life. In addition, updated hazard assessments completed under EGI's Transmission Integrity Management Program have identified the need to review and mitigate high and moderate uncertainties in the fitness-for-service conclusions of the review.

  Optimization constraints lower than $1.2B (i.e., $1.1B) caused the optimization to fail as they do not accommodate all investments with fixed timing. Examples of investments with fixed timing that must be executed in a given year include:
  - Compliance work must be completed in accordance with rules and regulations, deferring this work could result in EGI being out of compliance.
  - Relocations must be completed in a given year order to ensure that the work triggering the relocation is completed. Relocation projects are subject to the timing of the work triggering the relocation and as such timing of these projects is fixed.
  - Reinforcements have fixed timing because absent the reinforcement, EGI would not be able to attach customers to its system after the reinforcement is required.
  - Executing work has fixed timing as these projects have already commenced and therefore cannot be deferred.

  Lowering the capital constraint would require EGI to reduce programs that directly maintain EGI's safe and reliable operations, for example:
  - Compliance driven work, including integrity management work and meter exchanges.
  - Program work with sufficient history and risk to warrant continuation, including AMP fitting replacements, inside regulator and ERR programs, distribution station replacement work, vehicle replacements and TIS infrastructure.
  - Investments prioritized through EGI's Risk Management Process (**Section 4.2**).
- Copperleaf was used to optimize the 1,500 EGD RZ investments and 1,901 Union RZ investments in the initial pre-optimized ask. Using the optimization constraint values, the optimal capital timing was determined for proposed investments, as described in **Section 4.3.3**.
- The Decision with Reasons in the St. Laurent Ottawa North Replacement Project (EB 2020-0293) led to two subsequent changes to this AMP to ensure that there was adequate time to collect condition information and consider risk implications – St. Laurent Phases 3 and 4 (see **Appendix A, Pg. 13 &14**), and Wilson Avenue Vintage Steel Replacement (see **Appendix A, Pg. 10**). Investments in the 10-year plan that had sufficient timing for further, cost

[37] Historical average spend was calculated using the average of the 2019-2021 actuals and 2022 forecast.

effective and prudent evaluation will continue to be assessed without prejudice to support the resultant investments. The LTC decision for St. Laurent is not expected to impact the Vintage Steel Replacement Program as this program and the associated selection of pipe replacements are based off of predictive analytics (condition and risk from the DIMP Risk Model as described in **Section 5.2.3.6.3.2**).

- The resultant capital plan was reviewed with internal stakeholders and endorsed by the Asset Management Steering Committee.

6.1.3 Optimization Results

The initial spend profile is reflective of the forecasted needs of the assets as identified through asset managers and investment owners. Copperleaf factors in both asset needs and capital optimization constraints to find an optimal capital portfolio.

The initial pre-optimized request for capital was $14.3B (see **Figure 6.1-1** and **Figure 6.1-2**). Because investments can shift in time during optimization, while overheads remain fixed, the annual capitalized overheads are treated as a separate investment during optimization. Once optimization is complete, overheads are applied to all investments and are reflected as such throughout this section. Overhead amounts are approximated based on the most recent approved plan at the time of optimization and then refined at the investment level once project timing is confirmed and the plan approved.

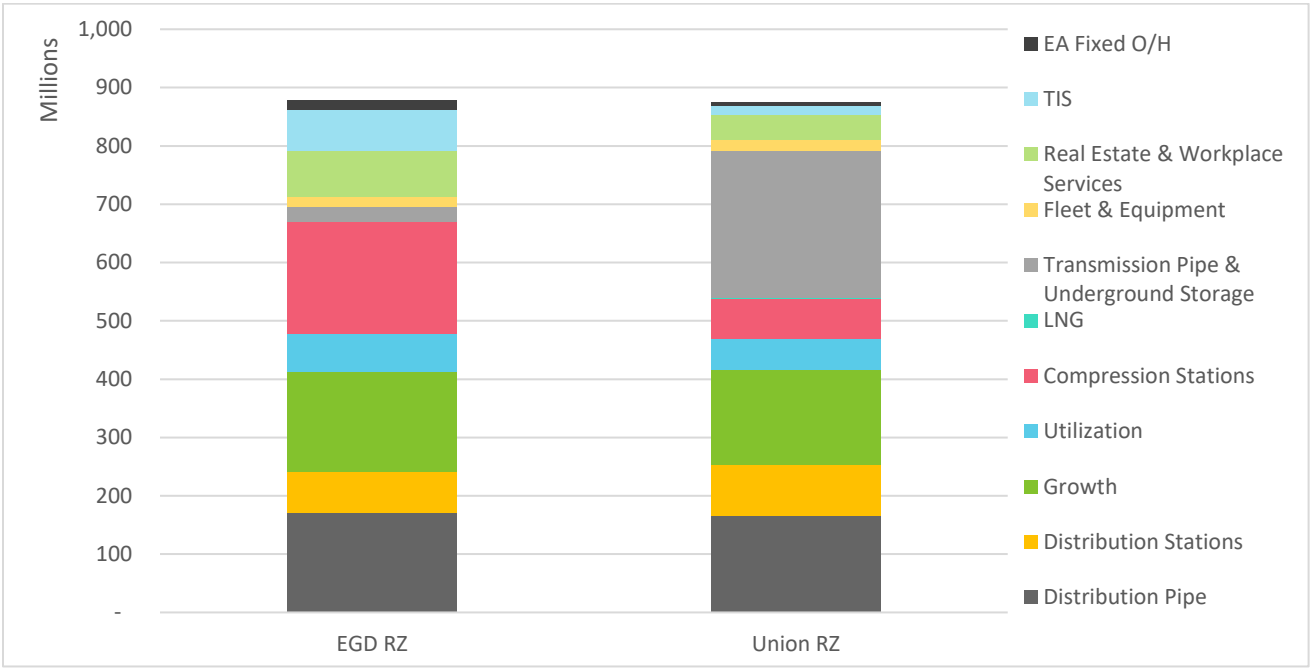


Figure 6.1-1: 2023 Pre-Optimized Spend Profile by Rate Zone (Capital Expenditure)

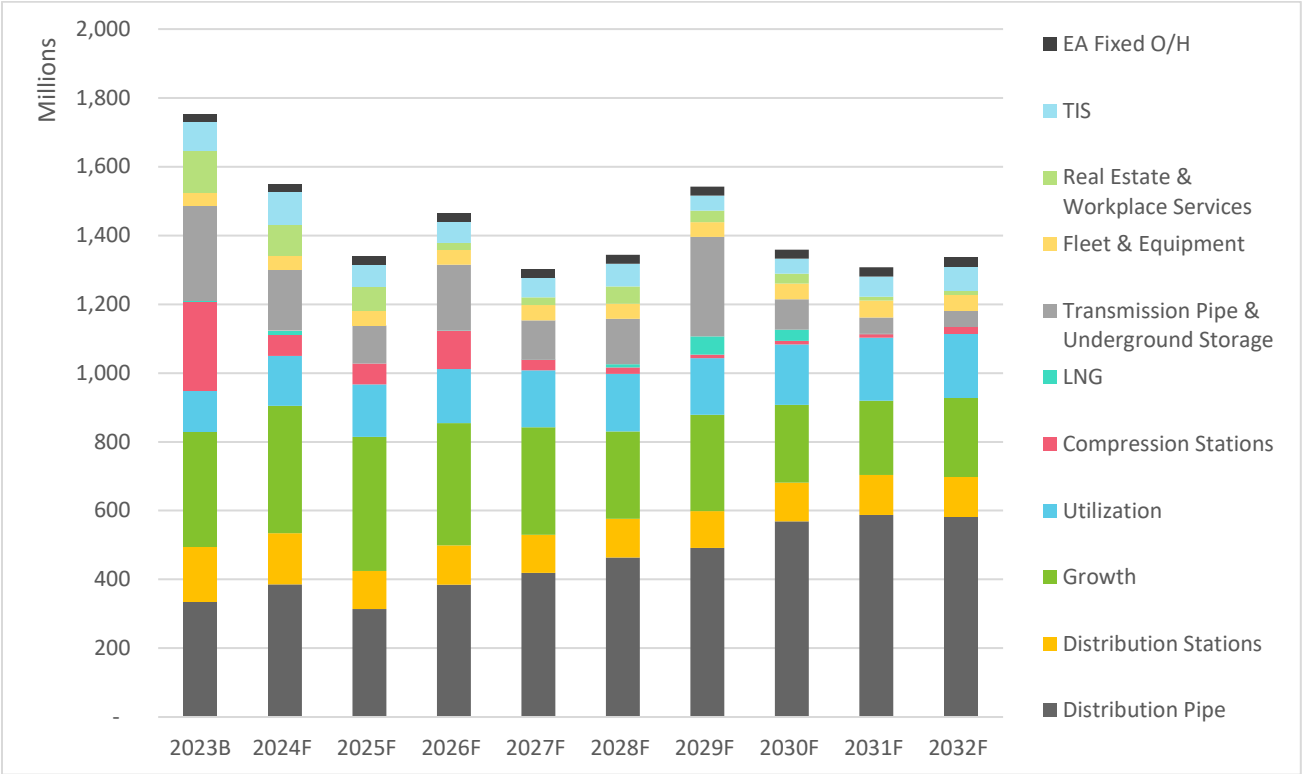


Figure 6.1-2: 2024-2032 Pre-Optimized Spend Profile – EGI (Capital Expenditure)

Prior to optimization, investments were categorized into planning groups (see **Table 6.1-1**) in Copperleaf based on asset management principles. This supported optimization activities where a different treatment (fixed or variable timing) could be applied to the investment groups at the time of optimization. For 2023, 92% of the capital had fixed timing, while approximately 8% had variable timing. For the remaining years, the capital with fixed timing ranged from 76%-92%.

Table 6.1-1: Planning Groups

Planning Group	Description	Optimization Treatment
Compliance – Fixed Timing	Investment meets criteria for compliance treatment (see **Table 4.1-2**)	Fixed timing
Mandatory – Fixed Timing	Investment meets criteria for mandatory treatment (see **Table 4.1-2**)	Fixed timing
Executing – Fixed Timing	Investment is in execution based on previously approved timing	Fixed timing
Compliance – Optimize	Investment meets criteria for compliance treatment but has flexibility in timing (see **Table 4.1-2**)	Optimized based timing constraint
Mandatory – Optimize	Investment meets criteria for mandatory treatment but has flexibility in timing (see **Table 4.1-2**)	Optimized based timing constraint
Executing Flagged for Optimize	Executing investments that could potentially have the remainder of the work shifted in timing	Timing optimized based on value
Value Driven – Value Framework	Value framework completed on the investment and not compliance, mandatory nor executing	Timing optimized based on value
Value Driven – Fixed Timing	Value framework completed on the investment and fixed timing required. Fixed timing for value driven investments may be required for multi-year	Fixed timing

Planning Group	Description	Optimization Treatment
	investments as it prevents Copperleaf from shifting all years into a single execution year.	
Overheads	Overheads	Fixed timing
Significant Investments (>$10M) – Value Driven	Investment is greater than $10M (net base capex). Value framework has been completed on the investment and not compliance, mandatory nor executing	Timing optimized based on value
Significant Investments (>$10M) – Fixed Timing	Investment is greater than $10M (net base capex). Compliance/mandatory requirements validated or executing.	Fixed timing

The capital plan was optimized from 2023 to 2032 using the Optimize Portfolio of Solutions step of the AIPM process (outlined in **Section 4.3.3**). While running the optimization at the defined capital constraints, an optimized solution could not be obtained. This was due to the capital profile of specific fixed and mandatory projects. To resolve this, investments that were likely to be causing the optimization runs to fail were removed from optimization (Dawn C Compression Lifecycle in 2026 [see **Appendix A, Pg. 3**] and the Dawn-Parkway Expansion [Dawn-Enniskillen] Project in 2029 [see **Appendix A, Pg. 53**]), providing EGI with the best understanding of an optimized typical base spend profile. These significant investments were brought back into the plan after optimization was rerun.

As described in **Section 4.3.3**, the optimized result and significant projects (Net Base Capex >$10M) were reviewed with all asset managers and business stakeholders. Adjustments were proposed to better align the plan to life-cycle strategies, opportunities to pursue integrated resource planning, resource balancing requirements, other external project dependencies (moratoriums), and the capital optimization constraint. Investments that were not properly time constrained in Copperleaf were adjusted to reflect more appropriate timing to support long term resource management. Updates for any significant projects were also reviewed and adjusted (for example St Laurent Phase 3/4 and Wilson Avenue). Adjustments were incorporated as necessary through consultation with asset managers and using the value framework for project comparison.

Overall, EGI removed an average of ~$100M/year over the 10-year plan. This reduction was achieved through using optimization to assign timing to investments in order to maximize the value of the portfolio and through reductions EGI made in consultation with internal stakeholders. The value-driven investments that were assigned timing outside of the 10-year window were primarily REWS property upgrades and replacements in the Distribution Pipe and LNG asset classes. The remaining reductions were achieved through review of the proposed capital for each asset class and comparing for alignment with the asset class strategy and to historical spend levels. EGI targeted programmatic spends that had flexibility in the number of years they could be executed over, some of the specific programs that were reduced include: STO Strategic land purchases, class location, corrosion, real estate and delaying the start of the vintage steel replacement program.

The portfolio of solutions exceeded the optimization constraint in years 2024, 2025 and 2026. In 2024, the optimization constraint was exceeded due to the following drivers: the updated timing of St. Laurent and Wilson Avenue to allow for further condition evaluation in response to the May 2022 LTC decision, the Dawn C Compression Lifecycle and the Dawn-Parkway Expansion (Kirkwall to Hamilton) projects started spending in 2024 (Dawn C Compression Lifecycle was treated as a significant investment); and the TIS investments required in 2024 to support EGI's rebasing. The optimization constraint was exceeded in 2025 due to the Dawn C Compression Lifecycle and the Dawn to Parkway Expansion (Hamilton-Kirkwall) projects, the customer-driven Hamilton Industrial Reinforcement project, and the timing of the Kelfield and Kennedy Road REWS investments. The optimization constraint in 2026 was exceeded due to the Dawn C Compression Lifecycle and the Dawn to Parkway Expansion (Hamilton-Kirkwall) projects and the timing of the Kelfield and New London Site REWS investments. **Figure 6.1-3** presents the 10-year capital requirements by asset class and the significant investments >$50M.

The result addresses the organization's baseline facility needs and includes known risks and opportunities requiring action over the next 10 years, the optimized 10-year request for capital was $13.3B. The optimized 10-year request includes 1,384 EGD RZ investments and 1,703 Union RZ investments, which relates to a reduction of 314 investments from the initial pre-optimized request.

The final 10-year portfolio of spend was reviewed and approved by the Vice President of Engineering and the Asset Management Steering Committee. The final 10-year capital plan reflects the current facility needs, as EGI completes the evaluation of investments through the IRP Assessment process, investments will be removed, reduced, or deferred where economically and technically feasible IRPAs are identified.

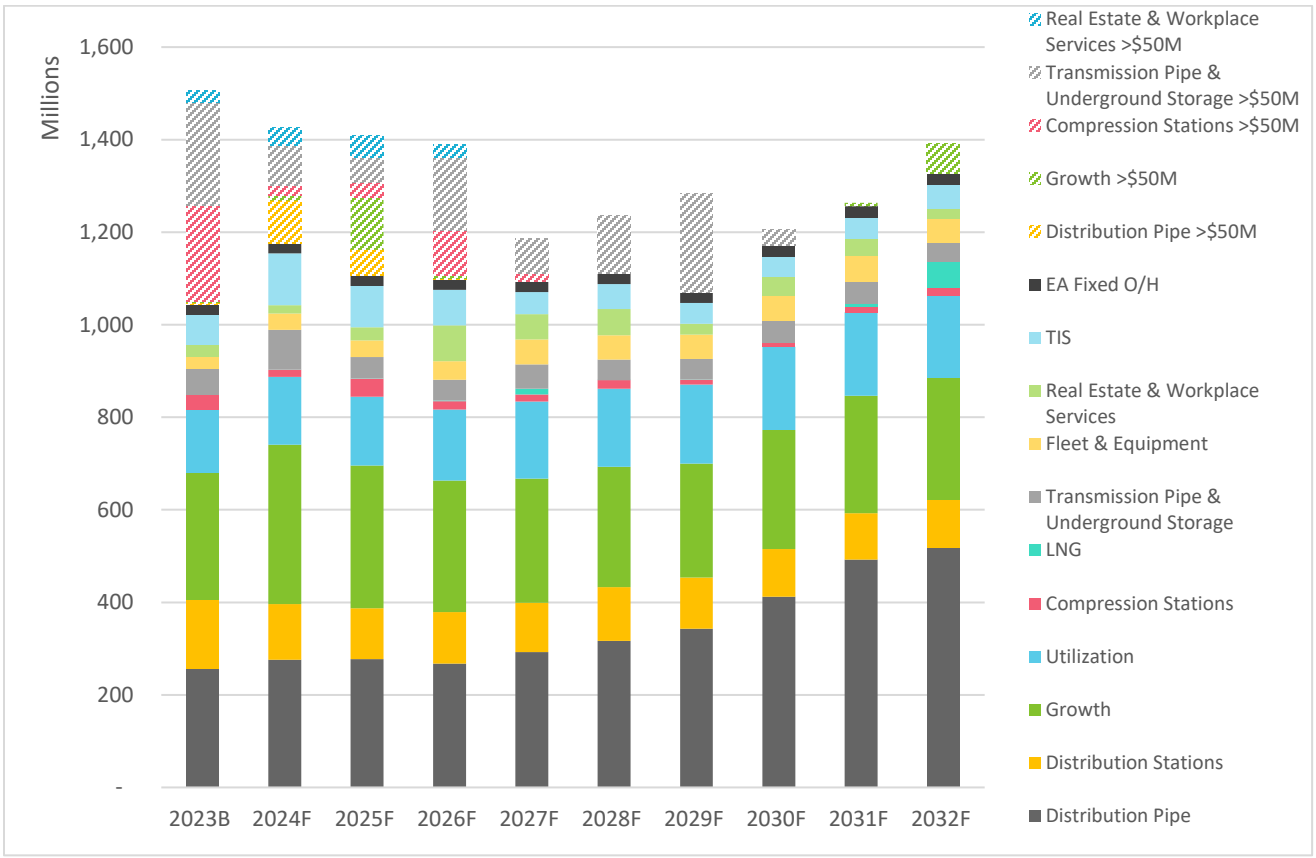


Figure 6.1-3: 10-Year Plan by Asset Class – EGI

6. Summary of Capital Expenditure

6.1 Portfolio Optimization

Using the methodology for optimization outlined in **Section 4**, this section describes the summary of the capital expenditures required to meet EGI's asset management goals and to balance risk, cost and performance. Through careful consideration of the key inputs to the asset investment planning process (risk, customer engagement feedback, resource constraints), this plan provides critical direction for the next five years.

6.1.1 Investment Criteria

In preparation for optimization, comprehensive governance reviews were completed on proposed investments using the following criteria:

- 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

In total, 1,251 Union rate zone investments and 863 EGD rate zone investments were included in the optimization of the five-year plan. Separate optimizations were run for each rate zone. The initial pre-optimized request for capital is illustrated in **Figure 6.1-1** and **Figure 6.1-2**, generated from the asset investment planning tool (C55).

6.1.2 Capital Considerations

The optimization process is based on EGI management setting a capital constraint or threshold from which a portfolio of work driven by asset needs is defined. The capital constraint is determined based on the defined regulatory framework. Determining the capital constraint involves EGI's Asset Management, Finance and Regulatory departments.

To complete EGI's latest portfolio optimization, the outcome of the MAADs Decision (*EB-2017-0306/EB-2017-0307*) and smoothing the impact to ratepayers were considered when establishing the capital constraint. The MAADs Decision established the Regulatory framework and provided EGI with the approved five-year (2019-2023) annual Incremental Capital Module (ICM) Materiality Threshold, giving EGI access to rate recovery for qualifying capital investments over and above this Materiality Threshold through the OEB's Incremental Capital Module. The 2021 ICM Materiality Threshold formula was used to determine EGI's capital constraint for 2021. For the years 2022 to 2025, the capital constraint was escalated based on the projected growth factor, allowing EGI to balance rate impacts with the utility's obligation to serve and maintain its plant. The capital constraint is inclusive of overheads[12].

EGI's capital spend requirements up to the OEB-approved ICM Materiality Threshold is described as Base Capital. To understand which projects would be considered incremental and potentially ICM-eligible, EGI applied descriptions of Base Capital and Incremental Capital Eligible to all investments for optimization (**Table 6.1-1**):

[12] *Overheads include loadings, Interest During Construction and departmental and labour costs.*

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Table 6.1-1: Base Capital and ICM-eligible Capital Descriptions

Term	Description
Base Capital	• Represents the ongoing capital requirements of the utility to maintain safe and reliable operations and to economically attach new customers and pursue opportunities for innovation • Driven by asset class strategies and programmatic work that has sufficient history and risk to warrant continuation • Supported by existing rates (through depreciation expense, annual price cap index rate increases, or incremental revenues from customer growth)
ICM-eligible Capital	• Represents discrete projects requiring an in-service capital investment of over $10M • Refers to spend driven by asset class strategies and not supported by existing rates • Total incremental spend will include all capital costs associated with the identified project incurred up to the project's in-service year when ICM is requested. • ICM eligibility does not confirm that EGI will seek ICM recovery for these projects.

To optimize the 1,251 Union rate zone investments 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.

6.1.3 Optimization Results

Portfolio optimization considers the most recent approved plan; the initial spend profile is the result of the previous optimization and approved portfolio, with the addition of new investments and updates to existing investments.

For the EGD rate zone, the initial pre-optimized request for capital exceeded the capital constraint in 2021, 2022 and 2024 (**Figure 6.1-1**). For the Union rate zones, the initial pre-optimized request for capital exceeded the capital constraint in all years (**Figure 6.1-2**). It is important to note that while overheads are included with each investment's forecast when the plan is approved, at the time of optimization, overheads are managed as their own annual forecast due to the potential time shifting of investments. Overhead amounts are approximated based on the most recent approved plan at the time of optimization and then refined at the investment level once project timing is confirmed and the plan approved.

The capital plan was optimized from 2021-2025 using the Asset Management Core Process (outlined in **Section 4.2**). The result addresses the organization's asset needs and includes known risks and opportunities requiring action over the next five years.

ENBRIDGE GAS INC.

Answer to Interrogatory from
School Energy Coalition (SEC)

Interrogatory

Reference:

2-6-2, p.255

Question(s):

With respect to pre-optimized spending profile:

a) Please provide Figure 6.1-2 in tabular format. Please also provide in Excel format.

b) In Figure 6.1-1, Enbridge presents the information by rate zone. Does Enbridge plan by rate zone? If so, please explain how.

c) On the same basis as provided in Figure 6.1-2, please provide the number of investment (as opposed to cost of the investment costs). Please provide in tabular format and also provide in Excel format.

d) On the same basis as provided in Figure 6.1-2, please provide a breakdown of each investment category (i.e. growth, distribution stations, TIS, etc.), by planning group (i.e. compliance – fixed timing, mandatory – fixed timing, etc.). Please provide in tabular format and also provide in Excel format.

Response:

a) Table 1 represents Exhibit 2, Tab 6, Schedule 2, Figure 6.1-2 in tabular form. The Excel file is provided at Attachment 1.

2023-2032 Pre-Optimized Spend Profile by Asset Class & Planning Group

Line No.	Asset Class ($)	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
1	**Compression Stations**	261,577,552	62,305,451	59,733,404	110,927,160	30,708,804	18,706,763	10,219,086	9,541,842	11,067,010	17,034,111
2	Compliance - Fixed Timing	1,298,713	1,030,115	1,514,831	1,299,044	1,384,673	1,446,373	1,354,340	1,436,436	1,498,986	1,494,046
3	Mandatory - Fixed Timing	52,783,882	18,703,566	21,795,846	14,584,483	9,571,105	13,781,209	5,626,929	4,662,169	5,960,593	9,112,338
4	Significant Invetsments (>$10M) - Fixed Timing	236,060	15,001,408	33,030,964	91,972,954	16,456,458	-	-	-	-	-
5	Value Driven - Fixed Timing	202,551,004	26,260,143	3,391,761	3,070,678	3,296,566	3,479,181	3,237,816	3,443,237	3,607,431	3,594,227
6	Value Driven - Value Framework	4,707,890	1,310,219	-	-	-	-	-	-	-	2,833,498
7	**Distribution Pipe**	335,625,987	385,784,773	313,689,918	384,772,987	418,846,063	464,005,975	491,281,948	568,953,254	587,277,215	582,500,185
8	Compliance - Fixed Timing	122,824,821	156,598,690	116,375,047	132,725,434	116,354,035	94,240,887	89,861,093	93,698,533	97,211,457	98,271,559
9	Executing - Re-Optimize	16,298,299	80,215,644	3,591,596	-	-	-	-	-	-	-
10	Executing Flagged for Optimize	15,671,178	3,836,151	-	-	-	-	-	-	-	-
11	Mandatory - Fixed Timing	48,375,310	(3,232,894)	44,349,010	42,798,095	46,259,321	54,567,293	43,250,332	45,732,650	47,220,443	47,100,737
12	Value Driven - Fixed Timing	78,889,324	98,423,215	127,383,669	196,189,568	249,536,168	309,690,249	354,816,145	427,270,193	436,701,789	437,127,887
13	Value Driven - Value Framework	53,567,053	49,943,965	21,990,594	13,059,888	6,696,536	5,507,543	3,354,377	2,251,877	6,143,524	-
14	**Distribution Stations**	159,405,211	148,320,564	111,127,380	114,078,720	111,045,977	112,203,661	107,523,524	112,725,519	116,690,930	116,039,645
15	Compliance - Fixed Timing	19,520,721	14,167,789	13,654,021	12,285,414	10,849,535	10,500,897	10,142,970	10,842,019	11,367,576	11,529,124
16	Compliance - Optimize	-	-	-	570,052	320,912	307,721	295,329	-	-	-
17	Compliance - Re-Optimize	-	-	673,249	933,681	353,771	-	-	-	-	-
18	Executing - Re-Optimize	29,599,278	4,219,766	-	3,511,557	-	-	-	-	-	-
19	Executing Flagged for Optimize	17,985,427	180,305	-	-	-	-	-	-	-	-
20	Mandatory - Fixed Timing	12,622,423	18,917,043	21,437,913	17,369,242	21,015,422	19,151,648	32,481,906	34,615,133	21,989,608	37,147,514
21	Value Driven - Fixed Timing	32,025,688	10,450,374	28,821,115	24,605,887	46,551,895	53,120,090	54,022,338	58,954,068	59,325,990	59,787,961
22	Value Driven - Value Framework	47,651,672	100,385,284	46,541,079	54,802,883	31,954,439	29,123,303	10,580,978	8,314,297	24,007,754	7,575,046
23	**EA Fixed O/H**	22,727,890	23,449,892	23,828,139	24,304,712	24,790,805	25,286,620	25,792,352	26,308,202	26,834,362	27,371,051
24	Overheads	22,727,890	23,449,892	23,828,139	24,304,712	24,790,805	25,286,620	25,792,352	26,308,202	26,834,362	27,371,051
25	**Fleet & Equipment**	37,200,833	39,752,798	42,247,113	42,506,169	44,945,062	43,575,100	42,921,540	45,838,781	48,798,595	49,843,419
26	Mandatory - Fixed Timing	37,200,833	39,752,798	42,247,113	42,506,169	44,945,062	43,575,100	42,921,540	45,838,781	48,798,595	49,843,419
27	**Growth**	334,192,994	370,151,920	389,461,836	355,664,227	312,564,541	254,132,914	279,837,508	226,101,966	215,595,260	230,479,765
28	Mandatory - Fixed Timing	332,186,479	368,408,968	389,461,836	355,664,227	312,564,541	254,132,914	279,837,508	226,101,966	215,595,260	230,479,765
29	Value Driven - Fixed Timing	2,006,514	1,742,952	-	-	-	-	-	-	-	-
30	**LNG**	1,775,354	11,178,933	351,088	245,654	395,587	9,491,206	53,079,464	32,719,016	432,891	431,307
31	Compliance - Fixed Timing	500,627	-	-	-	-	-	-	-	-	-
32	Executing Flagged for Optimize	1,062,272	10,698,119	-	-	-	-	-	-	-	-
33	Mandatory - Fixed Timing	35,409	120,203	-	-	-	-	-	-	-	-
34	Value Driven - Fixed Timing	-	-	-	-	-	-	-	-	-	-
35	Value Driven - Value Framework	177,045	360,610	351,088	245,654	395,587	9,491,206	53,079,464	32,719,016	432,891	431,307
36	**Real Estate & Workplace Services**	120,350,154	91,399,996	70,647,008	20,351,865	22,210,515	50,486,107	33,168,999	29,314,411	11,315,846	11,015,840
37	Executing - Re-Optimize	19,356,964	21,636,646	2,646,711	-	-	-	-	-	-	-
38	Executing Flagged for Optimize	6,491,665	3,738,331	4,883,183	-	-	-	-	-	-	-
39	Mandatory - Fixed Timing	7,744,183	8,215,185	8,798,253	8,735,296	9,274,384	9,605,021	9,280,907	9,944,473	11,315,846	10,063,808
40	Value Driven - Fixed Timing	79,376,829	16,212,869	901,751	892,546	923,442	2,164,924	5,164,173	930,075	-	952,032
41	Value Driven - Value Framework	7,380,511	41,596,962	53,417,106	10,724,022	12,012,687	38,716,162	18,723,918	18,439,862	-	-
42	**TIS**	85,952,039	93,441,152	64,096,297	62,872,918	57,260,932	66,077,133	44,295,638	43,132,854	59,175,484	68,460,463
43	Mandatory - Fixed Timing	36,696,964	39,232,651	21,262,508	27,935,581	42,897,824	50,839,867	27,122,422	28,158,685	43,763,926	53,534,398
44	Value Driven - Fixed Timing	24,305,415	15,032,689	10,328,713	10,053,800	10,799,697	9,644,469	9,734,985	9,853,918	10,285,069	9,796,455
45	Value Driven - Value Framework	24,949,659	39,175,811	32,505,075	24,883,536	3,563,410	5,592,796	7,438,230	5,120,249	5,126,488	5,129,608
46	**Transmission Pipe & Underground Storage**	277,617,967	177,830,809	110,834,562	192,311,292	114,406,991	132,361,316	288,897,303	88,118,139	47,707,418	46,064,127
47	Compliance - Fixed Timing	54,401,178	58,099,494	45,464,948	43,032,615	45,833,055	39,262,068	37,382,995	39,316,335	42,522,254	40,984,098
48	Mandatory - Fixed Timing	218,642,932	87,698,180	58,062,920	146,307,129	65,607,067	90,305,335	248,727,451	45,924,223	2,304,076	2,197,188
49	Value Driven - Fixed Timing	4,573,857	32,033,134	7,306,693	2,971,547	2,966,868	2,793,912	2,786,857	2,877,580	2,881,086	2,882,840
50	**Utilization**	117,235,676	145,714,686	153,124,319	157,235,553	165,182,727	167,099,337	164,894,603	175,892,910	182,822,694	186,319,710
51	Compliance - Fixed Timing	108,447,846	131,603,839	138,658,853	143,100,397	151,252,802	153,925,920	152,695,725	163,782,191	171,103,957	175,234,934
52	Mandatory - Fixed Timing	8,787,830	14,110,847	14,465,466	14,135,156	13,929,924	13,173,416	12,198,878	12,110,719	11,718,737	11,084,775
53	Grand Total	1,753,661,663	1,549,330,981	1,339,141,069	1,465,271,264	1,302,358,008	1,343,426,137	1,541,911,972	1,358,646,899	1,307,717,710	1,335,559,628

ENBRIDGE GAS INC.

Answer to Interrogatory from
School Energy Coalition (SEC)

Interrogatory

Reference:

2-6-2, p.257

Question(s):

With respect to the post-optimized and final 10-year capital plan:

a) [p.256] The evidence discusses that an optimized solution could not be obtained, and so certain adjustments had to be made. Please explain the list of constraints, and the basis for them, that were inputted into Copperleaf that led to a solution that cannot be optimized.

b) [p.257] Please explain the changes to the constraints that were inputted into Copperleaf that led to the final optimized plan (i.e. final 10 year capital plan).

c) [p.257] Please provide Figure 6.1-3 in tabular format. Please also provide in Excel format.

d) [p.257] On the same basis as provided in Figure 6.1-3, please provide the number of investments (as opposed to cost of the investment). Please provide in tabular format and also provide in Excel format.

e) [p.255, p.257] On the same basis as provided in Figure 6.1-3, please provide a breakdown of each investment category (i.e. growth, distribution stations, TIS, etc.), by planning group (i.e. compliance – fixed timing, mandatory – fixed timing, etc.). Please provide in tabular format and also provide in Excel format.

Response:

a-b) The only constraint for optimization was to annual capital expenditure. Please see response at Exhibit I.FRPO-30, part a) for the additional information requested.

c) Table 1 below represents Exhibit 2, Tab 6, Schedule 2, Figure 6.1-3 in tabular form. The Excel file can be found in Attachment 1.

10-Year Plan by Asset Class & Planning Group

Line No.	Asset Class	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
1	Distribution Pipe	257,449,775	276,001,670	277,489,976	267,500,257	292,265,638	316,416,276	343,250,256	412,065,311	492,492,937	518,229,629
2	Compliance - Fixed Timing	127,774,493	125,932,491	105,475,586	126,196,745	115,881,928	91,282,411	90,277,005	92,607,480	92,592,170	91,135,190
3	Executing - Re-Optimize	2,489,901	16,139,458	20,342,256	4,664,501	-	-	-	-	-	-
4	Executing Flagged for Optimize	12,529,822	-	2,433,628	3,972,362	67,118	34,444	700,372	141,474	1,126,419	-
5	Mandatory - Fixed Timing	50,594,758	45,749,725	43,948,697	44,470,321	48,691,145	56,470,812	46,228,560	47,907,648	47,266,477	45,878,228
6	Value Driven - Fixed Timing	43,010,056	73,441,032	75,565,665	48,238,968	65,802,355	67,537,948	83,084,045	76,328,972	97,065,265	107,555,210
7	Value Driven - Value Framework	21,050,742	14,738,962	29,724,142	39,957,357	61,823,091	101,090,660	122,960,272	195,079,734	254,442,604	273,660,999
8	Distribution Stations	149,327,442	120,556,728	109,809,532	111,404,843	106,475,958	116,290,253	110,439,089	102,816,670	100,203,290	104,156,959
9	Compliance - Fixed Timing	19,251,229	13,891,774	13,401,099	12,784,159	11,836,848	10,786,477	10,869,837	11,402,362	11,448,991	11,295,992
10	Compliance - Optimize	-	-	876,888	498,726	-	-	136,971	-	-	-
11	Compliance - Re-Optimize	-	855,522	736,046	-	-	-	-	-	-	-
12	Executing - Re-Optimize	43,524,725	13,153,749	5,970,828	3,269,197	-	-	-	-	-	-
13	Executing Flagged for Optimize	16,374,259	-	2,321,252	-	-	-	100,585	190,991	697,540	-
14	Mandatory - Fixed Timing	18,083,113	17,328,890	19,172,021	19,419,428	17,608,742	12,793,006	18,091,479	19,710,955	19,817,593	18,184,991
15	Value Driven - Fixed Timing	29,667,304	8,508,528	12,596,931	18,930,399	27,579,273	62,206,201	58,987,712	62,507,377	60,620,789	59,382,841
16	Value Driven - Value Framework	22,426,809	66,818,264	54,734,463	56,502,931	49,451,094	30,504,568	22,252,502	9,004,983	7,618,375	15,293,133
17	Growth	272,777,869	344,031,095	308,494,902	284,570,089	268,933,469	260,389,457	246,228,202	257,620,164	254,124,176	262,535,232
18	Mandatory - Fixed Timing	268,522,176	334,228,043	297,747,759	273,885,217	268,933,469	260,389,457	246,228,202	257,620,164	254,124,176	262,535,232
19	Value Driven - Fixed Timing	2,117,401	8,905,919	10,333,879	7,192,234	-	-	-	-	-	-
20	Value Driven - Value Framework	2,138,291	897,132	413,264	3,492,636	-	-	-	-	-	-
21	Utilization	136,506,690	146,479,795	148,485,654	153,210,766	166,288,763	168,363,051	170,533,177	179,466,913	180,378,170	178,589,590
22	Compliance - Fixed Timing	108,272,703	117,313,861	118,957,604	123,431,520	134,741,881	137,250,184	139,751,014	147,843,510	149,252,170	148,489,199
23	Mandatory - Fixed Timing	28,233,987	29,165,934	29,528,049	29,779,245	31,546,882	31,112,866	30,782,162	31,623,403	31,125,999	30,100,390
24	Compression Stations	31,665,308	16,182,024	39,173,878	17,977,185	14,982,050	18,738,422	10,939,138	9,930,920	11,043,929	16,175,824
25	Compliance - Fixed Timing	1,370,221	1,090,115	1,485,196	1,368,829	1,457,316	1,445,143	1,434,976	1,485,090	1,468,795	1,425,522
26	Mandatory - Fixed Timing	23,470,895	12,701,690	18,959,425	16,526,253	10,055,375	13,852,841	6,088,359	4,908,956	6,076,937	8,362,939
27	Value Driven - Fixed Timing	2,467,334	1,614,839	18,102,903	82,103	3,469,357	3,440,437	3,415,803	3,536,873	3,498,196	3,394,978
28	Value Driven - Value Framework	4,356,857	775,379	626,353	-	-	-	-	-	-	2,992,383
29	LNG	752,489	320,404	536,341	1,172,900	12,767,235	412,852	409,896	424,424	8,115,815	55,655,914
30	Compliance - Fixed Timing	528,294	-	-	-	-	-	-	-	-	-
31	Executing Flagged for Optimize	-	-	-	1,172,900	12,350,912	-	-	-	-	-
32	Mandatory - Fixed Timing	37,365	128,161	-	-	-	-	-	-	-	-
33	Value Driven - Value Framework	186,829	192,242	536,341	-	416,322	412,852	409,896	424,424	8,115,815	55,655,914
34	Transmission Pipe & Underground Storage	57,137,388	85,561,261	45,930,306	44,942,512	52,796,968	44,318,433	44,131,321	45,486,732	46,475,992	43,358,731
35	Compliance - Fixed Timing	50,952,121	48,872,768	39,666,992	41,511,378	48,241,786	38,664,009	39,915,443	39,696,293	42,396,953	38,008,658
36	Mandatory - Fixed Timing	3,858,399	5,281,650	1,561,436	3,106,830	1,431,335	2,557,198	1,136,756	2,618,995	943,512	2,305,581
37	Value Driven - Fixed Timing	2,326,868	31,406,842	4,701,877	324,304	3,123,845	3,097,224	3,079,121	3,171,444	3,135,527	3,044,491
38	Fleet & Equipment	25,522,210	35,021,486	36,393,108	40,498,813	53,560,300	52,273,361	52,569,059	55,230,474	56,478,725	49,694,837
39	Mandatory - Fixed Timing	25,522,210	35,021,486	36,393,108	40,498,813	53,560,300	52,273,361	52,569,059	55,230,474	56,478,725	49,694,837
40	Real Estate & Workplace Services	26,851,985	17,794,569	28,475,644	77,453,443	54,616,446	56,372,792	23,268,215	40,425,091	36,419,967	21,039,276
41	Executing - Re-Optimize	311,382	2,563,236	2,582,900	2,606,445	-	-	-	-	-	-
42	Executing Flagged for Optimize	-	-	-	-	6,661,166	4,747,803	-	933,734	5,163,337	40,739
43	Mandatory - Fixed Timing	6,656,992	6,966,367	8,766,463	9,015,954	9,762,270	9,906,644	9,963,810	10,487,584	11,466,567	9,920,325
44	Value Driven - Fixed Timing	19,571,882	7,303,932	904,114	913,815	972,074	2,341,649	5,683,132	988,937	-	949,305
45	Value Driven - Value Framework	311,727	961,032	16,222,166	64,917,227	37,220,936	39,376,694	7,621,271	28,014,835	19,790,062	10,128,905
46	TIS	63,743,859	112,426,530	88,738,042	76,930,524	48,076,798	54,064,385	45,337,834	43,405,732	45,943,567	53,889,259
47	Mandatory - Fixed Timing	39,217,929	61,664,219	49,033,431	41,219,095	29,203,320	39,636,049	28,576,730	29,273,962	31,700,910	40,572,279
48	Value Driven - Fixed Timing	15,698,487	13,922,673	9,193,936	10,146,596	11,369,577	10,295,029	10,597,382	10,604,806	10,755,638	9,931,201
49	Value Driven - Value Framework	8,827,442	36,839,637	30,510,675	25,564,832	7,503,900	4,133,306	6,163,721	3,526,962	3,487,018	3,385,778
50	EA Fixed O/H	21,673,996	21,949,891	22,241,315	22,549,168	22,874,415	23,218,091	23,581,304	23,965,243	24,371,183	24,800,489
51	Overheads	21,673,996	21,949,891	22,241,315	22,549,168	22,874,415	23,218,091	23,581,304	23,965,243	24,371,183	24,800,489
52	Distribution Pipe >$50M	4,488,881	92,258,515	55,800,298	1,225,949	-	-	-	-	-	-
53	Executing - Re-Optimize	-	36,134,724	53,798,109	1,225,949	-	-	-	-	-	-
54	Value Driven - Fixed Timing	4,488,881	56,123,791	2,002,189	-	-	-	-	-	-	-
55	Growth >$50M	2,491,060	10,252,946	113,647,617	6,516,113	-	-	-	378,090	7,459,430	63,747,434
56	Mandatory - Fixed Timing	2,491,060	10,252,946	113,647,617	6,516,113	-	-	-	378,090	7,459,430	63,747,434
57	Compression Stations >$50M	206,818,006	22,413,434	32,234,597	97,585,318	17,319,032	-	-	-	-	-
58	Significant Investments (>$10M) - Fixed Timing	249,106	15,994,596	32,234,597	97,585,318	17,319,032	-	-	-	-	-
59	Value Driven - Fixed Timing	206,568,900	6,418,838	-	-	-	-	-	-	-	-
60	Transmission Pipe & Underground Storage >$50M	223,580,891	86,113,691	53,417,487	159,028,581	75,787,627	125,537,786	212,036,231	34,820,024	-	-
61	Mandatory - Fixed Timing	223,580,891	86,113,691	53,417,487	159,028,581	75,787,627	125,537,786	212,036,231	34,820,024	-	-
62	Real Estate & Workplace Services >$50M	25,249,956	38,762,012	47,143,056	26,064,454	-	-	-	-	-	-
63	Executing - Re-Optimize	-	1,922,427	23,891,828	26,064,454	-	-	-	-	-	-
64	Value Driven - Fixed Timing	25,249,956	36,839,584	23,251,227	-	-	-	-	-	-	-
65	**Grand Total**	**1,506,037,811**	**1,426,126,058**	**1,408,011,761**	**1,388,630,922**	**1,186,744,705**	**1,236,395,164**	**1,282,723,727**	**1,206,035,794**	**1,263,507,186**	**1,391,873,178**

10-Year Plan by Asset Class & Planning Group

Line No.	Asset Class	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	
1	Distribution Pipe	216,583,430	344,793,026	241,928,696	272,670,252	250,187,920	327,210,138	345,704,046	397,460,315	511,494,125	671,846,939	/u
2	Compliance - Fixed Timing	135,862,352	172,963,256	105,603,871	132,610,938	116,994,260	97,218,151	93,932,518	93,905,280	94,732,347	92,514,500	/u
3	Executing - Re-Optimize	178,262	4,747,894	17,616,836	11,742,808	495,029	-	-	-	-	3,361,499	/u
4	Executing Flagged for Optimize	6,478,981	5,516,820	-	-	970,890	61,854	2,870,817	-	-	-	/u
5	Mandatory - Fixed Timing	47,826,369	44,598,902	43,785,412	47,832,624	49,923,002	51,822,977	49,360,810	51,136,775	51,520,784	50,997,239	/u
6	Value Driven - Fixed Timing	24,384,169	109,020,245	68,654,792	44,807,466	48,085,362	102,988,820	84,863,153	76,297,080	73,108,435	99,679,936	/u
7	Value Driven - Value Framework	1,853,298	7,945,909	6,267,784	35,676,416	33,719,377	75,118,336	114,676,748	176,121,180	292,132,559	425,293,766	/u
8	Distribution Stations	62,331,211	80,899,753	90,191,077	104,340,606	79,032,223	116,636,713	121,501,197	117,022,097	117,712,834	109,841,101	/u
9	Compliance - Fixed Timing	14,830,761	9,122,611	6,574,371	8,323,673	7,320,444	11,119,607	10,604,853	11,091,994	11,356,137	11,014,319	/u
10	Compliance - Optimize	-	-	-	-	-	340,325	313,121	-	-	-	/u
11	Compliance - Re-Optimize	-	-	-	-	-	-	-	-	-	-	/u
12	Executing - Re-Optimize	1,810,671	302,974	19,994,814	6,175,363	-	-	-	-	-	-	/u
13	Executing Flagged for Optimize	2,903,506	3,288,658	1,847,118	708,849	464,595	-	-	-	-	-	/u
14	Mandatory - Fixed Timing	10,384,266	13,921,640	1,475,335	8,591,105	6,535,527	19,510,014	31,810,313	33,153,255	22,709,152	33,163,272	/u
15	Value Driven - Fixed Timing	30,372,900	40,811,112	14,881,108	26,455,727	36,139,385	60,250,177	71,635,105	63,911,651	60,622,962	58,753,347	/u
16	Value Driven - Value Framework	2,029,107	13,452,758	45,418,332	54,085,889	28,572,273	25,416,589	7,137,805	8,865,198	23,024,582	6,910,163	/u
17	Growth	337,500,483	380,258,249	344,305,552	294,335,538	299,693,790	263,012,814	248,775,756	237,785,158	231,028,428	207,885,913	/u
18	Mandatory - Fixed Timing	329,379,346	357,973,554	331,484,849	289,262,466	297,792,940	261,031,317	246,781,189	235,714,142	228,900,604	205,857,039	/u
19	Overheads	3,399,525	2,776,960	1,734,847	1,859,098	1,900,850	1,981,497	1,994,567	2,071,016	2,127,824	2,028,874	/u
20	Value Driven - Fixed Timing	4,283,308	9,514,690	11,085,856	3,213,974	-	-	-	-	-	-	/u
21	Value Driven - Value Framework	438,303	9,993,045	-	-	-	-	-	-	-	-	/u
22	Utilization	160,737,353	152,303,366	160,186,484	172,980,774	152,033,605	188,726,332	188,345,626	201,596,514	209,492,981	208,826,902	/u
23	Compliance - Fixed Timing	139,235,405	129,596,563	136,774,221	147,651,725	127,578,206	160,946,870	160,605,955	171,670,233	178,255,981	177,376,060	/u
24	Mandatory - Fixed Timing	21,501,948	22,706,803	23,412,263	25,329,050	24,455,399	27,779,462	27,739,671	29,926,281	31,237,000	31,450,842	/u
25	Compression Stations	33,648,471	31,704,889	71,037,086	16,951,462	14,583,450	18,972,787	10,679,011	9,637,323	10,936,812	16,150,188	/u
26	Compliance - Fixed Timing	468,136	1,517,226	507,182	1,397,342	1,401,644	1,431,770	1,408,747	1,438,943	1,449,866	1,363,225	/u
27	Mandatory - Fixed Timing	25,451,191	12,357,770	42,408,846	14,938,046	9,848,987	14,134,917	5,908,925	4,776,641	6,040,281	8,496,305	/u
28	Value Driven - Fixed Timing	3,934,565	14,128,447	27,219,232	124,002	3,332,820	3,406,100	3,361,340	3,421,739	3,446,666	3,221,946	/u
29	Value Driven - Value Framework	3,794,579	3,701,446	901,827	492,071	-	-	-	-	-	3,068,712	/u
30	LNG	546,228	738,852	525,714	1,462,915	12,264,778	1,798,421	403,361	410,609	7,996,264	52,819,296	/u
31	Compliance - Fixed Timing	(119,059)	423,103	-	-	-	-	-	-	-	-	/u
32	Executing Flagged for Optimize	-	-	-	1,196,930	11,864,839	-	-	-	-	-	/u
33	Mandatory - Fixed Timing	-	126,300	-	-	-	-	-	-	-	-	/u
34	Value Driven - Fixed Timing	471,917	-	-	-	-	-	-	-	-	-	/u
35	Value Driven - Value Framework	193,369	189,449	525,714	265,985	399,938	1,798,421	403,361	410,609	7,996,264	52,819,296	/u
36	Transmission Pipe & Underground Storage	39,964,089	62,197,584	70,804,896	63,499,881	51,563,850	49,646,140	41,287,395	44,475,477	44,242,219	42,621,239	/u
37	Compliance - Fixed Timing	38,676,734	57,685,382	36,023,140	55,408,038	47,281,490	44,674,294	37,381,757	39,459,679	40,299,083	37,819,557	/u
38	Mandatory - Fixed Timing	1,287,355	3,045,661	2,176,163	3,247,678	1,243,690	1,881,914	950,914	1,898,209	792,950	1,679,533	/u
39	Value Driven - Fixed Timing	-	1,466,541	32,605,593	4,844,165	3,038,669	3,089,932	2,954,724	3,117,588	3,150,186	3,122,149	/u
40	Fleet & Equipment	8,861,923	31,478,468	35,408,203	40,111,977	45,720,145	45,535,468	45,059,621	47,692,707	49,964,914	49,055,660	/u
41	Mandatory - Fixed Timing	8,861,923	31,478,468	35,408,203	40,111,977	45,720,145	45,535,468	45,059,621	47,692,707	49,964,914	49,055,660	/u
42	Real Estate & Workplace Services	49,995,423	37,350,716	49,379,401	75,032,237	11,492,714	41,530,876	34,542,812	35,917,270	9,276,733	10,819,025	/u
43	Executing - Re-Optimize	322,282	315,749			-	-	-	-	-	-	/u
44	Executing Flagged for Optimize	451,195	833,577	-	-	-	3,337,978	-	-	-	-	/u
45	Mandatory - Fixed Timing	3,499,128	8,059,089	-	-	-	9,836,627	9,711,418	10,208,638	868,763	9,881,852	/u
46	Value Driven - Fixed Timing	6,510,316	8,436,639	-	-	-	2,332,462	5,465,228	964,433	-	937,172	/u
47	Value Driven - Value Framework	39,212,502	19,705,662	49,379,401	75,032,237	11,492,714	26,023,809	19,366,166	24,744,198	8,407,970	-	/u
48	TIS	36,467,999	79,601,343	55,423,857	57,787,580	44,935,466	56,722,399	46,529,731	45,263,048	48,879,062	55,611,395	/u
49	Mandatory - Fixed Timing	17,513,870	29,227,564	15,385,684	24,766,870	30,265,675	40,291,226	28,505,186	29,427,662	32,537,286	40,140,009	/u
50	Value Driven - Fixed Timing	13,208,358	22,146,419	11,070,734	10,380,200	11,020,144	10,245,811	10,138,271	10,288,076	10,736,462	9,915,960	/u
51	Value Driven - Value Framework	5,745,770	28,227,359	28,967,439	22,640,510	3,649,647	6,185,362	7,886,274	5,547,310	5,605,313	5,555,426	/u
52	EA Fixed O/H	25,571,378	39,846,629	40,844,125	41,878,953	42,953,168	23,218,092	23,581,305	23,965,244	24,371,184	24,800,490	/u
53	Overheads	25,571,378	39,846,629	40,844,125	41,878,953	42,953,168	23,218,092	23,581,305	23,965,244	24,371,184	24,800,490	/u
54	Distribution Pipe >$50M	20,896,371	12,165,299	173,106,004	10,378,458	-	687,262	2,628,758	28,429,964	1,401,328	-	/u
55	Executing - Re-Optimize	-	-	69,828,151	4,017,468	-	687,262	2,628,758	28,429,964	1,401,328	-	/u
56	Value Driven - Fixed Timing	20,896,371	12,165,299	103,277,853	6,360,991	-	-	-	-	-	-	/u
57	Growth >$50M	3,867,383	11,516,242	103,788,615	6,649,613	362,261	7,350,959	61,867,820	741,953	375,556	-	/u
58	Mandatory - Fixed Timing	3,867,383	11,516,242	103,788,615	6,649,613	362,261	7,350,959	61,867,820	741,953	375,556	-	/u
59	Compression Stations >$50M	292,503,302	13,845,083	15,311,843	32,173,490	100,752,481	17,842,512	-	-	-	-	/u
60	Significant Invetsments (>$10M) - Fixed Timing	257,826	-	15,311,843	32,173,490	100,752,481	17,842,512	-	-	-	-	/u
61	Value Driven - Fixed Timing	292,245,477	13,845,083	-	-	-	-	-	-	-	-	/u
62	Transmission Pipe & Underground Storage >$50M	61,684,764	201,744,063	80,332,948	136,898,166	216,834,266	98,398,482	218,067,178	91,171,749	9,650,664	-	/u
63	Mandatory - Fixed Timing	61,684,764	201,744,063	80,332,948	136,898,166	216,834,266	98,398,482	218,067,178	91,171,749	9,650,664	-	/u
64	Real Estate & Workplace Services >$50M	12,979,722	25,611,157	11,921,570	17,218,601	20,360,487	-	-	-	-	-	/u
65	Executing - Re-Optimize	-	-	11,921,570	17,218,601	20,360,487	-	-	-	-	-	/u
66	Value Driven - Fixed Timing	12,979,722	25,611,157	-	-	-	-	-	-	-	-	/u
67	TIS >$50M	10,669,331	22,832,346	22,719,634	13,565,649	-	-	-	-	-	-	/u
68	Mandatory - Fixed Timing	10,669,331	22,832,346	22,719,634	13,565,649	-	-	-	-	-	-	/u
69	**Grand Total**	**1,374,808,862**	**1,528,887,066**	**1,567,215,704**	**1,357,936,152**	**1,342,770,606**	**1,257,289,395**	**1,388,973,616**	**1,281,569,426**	**1,276,823,103**	**1,450,278,147**	/u

4.1.3 Life Cycle Delivery

EGI aims to have clear ownership, accountabilities, policies and processes to manage all physical assets throughout their entire life cycle. The strategies to achieve this are:

- Implement life cycle management for assets.
- Ensure asset decision-making is compliant with applicable standards, legislation and regulatory decisions.
- Build life cycle strategies for assets that consider the design and operational context throughout the asset life cycle.
- Use life cycle strategies for assets to drive consistent and holistic evaluation of investment opportunities.

Life cycle strategies for assets drive the consistent and holistic evaluation of needs and opportunities. With clear objectives for the use and operation of assets, life cycle costs can be examined to ensure that optimal asset value is attained over the asset's life.

EGI has defined asset life-cycle stages that are applied to all asset classes (see **Figure 4.1-5**), adapted from the IAM Conceptual Asset Management Model (see **Figure 3.1-1**):

- Design/Construct
- Operate
- Maintain
- Renew/Retire

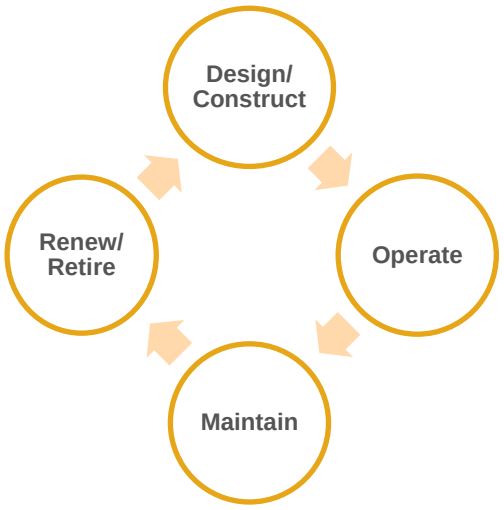

Figure 4.1-5 Asset Life Cycle Stages

Using these life-cycle stages, strategies are developed for each asset class to support asset investment decisions. **Table 4.1-1** describes the typical activities for each life cycle stage.

Table 4.1-1: Life-Cycle Management for Assets

Life-Cycle Stage	Activities
Design/Construct	• Design new assets to: • Ensure the safe and reliable delivery of natural gas. • Ensure worker and public safety. • Ensure code compliance. • Support energy transition. • Meet current and future demand requirements. • Reduce risk to the lowest practicable level. • Ensure critical components and systems have multiple layers of failure protection. • Ensure components and systems can be made safe in a reasonable period. • Minimize environmental impact and GHG emissions. • Minimize future maintenance needs. • Suit business purpose and ensure safe business function. • Procure materials to meet or exceed applicable codes, standards and policies. • Construct/install assets to meet or exceed codes, standards, designs and procedures for safe and reliable operations. • Create asset records to meet or exceed standards, policies and procedures that are traceable, verifiable, complete and correct.
Operate	• Operate the system to: • Ensure the safe and reliable delivery of natural gas. • Ensure worker and public safety. • Meet or exceed compliance standards and procedures. • Meet current demand. • Minimize end-user disruption.

Life-Cycle Stage	Activities
	• Use assets in the most cost-effective manner. • Extend asset life. • Suitably commission assets for safe, efficient and reliable use by employees and contractors. • Provide business and employees with support and service for optimal use of company assets and business solutions. • Monitor the performance and use of assets to inform future life cycle decisions.
Maintain	• Maintain integrity of gas-carrying assets to minimize loss of containment, extend asset life and ensure compliance with codes, standards and procedures. • Maintain gas-carrying assets and safety controls to avoid overpressure or delivery outages. • Maintain asset information to meet or exceed standards set out by EGI. • Determine probability and consequence of failure to inform maintenance and repair programs. • Maintain competency levels to ensure work is performed by qualified and competent workers. • Continue to improve methods to maintain and extend life of assets, ensuring a balance between risk, cost and performance.
Renew/Retire	• Determine probability and consequence of failure to inform renewal decisions. • Develop proactive renewal programs for assets that are nearing end-of-life (informed by data and tacit knowledge and tracked in the Integrated Management System). • Renew or replace assets to meet the changing needs of the business, support employee and contractor health and safety, support energy transition, meet or exceed regulatory and compliance requirements, increase efficiencies and reduce overall GHG emissions. • Renew or replace assets to meet the changing needs of the business, increase performance, realize efficiencies and address obsolescence. • Retire assets using a process that meets or exceeds regulatory codes and standards.

4.1.4 Risk and Review

EGI aims to manage risks through the adoption of a Risk Management process (see **Section 4.2**) based on ISO 31000 and the Enbridge Framework Standard on Risk Management. The strategies to achieve this are to:

- Establish a framework to identify, analyze, evaluate, and treat risk.
- Implement processes based on the framework to management risks.
- Monitor asset performance, health and risk to balance risk, cost and performance.

Asset performance, health and risk is monitored through a range of formal and informal methods including condition assessment programs, tracking of performance data through Management Programs (part of the Integrated Management System), the Asset Health Review and the Hazard Identification and Risk Assessment process.

Through these inputs and the Risk Management process, EGI manage risks in the following categories:

- **Employee and Contractor Health and Safety**: Level of injury or illness and number of employees impacted
- **Public Health and Safety**: Level of injury or illness and number of people in general public impacted
- **Environmental**: Breadth and severity resulting in environmental damage/impact
- **Financial**: Level of financial impact
- **Operational**: Length of time and breadth of impact on utility and transportation customers and diversion of resources
- **Reputational**: Level of media coverage, impact on customers, potential penalties or impact on ability to operate due to compliance issues

4.1.5 Asset Management Decision-Making

EGI aims to have a clear framework for asset investment decision-making that balances risk, cost and performance throughout the asset life cycle. The strategies to achieve this are:

- Optimize portfolio based on asset management principles.
- Improve decision-making through transparency, clear accountabilities, stakeholder engagement and use of a common tool.
- Extend asset management decision-making to further include operations and maintenance activities to ensure that optimal asset value is attained over each asset's life.
- Improve decision-making through an understanding of the asset context and timing considerations for outages.

Investments fall into one of three categories based on asset management principles: mandatory, compliance or value-driven, as described in **Table 4.1-2**. These categories support portfolio optimization and the determination of optimal investment timing through the AIPM process **Section 4.3**.

Table 4.1-2: Investment Categories

Investment Category	EGI Description
Mandatory	An investment that is required to address a risk or opportunity within its required time window. Mandatory investments can be the result of: • Exceeding an established risk upper threshold • Third-party relocation • Program work with sufficient history and risk to warrant continuation • Projects that meet the economic feasibility tests in *EBO 188* and *EBO 134*
Compliance	Investments required to adhere with applicable laws and regulations, industry codes, standards and internal policies. Compliance investments receive the same treatment as mandatory investments–both must be addressed within their required time frame.
Value-Driven	Investments whose timing is determined based on consideration of the value it brings to the ratepayer and the organization. Value and investment timing can be informed via the **Copperleaf value framework** or via the GDS Risk Management process (see **Section 4.2**).

EGI uses Copperleaf, an asset investment planning tool that provides a common economic scale, to understand and evaluate proposed capital investments. Copperleaf allows EGI to optimize its investment portfolio based on the defined capital considerations (see **Section 6.1.2**), use a normalized scale to support value-based decision-making, and helps to ensure EGI fulfils its regulatory and internal requirements for systematic and transparent investment decisions.

Copperleaf supports the AIPM process (see **Section 4.3**) by:

- Allowing the documentation of risk management opportunities and treatment options
- Capturing growth opportunities
- Providing context on value-driven investments through the value framework, to demonstrate alignment with the Asset Management Policy and organizational strategic priorities
- Performing portfolio optimizations using iterative scenarios to determine an optimal spend profile
- Allowing investment details to be updated throughout the year to optimally manage the investment portfolio
- Providing full transparency to business stakeholders on the approved work plan and understanding year-over-year changes

For value-driven investments (see **Table 4.1-2**), an organization needs a mechanism to determine its investments' relative value. Several elements can contribute to the overall value of an investment, such as:

- The type and severity of the risks treated by an investment
- Financial impacts such as cost savings
- Overall cost of the investment
- Impacts to Key Performance Indicators (KPIs)
- Service measures
- Overall organizational value additions

An investment's value is quantified through Copperleaf's value framework or evaluated via the GDS Risk Management process. The investment timing and scope of work for investments that rely on the GDS Risk Management process is typically

more complex–investment timing is confirmed outside of Copperleaf optimization. For value-driven investments that use the Copperleaf value framework, value measures are used to quantify an investment's value, as described in **Table 4.1-3**.

Value measures are investment attributes that are evaluated objectively based on risk or opportunity to determine how the investment delivers value to Enbridge and the ratepayer. These value measures are placed on an economic scale to assist in optimization. An investment's net value is used to determine both its independent merit and its standing among other investments in a constrained optimization process.

The **Copperleaf value framework** is an analytical framework that complements risk assessments, allows for comparison of dissimilar investments and enables portfolio optimization. Each of the Enbridge's strategic priorities (see **Section 2.2.2**) is comprised of one or more value measures. For more details on valuing investment risk, see **Section 4.2.3**.

Table 4.1-3: EGI's Value Measures

Value Measure	Description
Employee and Contractor Health and Safety Risk	Measures the risk of employee and contractor safety incidents that will be mitigated through the completion of an investment.
Public Health and Safety Risk	Measures the risk of public safety incidents treated through the completion of an investment.
IT and Facilities Capacity Risk	Measures the risk that the organization would not be capable of continued service at acceptable levels following a disruptive incident.
Operational Risk	Measures the mitigation of the risk of disruptive incidents preventing Enbridge from operating or serving its customers.
Reputational Risk	Measures the treatment of the risk of incidents that would be perceived poorly by customers, the media and stakeholders through the completion of an investment.
Gas Storage Reliability	Measures the financial benefits of investments that increase the reliability of gas storage assets to prevent supply interruptions.
Environmental Risk and Remediation	Measures the treatment of risk of environmental incidents through the completion of an investment.
Operational Disruption Risk (Gas)	Measures the societal cost of a disruption in the distribution of gas to customers.
Growth Per Year	Measures the expected customer growth per year the system serves.
Avoided GHG Emissions	Measures the monetary value of reducing CO_2 greenhouse gas emissions through the completion of an investment.
Avoided Reactive Replacement	The financial savings of replacing an asset proactively before it fails and not having to pay the higher, reactive replacement costs.
Financial Risk	Measures the treatment of potential financial risks, such as financial losses due to damage of equipment/company assets, if the investment is not completed.
Revenue Impact	Measures the impacts to the total amount of gross income generated by Enbridge's primary operations. Revenue represents the total income earned before expenses are deducted.
Budget Savings OPEX	Values the OPEX Budget Savings of the investment.
Budget Savings CAPEX	Budget savings is the net benefit between the anticipated cost increases to the CAPEX budget as well as cost savings to current planned spending. This is not the Investment Cost.
Cost Avoidance OPEX	Any action that avoids having to incur OPEX costs in the future (these costs would be unbudgeted/unplanned). Cost avoidance measures are never reflected in financial statements or the annual budget. Avoided OPEX costs are only reflected in instances where a proposed action is not implemented, thus resulting in a cost increase.
Cost Avoidance CAPEX	Any action that avoids having to incur CAPEX costs in the future (these costs would be unbudgeted/unplanned). Cost avoidance measures are never reflected in financial statements or the annual budget. Avoided CAPEX costs are only reflected in instances where a proposed action is not implemented, thus resulting in a cost increase.

Value Measure	Description
Energy Efficiency	Measures the financial benefits through annual energy savings and reduced CO_2 emissions.
Employee Productivity	Measures the impact on working conditions and employee productivity.

EGI has been implementing and continues to mature its asset management decision-making practice.

4.1.6 Asset Information

EGI aims to have the right systems, processes and data to support asset management. This is foundational to all other asset management capabilities. The strategies to achieve this are:

- Produce and evaluate asset information and condition information.
- Establish a governance framework to ensure data is captured, managed and used effectively in decision-making.

Asset data provides the foundation for asset investment planning (see **Figure 4.1-6**). Asset analytics supports people, processes and technology advancements to enable defendable asset decisions. Asset analytics provides asset information that informs and supports asset health reviews, engineering reliability assessments, risk and opportunity assessments and asset replacement strategies. It also outlines the processes, governance and systems required to ensure decisions are defendable and repeatable through using data that is fit for purpose.

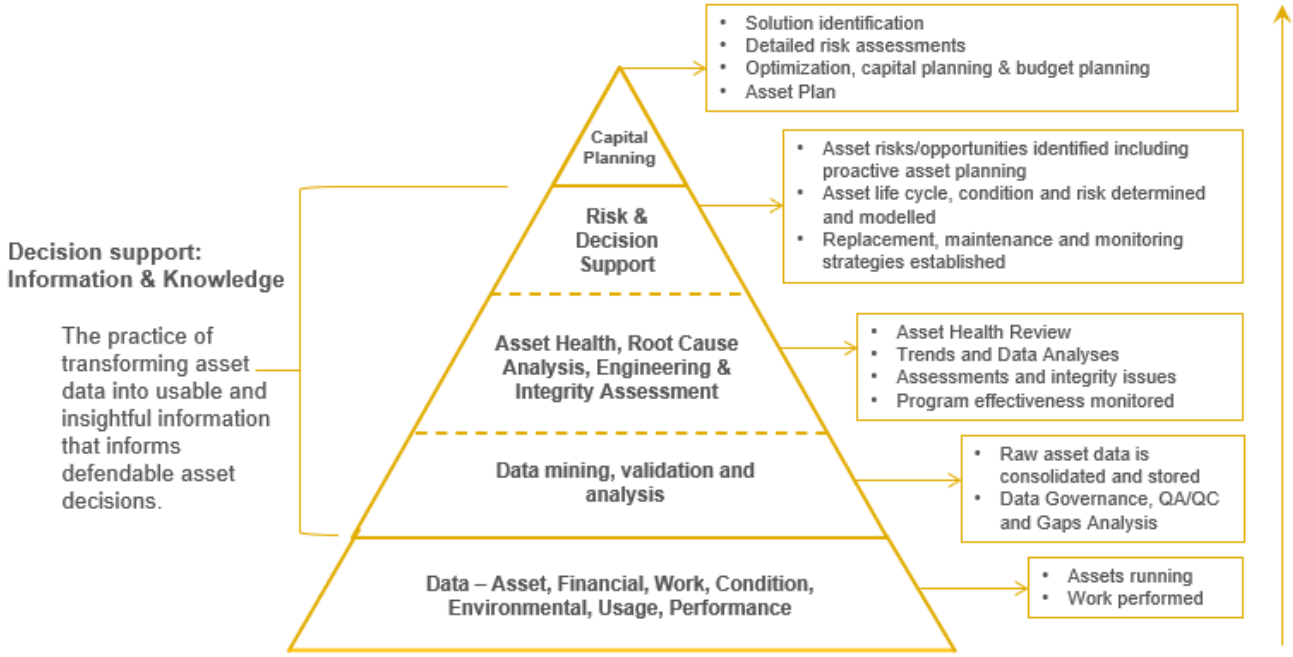

Figure 4.1-6: Asset Information and Support to Asset Investment Planning

Asset data enables the evaluation of existing assets, determines patterns, supports costing of solution options and identifies meaningful information to inform life cycle management strategies. Several reports and tools are used to inform asset investment planning. Supported by EGI and industry knowledge, asset information is leveraged for asset analytics and modelling to:

- Assess asset condition
- Support and predict risk and value assessments
- Develop cost estimates and understand financial performance
- Inform and support asset health reviews and engineering reliability assessments

- Establish asset inventory and population over time
- Ensure compliance with EGI policy and regulatory requirements
- Make operational asset decisions, e.g., emergency response
- Ensure safe and reliable operations e.g., core work, maintenance

4 VALUE MODELS AND VALUE MEASURES

Whereas Value Measures cover the different types of value that a given Investment can bring to Enbridge, Value Models capture the way in which these measures are calculated. A Value Model can be used to calculate one or more Value Measures as shown in the figure below:

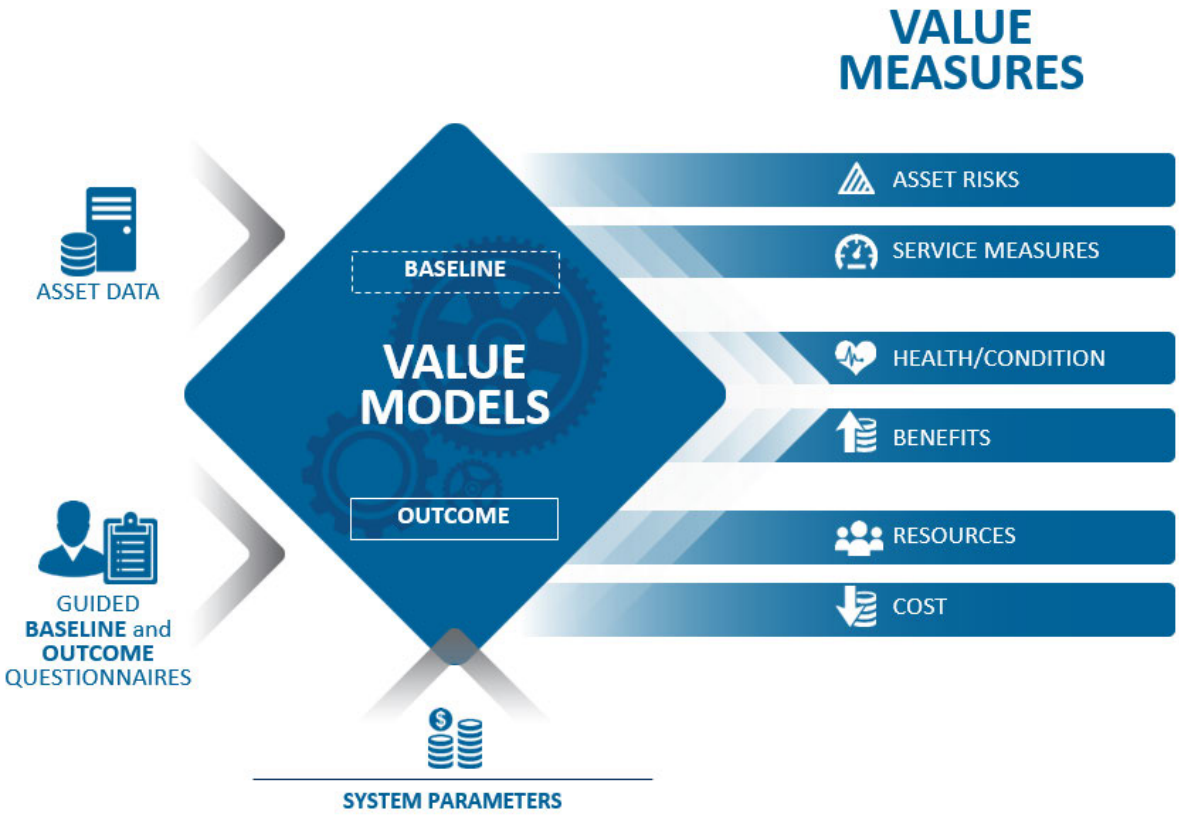

Figure 8: Value Models and Value Measures

Value Models can be driven by pre-existing data in the system, and/or require manual data entry into a questionnaire. Some questionnaires may ask for inputs relating to the matrix, while others may include a more complex set of questions that feeds a calculation. All approaches are discussed in the following sections.

Table 4: Summary of Value Models and Output Measures provides a summary of the Value Models and their corresponding Value Measure outputs.

Value Model	Usage	Output Value Measures
Avoided Reactive Replacement	Optional. May be manually added to Investments.	Avoided Reactive Replacement
Customer Retention	Optional. May be manually added to Investments.	Customer Retention (CA) Customer Retention (US) Cost Avoidance OPEX (CA) Cost Avoidance OPEX (US)
EGI Gas Commodity Loss	Optional. May be manually added to Investments.	Budget Savings OPEX (CA) Avoided GHG Emissions (CA) Avoided Tonnes of GHG
EGI Operational Disruption Risk	Optional. May be manually added to Investments.	Financial Risk Operational Disruption Risk (Gas) (CA) Public Safety Risk Unacceptable Risk
EGI Station Capacity	Optional. May be manually added to Investments.	Unacceptable Risk Operational Disruption Risk (Gas) (CA) Public Safety Risk Financial Risk
EGI System Reinforcement	Optional. May be manually added to Investments.	Growth Per Year Budget Savings OPEX (CA) Financial Risk Revenue Impact (CA) Public Safety Risk Unacceptable Risk
Employee and Contractor Safety Risk	Optional. May be manually added to Investments.	Employee and Contractor Safety Risk Unacceptable Risk
Employee Productivity	Optional. May be manually added to Investments.	Employee Productivity (CA) Employee Productivity (US)
Energy Efficiency	Optional. May be manually added to Investments.	Avoided Tonnes of GHG Avoided Tons of GHG Energy Efficiency (CA) Energy Efficiency (US) Energy Savings Total (MWh)

Value Model	Usage	Output Value Measures
		Avoided GHG Emissions (CA)
		Avoided GHG Emissions (US)
Enterprise General Risks	Optional. May be manually added to Investments	Avoided GHG Emissions (CA)
		Avoided Tonnes of GHG
		Budget Savings OPEX (CA)
		Cost Avoidance CAPEX (CA)
		Cost Avoidance OPEX (CA)
		Cost Avoidance CAPEX (US)
		Cost Avoidance OPEX (US)
		Employee and Contractor Safety Risk
		Environmental Risk and Remediation
		Financial Risk
		Public Safety Risk
		Reputational Risk
		Unacceptable Risk
Environmental Risk and Remediation	Optional. May be manually added to Investments.	Environmental Risk and Remediation
		Unacceptable Risk
External Risks – Investment	Optional. May be manually added to Investments.	Budget Savings CAPEX (CA)
		Budget Savings CAPEX (US)
		Budget Savings OPEX (CA)
		Budget Savings OPEX (US)
		Cost Avoidance CAPEX (CA)
		Cost Avoidance CAPEX (US)
		Cost Avoidance OPEX (CA)
		Cost Avoidance OPEX (US)
		Financial Risk
		Avoided GHG Emissions (CA)
		Avoided GHG Emissions (US)
		Energy Efficiency (CA)
		Energy Efficiency (US)
		Gas Storage Reliability (CA)
		Gas Storage Reliability (US)

Value Model	Usage	Output Value Measures
		Environmental Risk and Remediation
		Revenue Impact (CA)
		Revenue Impact (US)
		Operational Risk
		Reputational Risk
		Public Safety Risk
		Employee and Contractor Safety Risk
		Individual Risk
		Societal Risk
		Operational Disruption Risk (Gas) (CA)
		Operational Disruption Risk (Gas) (US)
		[redacted]
		[redacted]
		Unacceptable Risk
Financial Benefits and Costs	Optional. May be manually added to Investments.	Budget Savings CAPEX (CA)
		Budget Savings CAPEX (US)
		Budget Savings OPEX (CA)
		Budget Savings OPEX (US)
		Cost Avoidance CAPEX (CA)
		Cost Avoidance CAPEX (US)
		Cost Avoidance OPEX (CA)
		Cost Avoidance OPEX (US)
		Revenue Impact (CA)
		Revenue Impact (US)
Financial Risk	Optional. May be manually added to Investments.	Financial Risk
		Unacceptable Risk
Gas Storage Reliability	Optional. May be manually added to Investments.	Gas Storage Reliability (CA)
		Gas Storage Reliability (US)
		Unacceptable Risk
GHG Emissions	Optional. May be manually added to Investments	Avoided GHG Emissions (CA)
		Avoided GHG Emissions (US)

Value Model	Usage	Output Value Measures
		Avoided Tonnes of GHG
		Avoided Tons of GHG
[redacted]	[redacted]	[redacted]
Investment Cost	Prescribed. Automatically added to all Investments.	CA Projects Cost (CA)
		Contributions (CA)
		Contributions (US)
		Total CAPEX O (CA)
		Total CAPEX O (US)
		Total CAPEX O Growth (CA)
		Total CAPEX O Growth (US)
		Total CAPEX O Maintenance (CA)
		Total CAPEX O Maintenance (US)
		Total CAPEX O Enhancement (CA)
		Total CAPEX O Enhancement (US)
		Net Base CAPEX O (CA)
		Net Base CAPEX O (US)
		Net Base CAPEX O Growth (CA)
		Net Base CAPEX O Growth (US)
		Net Base CAPEX O Maintenance (CA)
		Net Base CAPEX O Maintenance (US)
		Net Base CAPEX O Enhancement (CA)
		Net Base CAPEX O Enhancement (US)
		Net Total CAPEX O (CA)

Value Model	Usage	Output Value Measures
		Net Total CAPEX O (US)
		Net Total CAPEX O Growth (CA)
		Net Total CAPEX O Growth (US)
		Net Total CAPEX O Maintenance (CA)
		Net Total CAPEX O Maintenance (US)
		Net Total CAPEX O Enhancement (CA)
		Net Total CAPEX O Enhancement (US)
		Dismantlement (CA)
		Dismantlement (US)
		Base CAPEX O (CA)
		Base CAPEX O (US)
		Total Investment Cost (CA)
		Total Investment Cost (US)
		Total OPEX Cost (CA)
		Total OPEX Cost (US)
		US Projects Cost (US)
IT and Facilities Capacity Risk	Optional. May be manually added to Investments.	IT and Facilities Capacity Risk
		Unacceptable Risk
[redacted]	[redacted]	[redacted]
	[redacted]	[redacted]

Value Model	Usage	Output Value Measures
[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]
Obsolescence Risk	Optional. May be manually added to Investments.	Financial Risk Operational Risk Reputational Risk Unacceptable Risk
Operational Risk	Optional. May be manually added to Investments.	Operational Risk Unacceptable Risk
Public Safety Risk	Optional. May be manually added to Investments.	Public Safety Risk Unacceptable Risk
Reputational Risk	Optional. May be manually added to Investments.	Reputational Risk Unacceptable Risk

Table 4: Summary of Value Models and Output Measures

The list of Value Measures used to determine the value of each Investment with their descriptions and alignment with Enbridge's Strategic Priorities can be found in Table 5: Value Measure Definitions and Owners.

Strategic Priorities	Value Measure	Description
Safety & Operational Reliability	[redacted]	[redacted]
	[redacted]	[redacted]
	Employee and Contractor Safety Risk	Measures the risk of employee & contractor safety incidents that will be mitigated through the completion of an investment.
	Public Safety Risk	Measures the risk of public safety incidents that will be mitigated through the completion of an investment.
	IT and Facilities Capacity Risk	Measures the risk that the organization would not be capable of continued service at acceptable levels following a disruptive incident.
	Operational Risk	Measures the mitigation of the risk of disruptive incidents preventing Enbridge to operate or serve its customers.
	Unacceptable Risk	Serves as a flag to prevent a risk from exceeding an unacceptable threshold as defined by Enbridge Inc. Unacceptable risk is one flag used on Risk Value Models, but tolerances for unacceptable risk are configured for each type of risk.
	Reputational Risk	Measures the mitigation of the risk of incidents that would be perceived poorly by customers, the media, and stakeholders through the completion of an investment.
	Individual Risk	Measures the mitigation of safety risks. Legacy risk measure kept for reporting purposes.
	Societal Risk	Measures the mitigation of societal risks. Legacy risk measure kept for reporting purposes.
	Gas Storage Reliability (CA)	Measures the financial benefits of investments that increase the reliability of gas storage assets to prevent supply interruptions.
	Gas Storage Reliability (US)	Measures the financial benefits of investments that increase the reliability of gas storage assets to prevent supply interruptions.
	Environmental Risk and Remediation	Measures the mitigation of risk of environmental incidents through the completion of an investment.
	Operational Disruption Risk (Gas) (CA)	Measures the societal cost of a disruption in the distribution of gas to customers.
	Operational Disruption Risk (Gas) (US)	Measures the societal cost of a disruption in the distribution of gas to customers.
	Unexpected Outage Duration	Measures the downtime (hours) in operation after an unplanned outage.

Strategic Priorities	Value Measure	Description
Extend Growth Beyond 2020	Growth Per Year	Measures the expected customer growth per year the system serves.
Maintain the Foundation	Avoided Tonnes of GHG	Measures the amount (metric tonnes) of greenhouse gases avoided through the completion of an investment. Used for constraining and reporting.
	Avoided Tons of GHG	Measures the amount (imperial tons) of greenhouse gases avoided through the completion of an investment. Used for constraining and reporting.
	Avoided GHG Emissions (CA)	Measures the monetary value of reducing CO_2 greenhouse gas emissions through the completion of an investment.
	Avoided GHG Emissions (US)	Measures the monetary value of reducing CO_2 greenhouse gas emissions through the completion of an investment.
	Energy Savings Total (MWh)	Measures the amount of energy savings in MWh through the completion of the investment.
	Customer Retention (CA)	The economic impact of potentially losing business in the event a project is not completed.
	Customer Retention (US)	The economic impact of potentially losing business in the event a project is not completed.
	Avoided Reactive Replacement	The financial savings of replacing an asset proactively before it fails, and not having to pay the higher, reactive replacement costs.
Execute Capital Program	Contributions (CA)	The total amount of capital contributed by the customer for the investment.
	Contributions (US)	The total amount of capital contributed by the customer for the investment.
	Total CAPEX O Growth (CA)	Measures the total CAPEX and Dismantlement costs to complete the investment alternative if the alternative is specified to be a Growth project.
	Total CAPEX O Growth (US)	Measures the total CAPEX and Dismantlement costs to complete the investment alternative if the alternative is specified to be a Growth project.
	Total CAPEX O Maintenance (CA)	Measures the total CAPEX and Dismantlement costs to complete the investment alternative if the alternative is specified to be Maintenance project.
	Total CAPEX O Maintenance (US)	Measures the total CAPEX and Dismantlement costs to complete the investment alternative if the alternative is specified to be a Maintenance project.
	Total CAPEX O Enhancement (CA)	Measures the total CAPEX and Dismantlement costs to complete the investment alternative if the alternative is specified to be a Non-Growth Enhancement project.

Strategic Priorities	Value Measure	Description
	Total CAPEX O Enhancement (US)	Measures the total CAPEX and Dismantlement costs to complete the investment alternative if the alternative is specified to be a Non-Growth Enhancement project.
	Dismantlement (CA)	The total costs resulting from decommissioning/retiring an asset and the costs associated with retiring assets that have reached their end of life.
	Dismantlement (US)	The total costs resulting from decommissioning/retiring an asset and the costs associated with retiring assets that have reached their end of life.
	Total CAPEX O (CA)	Measures the total CAPEX and Dismantlement costs to complete the investment alternative.
	Total CAPEX O (US)	Measures the total CAPEX and Dismantlement costs necessary to complete the investment alternative.
	Net Base CAPEX O (CA)	Measures the total CAPEX minus the amount of Contributions necessary to complete the investment alternative.
	Net Base CAPEX O (US)	Measures the total CAPEX minus the amount of Contributions necessary to complete the investment alternative.
	Net Base CAPEX O Growth (CA)	Measures the total CAPEX minus the amount of Contributions necessary to complete the investment alternative if the alternative is specified to be a Growth project.
	Net Base CAPEX O Growth (US)	Measures the total CAPEX minus the amount of Contributions necessary to complete the investment alternative if the alternative is specified to be a Growth project.
	Net Base CAPEX O Maintenance (CA)	Measures the total CAPEX minus the amount of Contributions necessary to complete the investment alternative if the alternative is specified to be a Maintenance project.
	Net Base CAPEX O Maintenance (US)	Measures the total CAPEX minus the amount of Contributions necessary to complete the investment alternative if the alternative is specified to be a Maintenance project.
	Net Base CAPEX O Enhancement (CA)	Measures the total CAPEX minus the amount of Contributions necessary to complete the investment alternative if the alternative is specified to be a Enhancement project.
	Net Base CAPEX O Enhancement (US)	Measures the total CAPEX minus the amount of Contributions necessary to complete the investment alternative if the alternative is specified to be a Enhancement project.
	Net Total CAPEX O (CA)	Measures the total CAPEX and Dismantlement costs minus the amount of Contributions necessary to complete the investment alternative.

Strategic Priorities	Value Measure	Description
	Net Total CAPEX O (US)	Measures the total CAPEX and Dismantlement costs minus the amount of Contributions necessary to complete the investment alternative.
	Net Total CAPEX O Growth (CA)	Measures the total CAPEX and Dismantlement costs minus the amount of Contributions necessary to complete the investment alternative if the alternative is specified to be a Growth project.
	Net Total CAPEX O Growth (US)	Measures the total CAPEX and Dismantlement costs minus the amount of Contributions necessary to complete the investment alternative if the alternative is specified to be a Growth project.
	Net Total CAPEX O Maintenance (CA)	Measures the total CAPEX and Dismantlement costs minus the amount of Contributions necessary to complete the investment alternative if the alternative is specified to be a Maintenance project.
	Net Total CAPEX O Maintenance (US)	Measures the total CAPEX and Dismantlement costs minus the amount of Contributions necessary to complete the investment alternative if the alternative is specified to be a Maintenance project.
	Net Total CAPEX O Enhancement (CA)	Measures the total CAPEX and Dismantlement costs minus the amount of Contributions necessary to complete the investment alternative if the alternative is specified to be a Enhancement project.
	Net Total CAPEX O Enhancement (US)	Measures the total CAPEX and Dismantlement costs minus the amount of Contributions necessary to complete the investment alternative if the alternative is specified to be a Enhancement project.
	Base CAPEX O (CA)	Measures the total CAPEX necessary to complete the investment alternative.
	Base CAPEX O (US)	Measures the total CAPEX necessary to complete the investment alternative.
Move to Pure Pipeline & Utility Model	Additional Barrels/Day	Measures the amount of additional throughput that can be achieved by an asset system.
	Throughput Impacted	Measures the amount of throughput affected by the failure of an asset.
Financial Performance	Financial Risk	Measures the mitigation of potential financial risks such as financial losses due to damage of equipment/company assets, if the investment is not completed.
	Cost Avoidance OPEX (CA)	Any action that avoids having to incur OPEX costs in the future (these costs would be unbudgeted/not planned). Cost avoidance measures are never reflected in financial statements or the annual budget. They are only reflected in instances where a proposed action is not implemented, thus resulting in a cost increase.

Strategic Priorities	Value Measure	Description
	Cost Avoidance OPEX (US)	Any action that avoids having to incur OPEX costs in the future (these costs would be unbudgeted/not planned). Cost avoidance measures are never reflected in financial statements or the annual budget. They are only reflected in instances where a proposed action is not implemented, thus resulting in a cost increase.
	Revenue Impact (CA)	Measures the impacts to the total amount of gross income generated by Enbridge's primary operations. Revenue represents the total income earned before expenses are deducted.
	Revenue Impact (US)	Measures the impacts to the total amount of gross income generated by Enbridge's primary operations. Revenue represents the total income earned before expenses are deducted.
	Budget Savings OPEX (CA)	Values the OPEX Budget Savings of the investment.
	Budget Savings OPEX (US)	Values the OPEX Budget Savings of the investment.
	Installation Gross Margin Impact (CA)	Measures the lost revenue less power costs experienced during the necessary downtime to replace an asset.
	Installation Gross Margin Impact (US)	Measures the lost revenue less power costs experienced during the necessary downtime to replace an asset.
	Budget Savings CAPEX (CA)	Budget savings is the net benefit between the anticipated cost increases to the CAPEX budget as well as cost savings to current planned spending. This is not the Investment Cost.
	Budget Savings CAPEX (US)	Budget savings is the net benefit between the anticipated cost increases to the CAPEX budget as well as cost savings to current planned spending. This is not the Investment Cost.
	Cost Avoidance CAPEX (CA)	Any action that avoids having to incur CAPEX costs in the future (these costs would be unbudgeted/not planned). Cost avoidance measures are never reflected in financial statements or the annual budget. They are only reflected in instances where a proposed action is not implemented, thus resulting in a cost increase.
	Cost Avoidance CAPEX (US)	Any action that avoids having to incur CAPEX costs in the future (these costs would be unbudgeted/not planned). Cost avoidance measures are never reflected in financial statements or the annual budget. They are only reflected in instances where a proposed action is not implemented, thus resulting in a cost increase.
	Energy Efficiency (CA)	Measures the financial benefits in the form of annual power savings and reduced CO_2 emissions.
	Energy Efficiency (US)	Measures the financial benefits in the form of annual power savings and reduced CO_2 emissions.
	Employee Productivity (CA)	Measures the impact on working conditions and employee productivity.

Strategic Priorities	Value Measure	Description
	Employee Productivity (US)	Measures the impact on working conditions and employee productivity.
	Total Investment Cost (CA)	Measures the total cost necessary to complete the investment alternative.
	Total Investment Cost (US)	Measures the total cost necessary to complete the investment alternative.
	Total OPEX Cost (CA)	The total monthly spend for the Investment Alternative under the Account Type OPEX.
	Total OPEX Cost (US)	The total monthly spend for the Investment Alternative under the Account Type OPEX.
	US Projects Cost (US)	The total US$ monthly spend for the Investment Alternative for US projects (UnitsSelection = US$ (Imperial))
	CA Projects Cost (CA)	The total CA$ monthly spend for the Investment Alternative for Canadian projects (UnitsSelection = CA$ (Metric))

Table 5: Value Measure Definitions and Owners

4.1 Value Measure and Value Model Types

4.1.1 Value Measures and Units

Value Measures may be calculated in any unit. For Value Measures to be included in a Value Function, a conversion is made between the units used for the Value Measure and the standard Value Units that are used in the Risk Matrix and in all value calculations.

At Enbridge Inc., all Value Measures used in a Value Function are calculated either directly in Value Units (Risk Matrix based Value Models) or in Canadian Dollars (CA$). Any models that are computed in CA$ have a conversion factor of 0.001 applied to normalize it to the Value Measure scale.

As Enbridge Inc. operates in both Canada and the United States, a matching US Value Measure is provided for each of the CA Value Measures. The US Value Measures are for reporting purposes. To prevent double counting, only the CA Value Measures are allowed in the Value Function.

4.1.2 Baselines and Outcomes

Value Measures may be configured either to measure a change in value created by an Investment or the absolute value that exists after the Investment has been completed.

For example, Risk Mitigation is typically measured as the delta between the risk without the Investment (baseline risk) and the outcome or residual risk after the Investment is completed. For Value Measures such as Investment Cost, only the outcome after Investment completion is relevant as there is no baseline to be considered.

4.1.3 Use of Value Models

As described in the table above, Value Models can be designated as either “mandatory” or “optional” for Investments. This allows the system to automatically add certain Value Models such as Investment Cost to all Investments.

	2024 Budget & LRP	AMP Asset Class	Investment Name	Investment Code	Value Score - Value Units - All Years - Current June 2023	Total Investment Cost - Value Units - All Years - Current June 2023	Total Investment Value Net of Cost - Value Units - All Years - Current June 2023
1							
2	Emergent	Compression Stations	Hagar 412FKR357 Major Overhaul and Foundation	740281	294,938	(5,364)	300,302
3	No Longer in Plan	Real Estate & Workplace Ser	2031 Furniture & Ergonomics Blanket	737021	56,110	(134)	56,244
4	No Longer in Plan	Real Estate & Workplace Ser	2031 Furniture & Ergonomics Blanket	737020	56,110	(134)	56,244
5	Existing Investment	Real Estate & Workplace Ser	Union Rate Zones Micro Operations Sites Program	102392	24,665	(3,654)	28,319
6	Emergent	TIS	5 week Planning Tool	739859	21,370	(4,404)	25,775
7	No Longer in Plan	Distribution Pipe	CHAT: Tweedsmuir LP, Chatham, Replacement	49859	20,317	(1,566)	21,883
8	Existing Investment	Distribution Pipe	30: VSM - Major Mackenzie, Sussex To Newkirk, R	103419	17,105	(1,216)	18,321
9	Existing Investment	Real Estate & Workplace Ser	New London Site	101136	14,863	(30,911)	45,774
10	Existing Investment	Distribution Pipe	30: VSM - Major Mackenzie, Cedar to Newkirk, Rep	103420	14,129	(1,565)	15,694
11	Emergent	Distribution Pipe	Div. 06 - Brant - Park Rd N - Southeast - Waterloo	30236	14,090	(2,537)	16,627
12	Existing Investment	Real Estate & Workplace Ser	VPC Core and Shell	8782	13,435	(14,849)	28,284
13	Emergent	TIS	Increase Efficiency with Innovation	734983	10,964	(6,981)	17,945
14	Emergent	Real Estate & Workplace Ser	Thorold Operations Centre - New Building	737754	8,611	(16,450)	25,061
15	Emergent	TIS	Leak And Corrosion System Enhancements	740112	8,534	(581)	9,115
16	Emergent	Distribution Pipe	2023 LLRP - Dawn South Yard Control Valve Instal	740575	8,245	(317)	8,562
17	No Longer in Plan	TIS	Inventory Management	734919	7,340	0	7,340
18	No Longer in Plan	TIS	2022 - CIS Migration from SAP HEC to Enbridge C	102829	6,941	0	6,941
19	No Longer in Plan	TIS	Emergency Dispatch Capability Advancement	734984	6,738	0	6,738
20	Emergent	TIS	CIS - Measurement Canada Pressure Multiplier En	740077	5,719	(288)	6,007
21	Existing Investment	TIS	Corrosion Protection and Leak Survey Enhanceme	734819	5,635	(1,594)	7,230
22	Existing Investment	Distribution Pipe	A10: Kipling Ave & Lake Shore Blvd W, Etobicoke,	7604	5,569	(342)	5,911
23	No Longer in Plan	TIS	Material Barcoding Expansion	736464	5,517	0	5,517
24	Emergent	TIS	WRFT for Station Techs	739860	5,336	(402)	5,738
25	Emergent	TIS	Performance Optimization & Quality Assurance	740274	5,142	(748)	5,891
26	Existing Investment	Distribution Pipe	King: 22-23-600 Collins Bay NPS10 Shallow Pipe	100744	4,330	(986)	5,317
27	Existing Investment	Compression Stations	SCOR:60004-Fdn Blk-Replace	5624	4,201	(2,366)	6,566
28	Emergent	TIS	RPA's for Customer Care 2024	740113	4,150	(335)	4,485
29	Emergent	TIS	Records Management Upgrade 2023	735002	3,974	(469)	4,443
30	Existing Investment	TIS	WRFT Enhancements 2023	734816	3,900	(483)	4,383
31	Existing Investment	Real Estate & Workplace Ser	New GTA West Site	100548	3,780	0	3,780
32	Existing Investment	Real Estate & Workplace Ser	Sudbury Regional Operations Centre	100709	3,692	(6,613)	10,306
33	No Longer in Plan	TIS	Online Customer Appointment Booking	734813	3,671	0	3,671
34	No Longer in Plan	Distribution Stations	BRAN: 12U-606R Simcoe Metcalfe & Robinson LP	735334	3,654	(41)	3,695
35	No Longer in Plan	Distribution Stations	LOND: 13O-212R Highbury and Brydges	734678	3,530	(166)	3,695
36	No Longer in Plan	Distribution Stations	LOND: 13O-210R Hale and Burslem	734668	3,530	(166)	3,695
37	No Longer in Plan	Distribution Stations	LOND: 10M-503R Main and Shackleton	734664	3,521	(174)	3,695
38	Emergent	Distribution Stations	81210A - ROXBOROUGH & RIDGE DISTRICT LP	101122	3,509	(187)	3,695
39	No Longer in Plan	Distribution Stations	WIND - 06B-517R Ypres LP - rebuild	502773	3,491	(205)	3,695
40	No Longer in Plan	Distribution Stations	WIND: 07H-402R Peter St Station LP	735375	3,491	(205)	3,695
41	Existing Investment	Distribution Pipe	WIND: Tecumseh Rd E - Ph6, Windsor, Replaceme	101177	3,476	(805)	4,280
42	No Longer in Plan	Distribution Pipe	WIND: Tecumseh Rd E - Ph4, Windsor, Replaceme	101175	3,453	(745)	4,198
43	No Longer in Plan	TIS	Customer Account creation Automation through Ge	734982	3,445	0	3,445
44	No Longer in Plan	TIS	Customer Residential Pre-payment System	734815	3,423	0	3,423
45	Existing Investment	Distribution Stations	BRAN: 11V-401R Pt Ryerse Commercial St LP	735277	3,382	(38)	3,420
46	No Longer in Plan	Distribution Stations	ONTARIO & DEERE DISTRICT LP	18851	3,254	(166)	3,420
47	Existing Investment	Distribution Pipe	WIND: Tecumseh Rd E - Ph3, Windsor, Replaceme	49752	2,964	(430)	3,394
48	Emergent	Distribution Stations	WATE: 18U-405R Church & Queenston LP	735323	2,896	(33)	2,929
49	Existing Investment	Distribution Stations	WATE: 18U-403R Agnes & William LP	735322	2,896	(33)	2,929
50	Existing Investment	Distribution Stations	WATE: 18U-205R Hungerford & Walker LP	735307	2,896	(33)	2,929
51	Existing Investment	TIS	Reporting & Analytics	734602	2,858	(3,000)	5,858
52	No Longer in Plan	Real Estate & Workplace Ser	MSB Demolition & New Administrative Parking	6087	2,807	(373)	3,179
53	Existing Investment	Distribution Pipe	HR - 201 Bridletowne Circle	7649	2,735	(104)	2,839
54	Emergent	Real Estate & Workplace Ser	GTA East - New Build - Peterborough	739714	2,614	(8,471)	11,085
55	Existing Investment	Distribution Pipe	HR - 1040 Bridletowne Circle	100506	2,542	(297)	2,839
56	No Longer in Plan	Real Estate & Workplace Ser	Kelfield Operations Centre - New Building	737226	2,522	(15,227)	17,749

57	No Longer in Plan	Distribution Pipe	HR - 1021 Midland Ave	7647	2,445	(210)	2,655
58	Existing Investment	LNG	Hagar Pipeduct Refurbishment	735291	2,442	(134)	2,576
59	Existing Investment	TIS	Cost & Schedule Management (Ecosys)	735733	2,435	(1,507)	3,942
60	No Longer in Plan	TIS	Scheduling and Dispatching Automation - FieldRep	734817	2,363	0	2,363
61	No Longer in Plan	Distribution Pipe	HR - 200-250 Bridletowne Circle	100505	2,359	(296)	2,655
62	No Longer in Plan	Distribution Pipe	121 – 151 L'Amoreaux Dr Steel Header Replaceme	7651	2,294	(361)	2,655
63	No Longer in Plan	TIS	QR Code for Infractions	734986	2,163	0	2,163
64	Existing Investment	TIS	Fiber Technology - Damage Reduction Technology	734915	2,040	0	2,040
65	Existing Investment	Distribution Stations	HAM-Lynden Gate Stn	101085	2,038	(355)	2,392
66	No Longer in Plan	TIS	2025 - SAP Product and System Refreshes	736941	2,036	(4,139)	6,176
67	No Longer in Plan	Real Estate & Workplace Ser	Kelfield Operations Centre - Land Purchase	8701	2,008	(20,696)	22,704
68	Existing Investment	TIS	FRA Rollout to LUG	734918	1,946	(993)	2,940
69	Existing Investment	Distribution Pipe	Elworthy Ave (MORATORIUM UNTIL 2026) - Soutl	30291	1,813	(2,073)	3,886
70	Existing Investment	Distribution Pipe	Campbellford Replacement Phase 3 Front St	102671	1,768	(458)	2,226
71	Existing Investment	TIS	Auto-Dispatching	734985	1,763	(295)	2,059
72	Existing Investment	Distribution Pipe	WIND: Tecumseh Rd E - Ph 2, Windsor, Replacem	49814	1,705	(1,436)	3,141
73	Existing Investment	Distribution Pipe	WIND: Tecumseh Rd W, Windsor, Replacement	49747	1,679	(1,289)	2,967
74	Existing Investment	TIS	OWP Replacement	102209	1,673	(386)	2,059
75	Existing Investment	Compression Stations	Siemens Valve Controllers Replacement - Lobo D	101576	1,561	(292)	1,853
76	Existing Investment	Compression Stations	Siemens Valve Controllers Replacement - Parkway	48223	1,556	(296)	1,853
77	No Longer in Plan	Distribution Pipe	CHAT: Ridgetown LP, Ridgetown, Replacement	49742	1,539	(984)	2,522
78	Emergent	TIS	Energy Transition Program - Energy Services 2023	736933	1,523	(97)	1,620
79	Existing Investment	TIS	Enterprise Contact Center	102304	1,519	(2,086)	3,604
80	Existing Investment	Distribution Pipe	WIND: Riverside Aldyl A - Ph 1, Windsor, Replacen	49743	1,452	(1,108)	2,560
81	Existing Investment	Distribution Pipe	CHAT: St Clair St, Tilbury, Replacement	49856	1,446	(300)	1,746
82	No Longer in Plan	Distribution Pipe	WIND: Lacasse (St Denis to Tecumseh Rd E), Win	48782	1,411	(228)	1,638
83	No Longer in Plan	Distribution Stations	CATHCART & STEWART DISTRICT	7763	1,395	(833)	2,228
84	No Longer in Plan	Real Estate & Workplace Ser	VPC-Link and stairwells	3637	1,359	(1,196)	2,555
85	No Longer in Plan	Distribution Pipe	Campbellford Replacement Phase 5 Pellissier St &	102673	1,317	(589)	1,907
86	No Longer in Plan	TIS	Technical Training Technology 2022	102198	1,268	0	1,268
87	Existing Investment	Distribution Pipe	WIND: County Rd 2 & Riverside Rd, Lakeshore, Re	48865	1,240	(128)	1,369
88	Existing Investment	Distribution Pipe	WIND: Maidstone Ave & Talbot St, Essex, Replace	48779	1,196	(142)	1,339
89	No Longer in Plan	Distribution Pipe	WIND: Devonshire Rd, Windsor, Replacement	49729	1,188	(181)	1,369
90	Existing Investment	Distribution Pipe	WIND: County Rd 27 Ph 3, Lakeshore, Replaceme	49746	1,080	(245)	1,325
91	Emergent	TIS	Conflict Locate Portal	740492	1,015	(503)	1,518
92	Existing Investment	Distribution Pipe	WIND: Bertha Ave, Windsor, Replacement	49722	1,015	(298)	1,313
93	Emergent	Compression Stations	Methane Remediation Valve Replacement - Sandw	740054	1,013	(25)	1,038
94	Emergent	Compression Stations	Methane Remediation Valve Replacement - Remot	740051	996	(42)	1,038
95	Emergent	Compression Stations	Methane Remediation Valve Replacement - Dawn	740049	977	(61)	1,038
96	Emergent	Compression Stations	Bright B Blowdown Valve Replacement	739994	974	(65)	1,038
97	No Longer in Plan	TIS	Fleet Alignment Solution	734913	964	0	964
98	No Longer in Plan	Distribution Pipe	WIND: Woodslee, Lakeshore, Replacement	102262	917	(451)	1,369
99	Existing Investment	Distribution Pipe	WIND: Riverside Aldyl A - Ph 2, Windsor, Replacen	100688	916	(1,453)	2,369
100	Existing Investment	Distribution Pipe	WIND: Laird IP, Essex, Replacement	48781	900	(469)	1,369
101	Existing Investment	Distribution Pipe	WIND: County Rd 31 & Essex County Rd 2, Lakesl	48851	882	(487)	1,369
102	Existing Investment	Distribution Pipe	King - King Street Replacement: VSM and Patches	100693	877	(792)	1,669
103	Existing Investment	Compression Stations	SCOR:60011-Fdn Blk-Replace	12884	847	(1,067)	1,914
104	Emergent	TIS	Customer Care Strategy 2024	740111	771	(671)	1,442
105	Emergent	Distribution Pipe	Div. 07 - Meaford - Louisa St - Southeast - Waterlo	30273	765	(1,185)	1,950
106	Existing Investment	Distribution Stations	CHAT - 07H-601 Burke Line - Heater Replacement	101354	733	0	733
107	No Longer in Plan	TIS	Call/Voice Analytics 2023	102302	721	0	721
108	No Longer in Plan	Distribution Pipe	Bannerman Crt. and Nordic Crt, Whitby	100470	693	(572)	1,265
109	No Longer in Plan	TIS	HVAC Portal & Get Connected Integration	734920	635	0	635
110	Existing Investment	Real Estate & Workplace Ser	Simcoe Operations Centre	100674	610	(2,326)	2,936
111	Emergent	TIS	Energy Transition Program - Energy Services 2024	736934	606	(894)	1,500
112	Existing Investment	Distribution Pipe	WIND: Caille Ave, Lakeshore, VSM Replacement	49889	570	(743)	1,313
113	Existing Investment	Distribution Stations	13O-113R Bathurst & Talbot	100999	552	(167)	719
114	Existing Investment	Distribution Pipe	WIND: County Rd 27 Ph 1, Lakeshore, Replaceme	48796	537	(730)	1,267
115	Existing Investment	Distribution Stations	SUD: Maley Dr TBS, Boiler Replacement	733767	520	(109)	629

116	Existing Investment	Distribution Pipe	WIND: County Rd 27 Ph 2, Lakeshore, Replaceme	102257	491	(779)	1,270
117	No Longer in Plan	Distribution Pipe	HAMI: Jackson Street Leakage, Hamilton, Leakage	100924	471	(832)	1,303
118	Existing Investment	Distribution Pipe	LOND - Riverside Dr & Wharncliffe BU - London	48881	446	(78)	524
119	Existing Investment	TIS	EG - Customer Data Analytics Solutions (2023)	102342	436	0	436
120	Existing Investment	Distribution Pipe	LOND-Sycamore & St Julien - London	48828	414	(110)	524
121	No Longer in Plan	Distribution Pipe	WIND: Bayshore Dr, Leamington, Replacement	102255	392	(120)	512
122	No Longer in Plan	Distribution Stations	SUD: Frood TBS, Boiler Replacement	733754	389	(291)	680
123	Existing Investment	Distribution Pipe	Erin Mills and Leanne Vital	1193	371	(882)	1,253
124	Emergent	Distribution Stations	WATE: 17U-201R Salsbury Ave LP	735288	343	(0)	343
125	Existing Investment	Distribution Pipe	SUDB: Regent St grasshopper, Sudbury	49653	335	(143)	478
126	Existing Investment	Distribution Stations	33525A Bathurst & Rutherford hp-ip	735302	334	(153)	487
127	No Longer in Plan	Distribution Stations	BRAN: 11V-204R Pt Dover Clinton & St Patrick LP	735327	329	(41)	371
128	No Longer in Plan	Distribution Stations	BRAN: 11V-202R Pt Dover Nelson & George St LP	735326	328	(41)	370
129	No Longer in Plan	Distribution Stations	BRAN: 09T-303R Church St & Erie Ave LP	735328	328	(41)	370
130	No Longer in Plan	Distribution Stations	WATE: 09T-307R Ellis & Alley St LP	735329	328	(41)	370
131	No Longer in Plan	Distribution Stations	BRAN: 12R-302R Victoria St & Niagara St Station L	735330	328	(41)	370
132	No Longer in Plan	Distribution Stations	BRAN: 12R-303R Tillson Ave Dist Station LP	735331	328	(41)	370
133	No Longer in Plan	Distribution Stations	BRAN: 12U-501 Simcoe Queen St South of Hwy 3	735332	328	(41)	370
134	No Longer in Plan	Distribution Stations	BRAN: 12U-602R Simcoe Union & Talbot Stn LP	735333	328	(41)	370
135	Emergent	Distribution Stations	King: Crysler DRS Rebuild (29401023)	734754	327	(38)	366
136	No Longer in Plan	TIS	EG - DataStage Analytics (2025)	102112	326	(662)	988
137	Existing Investment	Distribution Stations	35053A Dufferin Langstaff (langstaff & 407)	735303	319	(132)	451
138	Emergent	Compression Stations	156 Generator Installation	739960	312	(65)	377
139	Existing Investment	Distribution Stations	BRAN: 09T-306R Front Street Avenue LP	735278	304	(38)	343
140	Existing Investment	Distribution Stations	BRAN: 11U-601R Pt Ryerse Young & Rolph W Hill	735279	304	(38)	343
141	Existing Investment	Distribution Stations	BRAN: 12R-607R Tillson Ave, South of Hyman LP	735280	304	(38)	343
142	Existing Investment	Distribution Stations	BRAN: 12T-506R Delhi Queen & Church Stn LP	735281	304	(38)	343
143	Existing Investment	Distribution Stations	BRAN: 12U-607R Simcoe Queen St S & Grove LP	735282	304	(38)	343
144	Existing Investment	Distribution Stations	BRAN: 13U-603R Waterford Temperence & Leamc	735284	304	(38)	343
145	Existing Investment	Distribution Stations	BRAN: 15U-301R St Paul & Dublin LP	735285	304	(38)	343
146	Existing Investment	Distribution Stations	BRAN: 15V-406R Mohawk Brighton LP	735287	304	(38)	343
147	Existing Investment	Distribution Pipe	Red Maple Dr Lincoln - 1-inch steel main replacem	103520	286	(187)	473
148	Existing Investment	Distribution Stations	WATE: 18U-506R Bishop & King LP	735325	281	(35)	317
149	Existing Investment	Distribution Pipe	WIND: Laird & Centre MIP, Essex, Replacement	48994	277	(990)	1,267
150	Existing Investment	Real Estate & Workplace Ser	Leamington Operations Centre	100669	276	(1,620)	1,896
151	Existing Investment	Distribution Stations	LOND: 13O-109R Edith and Mt. Pleasant	734658	267	(164)	431
152	Emergent	Distribution Stations	King: Williamsburg (2-91-02-001)TBS Heater & Fil	734759	266	(64)	330
153	Existing Investment	Distribution Stations	WATE: 18U-407R Church & Sherring LP	735310	261	(33)	293
154	Existing Investment	Distribution Stations	WATE: 18U-220R Bechtel & Millvue LP	735308	261	(33)	293
155	Existing Investment	Distribution Stations	BRAN: 15U-308R Brantford Grand & Jubilee LP	735313	260	(33)	293
156	Emergent	Distribution Stations	BRAN: 15U-311R Brantford Waterloo & William LP	735316	260	(33)	293
157	Emergent	Distribution Stations	BRAN: 15V-407R Bishop & Blossie LP	735318	260	(33)	293
158	Existing Investment	Distribution Stations	BRAN: 15V-408R Brighton & Superior LP	735319	260	(33)	293
159	Existing Investment	Distribution Stations	WATE: 18U-418R 122 Dolph St N LP	735324	260	(33)	293
160	Existing Investment	Distribution Stations	WATE: 17U-214R Middleton St at Waterworks LP	735321	260	(33)	293
161	Existing Investment	Distribution Stations	WATE: 17U-211R Stanley @ Glenmorris LP	735320	260	(33)	293
162	Existing Investment	TIS	Forecaster & eWeather Upgrades 2026	735347	260	(383)	643
163	No Longer in Plan	TIS	EG - Customer Data Analytics Solutions (2024)	102343	258	0	258
164	Existing Investment	Distribution Stations	31335A GILBERT& YONGE DISTRIUCT (AURO	735300	251	(132)	383
165	Emergent	Distribution Stations	3321291 - Bathurst Gate Station - Boiler 1 Replace	739731	247	(48)	296
166	Existing Investment	Compression Stations	Dawn E Siemens MCC replacement	48275	238	(333)	572
167	No Longer in Plan	Distribution Pipe	HAMI: Port Maitland/Secord Rd, Dunnville, BU Rep	733632	238	(72)	309
168	Existing Investment	Distribution Pipe	NE: Hwy 11 and Barnett, North Bay, Grasshopper	735150	236	(222)	457
169	Emergent	Distribution Stations	A10: Yonge and Steeles Feeder Station Relocatior	739412	234	(24)	258
170	No Longer in Plan	Distribution Stations	LOND: 13O-123R Napier and Blackfriars Reg Stn	734692	231	(138)	370
171	No Longer in Plan	Distribution Stations	LOND: 15R-608R Walter and Fyfe Reg Stn	734691	231	(138)	370
172	Existing Investment	Distribution Pipe	SARN- Brigden Rd and Duncan St Leakage - Moor	502679	230	(77)	307
173	Existing Investment	Distribution Stations	33300A ISLINGTON & HWY # 407 HP DIST	735301	227	(224)	451
174	No Longer in Plan	Distribution Pipe	HAMI: South Coast Dr, Walpole BU Repl	48910	226	(83)	309

175	Emergent	Distribution Stations	61128A CAMPBELL & MCNABB DISTRICT	735166	224	(141)	366
176	No Longer in Plan	Distribution Pipe	HAMI: Rymer Rd, Sherbrooke, BU Replacement	733628	224	(85)	309
177	Emergent	TIS	MMR Enhancements 2024	740105	218	(503)	721
178	No Longer in Plan	TIS	EG - Building Management Systems Solution (2025	102245	215	(230)	445
179	Existing Investment	Distribution Stations	SARN: 11H-201R Oil Spring Reg Stn	734693	214	(128)	343
180	Existing Investment	Distribution Stations	LOND: 11O-306R Wellington and Fifth Reg Stn	734694	214	(128)	342
181	No Longer in Plan	Distribution Stations	6B602A STARTOP DISTRICT XHP	735165	208	(131)	339
182	Emergent	Compression Stations	156 PLC Installation	740183	202	(14)	216
183	No Longer in Plan	TIS	Customer Inquiry Tool Automation	734910	200	(414)	614
184	Existing Investment	TIS	Expansion Surcharge Capability Advancement	734911	197	(192)	388
185	No Longer in Plan	TIS	BODS Upgrade 2029	101108	195	(85)	280
186	Existing Investment	Distribution Stations	SARN: 14F-503R Point Edward Victoria and St. Cla	734696	194	(122)	317
187	Existing Investment	TIS	EG - Customer Data Analytics Solutions (2025)	102345	182	(298)	480
188	Existing Investment	Distribution Pipe	Sheppard Ave & Brimley Rd (Compression Couplin	2563	178	(96)	273
189	Existing Investment	Distribution Pipe	HAMI: Haldimand Rd 20, Walpole, BU Replacemer	733626	175	(79)	254
190	No Longer in Plan	Distribution Stations	HAMI: 16Y-201R Cascade & Lanark, Hamilton, Vau	101084	173	(414)	587
191	Existing Investment	Distribution Stations	HAMI: 16Y-106R Kenora & Bancroft, Hamilton, Vau	101103	173	(414)	587
192	Existing Investment	Distribution Stations	32564A - MILL RD & KING SIDEROAD DISTRICT	735173	172	(194)	366
193	Existing Investment	Distribution Pipe	LOND - Church & Water BU - Beachville	48808	171	(74)	244
194	No Longer in Plan	Distribution Stations	WIND - 06B-314R Isabelle Place LP - rebuild	502772	165	(204)	370
195	Existing Investment	Distribution Pipe	Bayview & St. Leonards Compression Couplings	1692	163	(111)	273
196	Existing Investment	TIS	Work Management Ops Support Program	734981	161	(2,125)	2,286
197	Existing Investment	Real Estate & Workplace Ser	Oshawa Operations Depot Improvements	6101	159	(1,039)	1,198
198	Existing Investment	Distribution Pipe	Bayview & Steeles CC Replacement	1693	154	(142)	295
199	No Longer in Plan	Distribution Stations	HALT: Saputo, rebuild	735052	148	(142)	290
200	No Longer in Plan	Distribution Pipe	SUDB: Bancroft Dr and Bellevue Ave, Valves Repla	734593	147	(260)	407
201	No Longer in Plan	Distribution Stations	WIND - 06B-401 Grand Marais - reg repl & liquid ta	502700	147	(186)	333
202	Existing Investment	TIS	UG - Customer Data Analytics Solutions (2025)	102341	147	(298)	445
203	No Longer in Plan	Real Estate & Workplace Ser	Pritchard Rd. Operations Centre	100631	143	0	143
204	Existing Investment	TIS	Locate Technology Advancements	734916	138	(145)	283
205	No Longer in Plan	Distribution Stations	HAMI - Clappison's Corners	101135	137	(414)	551
206	No Longer in Plan	Distribution Stations	HALT-Third Line and QEW Vault Station	101088	137	(414)	551
207	No Longer in Plan	Distribution Stations	HALT - Centennial and Guelph Line Vault Station	101125	137	(414)	551
208	Existing Investment	Distribution Stations	HAMI: 17X-321R Industrial St, Hamilton, Vault Stat	101126	137	(414)	551
209	Existing Investment	Distribution Stations	HAMI: 16X-106R King St E, Dundas, Vault Station	101130	137	(414)	551
210	Existing Investment	Distribution Stations	HAMI: 16X-225R South Bend & Upper James Stati	101131	137	(414)	551
211	Existing Investment	Distribution Stations	HAMI - Bancroft and Nash Vault Station	101132	137	(414)	551
212	Existing Investment	Distribution Stations	HAMI - Ferrie and Wellington Vault Station	101133	137	(414)	551
213	Existing Investment	Real Estate & Workplace Ser	Arnprior Operations Centre Obsolescence	8677	132	(1,206)	1,337
214	Existing Investment	Distribution Pipe	HAMI: Crestview Replacement, Ancaster, Leakage	101631	129	(964)	1,093
215	Existing Investment	Distribution Pipe	BRAN - Churchill (Connaught to Argyle) Repl. BU -	48958	124	(77)	201
216	No Longer in Plan	Distribution Pipe	LOND - Wharncliffe & Baseline BU - London	48918	122	(152)	275
217	Existing Investment	Distribution Stations	CHAT - 08H-302C Greenhill Produce - rebuild and	502775	121	(330)	451
218	No Longer in Plan	Distribution Stations	LOND: 17M-601 Centralia Stn	734690	121	(216)	337
219	No Longer in Plan	Distribution Pipe	HAMI: Osler Dr @ Rail Trail, Dundas, BU Replacen	733649	102	(84)	186
220	Emergent	TIS	Sendout Replacement 2024	740275	91	(134)	225
221	No Longer in Plan	Real Estate & Workplace Ser	2031 LEG Rate Zone Targeted GHG & Energy Rec	737022	90	(183)	273
222	No Longer in Plan	Real Estate & Workplace Ser	2031 LUG Rate Zone Targeted GHG & Energy Rec	737023	90	(183)	273
223	No Longer in Plan	Distribution Stations	6B562A - CAMPEAU & TERON DISTRICT HP (O	101152	88	(131)	219
224	Existing Investment	Distribution Stations	HAMI: SE Corner of HWY 5 & 6, Maintenance	735041	83	(230)	313
225	Existing Investment	Distribution Stations	HALT-440 Harrop	101092	83	(230)	313
226	Existing Investment	Distribution Pipe	HAMI: 295 Dundas St E 6" ST IP Shallow Main Wa	100843	80	(79)	159
227	Existing Investment	Distribution Stations	NE: 45101125 - Essar #7 BF SMS, Gear Operator	502659	77	(9)	86
228	No Longer in Plan	Distribution Pipe	HAMI: Hamilton Mountain East Ph1, Hamilton, BU I	48953	75	(111)	186
229	No Longer in Plan	Distribution Stations	SANDALWOOD GATE	7757	73	(255)	329
230	No Longer in Plan	Distribution Pipe	Meadowvale & Sheppard CC Replacement	2334	70	(203)	273
231	Emergent	TIS	PressureViewer Integration	740057	69	(402)	471
232	No Longer in Plan	Distribution Stations	WIND - 04A-302R Texas Rd	502777	56	(274)	330
233	No Longer in Plan	Distribution Stations	NE: 43202054 Inco Smelter, Station Modifications	501160	54	(286)	340

234	Existing Investment	Distribution Pipe	LOND - Tecumseh Ave BU - London	48923	51	(215)	266
235	Existing Investment	Distribution Pipe	LOND - Talbot Line BU - Talbotville	48759	47	(124)	171
236	Existing Investment	Distribution Pipe	LOND - Dalmage & Wood BU - London	48829	45	(106)	151
237	Emergent	Distribution Stations	King: Finch Concession 4-5 DRS (2-94-01-038)	734755	44	(227)	270
238	No Longer in Plan	TIS	Autosol Upgrade 2022	102066	42	0	42
239	Existing Investment	Distribution Stations	NE: 43202064 Vale Divisional Shops PRS Replace	49611	32	(284)	316
240	Existing Investment	Distribution Pipe	HAMI: Seneca Dr, Ancaster, BU Replacement	733642	32	(140)	172
241	Existing Investment	Distribution Stations	HALT: Ford and Royal Windsor, Maintenance	735039	32	(307)	338
242	Emergent	Distribution Pipe	A60: Jonathan Pack St Goulbourn	738932	27	27	0
243	No Longer in Plan	Distribution Pipe	NE: Whittaker St., Sudbury, Replacement	48553	24	(229)	253
244	Existing Investment	Real Estate & Workplace Ser	Woodstock Operations Centre	100680	23	(681)	703
245	Existing Investment	Distribution Pipe	LOND - Kent & Central BU - London	48797	18	(153)	171
246	Emergent	TIS	Deferral Acct Harmonization + Unaccounted for Ga	737263	16	0	16
247	Emergent	Distribution Pipe	Stratford-Douglas St-Huntington to John-1768	30454	15	(403)	418
248	Existing Investment	Distribution Stations	CHAT - 07J-301 Ridgetown North Transmission - R	101610	11	(337)	348
249	No Longer in Plan	Distribution Stations	33534A STEELES & BAYVIEW DISTRICT	735169	10	0	10
250	No Longer in Plan	Distribution Pipe	Halt: Harrop drive, Milton, BU Replacement	503061	7	(179)	186
251	No Longer in Plan	Distribution Pipe	Sheppard & Markham Compression Couplings	2562	7	(267)	273
252	Existing Investment	Distribution Pipe	HAMI: Haldimand Rd 55, Walpole BU Repl	48977	6	(166)	172
253	Existing Investment	Distribution Pipe	HAMI: Main St E, Dunnville, BU Replacement	733621	6	(280)	286
254	No Longer in Plan	Distribution Pipe	HAMI: Rifle Range Rd, Hamilton, BU Replacement	733645	4	(181)	186
255	Existing Investment	Distribution Stations	HALT - Dundas and Meadowridge	101099	4	(307)	310
256	No Longer in Plan	Distribution Stations	Portland Energy Center - Electrical	501539	0	0	0
257	No Longer in Plan	Distribution Pipe	VPM - 310 Cathcart St Header - Aldyl A	23190	0	0	0
258	No Longer in Plan	Distribution Pipe	VSM - Bromsgrove Header	7655	0	0	0
259	Emergent	Distribution Stations	3167839 ALTON TOWERS & MCCOWAN DISTRI(	735184	0	(0)	0
260	Emergent	Distribution Stations	3167988 COMMANDER & MCCOWAN DISTRICT	735185	0	(0)	0
261	No Longer in Plan	Distribution Stations	32717A - WESTON RD & KING RD DISTRICT	101058	0	0	0
262	No Longer in Plan	Distribution Stations	COUNTY RD #55 HWY #9 DISTRICT (NEW TECU	18911	0	0	0
263	No Longer in Plan	Real Estate & Workplace Ser	Thorold Regional Office - Building & Site	8681	0	0	0
264	No Longer in Plan	TIS	EG - Customer Data Analytics Solutions (2022)	102256	0	0	0
265	No Longer in Plan	TIS	Engineering & STO Win10 lifecycle 2022	102324	0	0	0
266	No Longer in Plan	TIS	Push to Talk Radios - 2023	101827	0	0	0
267	No Longer in Plan	TIS	Payment Enhancements 2022	102297	0	0	0
268	No Longer in Plan	Distribution Stations	WATE: 19S-201 Heidelburg Gate FIMP	735239	0	0	0
269	No Longer in Plan	Distribution Stations	BRAN: 12U-609R Simcoe South & John St LP	735283	0	0	0
270	Emergent	Distribution Stations	King: HOLY CROSS CATHOLIC SECONDARY (Ki	734771	0	(0)	0
271	No Longer in Plan	Distribution Stations	TIMM: Evergreen Greenhouse SMS Retirement	734573	0	0	0
272	No Longer in Plan	Distribution Stations	TIMM: Malette Kraft SMS Retirement	734572	0	0	0
273	No Longer in Plan	Distribution Pipe	SARN - Smith Line Leakage - Sombra BU	101210	0	0	0
274	No Longer in Plan	Distribution Pipe	HAMI - Main at Leland - Hamilton	48985	0	0	0
275	Existing Investment	Distribution Pipe	Moulton Replacement BU	503350	0	0	0
276	No Longer in Plan	Distribution Pipe	LOND - Elworthy & Edward BU - London	48874	0	0	0
277	No Longer in Plan	Distribution Pipe	HAMI-Haldimand Trail - Dunn	48788	0	0	0
278	No Longer in Plan	Distribution Pipe	LOND - Belgrave BU - London	48765	0	0	0
279	No Longer in Plan	Distribution Pipe	LOND - Parkway & Huron BU - London	48888	0	0	0
280	No Longer in Plan	Distribution Pipe	HAMI: Sandusk Rd, Walpole BU Repl -PROJECT (	48912	0	0	0
281	No Longer in Plan	Distribution Pipe	WIND: Riverside Dr (Arlington to Kensington), Winc	48762	0	0	0
282	Emergent	Growth	BRAN- 8th Concession Road, Burford, Reinforcem	740081	0	0	0
283	Emergent	Growth	SUDB: Station 43203020 New Sudbury Mall Reinfo	503342	0	0	0
284	No Longer in Plan	Real Estate & Workplace Ser	Hamilton Facility Decommissioning	48609	0	0	0
285	No Longer in Plan	Real Estate & Workplace Ser	Operations Centre Retirement No. 4	100675	0	0	0
286	Emergent	Distribution Stations	WIND: 06E-502 Stoney Point 3100 Comber Side R	736331	0	0	0
287	Emergent	Distribution Stations	CHAT: 08F-601 Dover Center Transmission Gravel	736290	0	0	0
288	No Longer in Plan	Compression Stations	SM:SCADA-Annual Upgrade 2024	9064	0	0	0
289	No Longer in Plan	Compression Stations	SCOR:Unit Pre-Heat-Convrt	12863	0	0	0
290	No Longer in Plan	Compression Stations	SCOR:622xx Unit Vlv-Heat Trace	12985	0	0	0
291	No Longer in Plan	Compression Stations	SCOR:352 Gas Detectrs-Replace	12993	0	0	0
292	No Longer in Plan	Distribution Pipe	NPS 42 GTA Transmission - Integrity Retrofit > 30%	102204	0	0	0

293	No Longer in Plan	Distribution Pipe	Alamosa Dr & Finch Ave E	1638	0	0	0
294	No Longer in Plan	Distribution Pipe	VSM - Major Mackenzie and Yonge	7666	0	0	0
295	No Longer in Plan	Distribution Stations	MISSISSAUGA RD & HWY. #7 DISTRICT	18625	0	0	0
296	No Longer in Plan	Distribution Stations	SARN: 13O-402 Westmount Gate	734684	0	0	0
297	No Longer in Plan	Distribution Stations	HAMI: Jarvis trans, full rebuild	735043	0	0	0
298	No Longer in Plan	Distribution Stations	LOND: 14O-510R Curry and Oxford	734681	0	0	0
299	No Longer in Plan	Distribution Stations	NE: 45103001 - Airport Rd TBS and DRS, Boiler R	502660	0	0	0
300	No Longer in Plan	Distribution Pipe	Bay St. Roof top piping blocking Replacement and	49670	0	0	0
301	No Longer in Plan	Distribution Pipe	Laird Ave - Southwest - Windsor - 1371	30021	0	0	0
302	No Longer in Plan	Distribution Pipe	County Road 46 - Southwest - Windsor - 1352	30008	0	0	0
303	No Longer in Plan	Distribution Pipe	Callie Ave - Southwest - Windsor - 1377	30007	0	0	0
304	No Longer in Plan	Distribution Pipe	Cabana Rd W - Southwest - Windsor - 1353	30006	0	0	0
305	No Longer in Plan	Distribution Pipe	Belle River Rd - Southwest - Windsor - 1366	30004	0	0	0
306	No Longer in Plan	Distribution Pipe	Base Line 2 - Southwest - Windsor - 1347	30003	0	0	0
307	No Longer in Plan	Distribution Pipe	Base Line - Southwest - Windsor - 1623	30002	0	0	0
308	No Longer in Plan	Distribution Pipe	St Anne Blvd - Southwest - Windsor - 1319	30038	0	0	0
309	Existing Investment	Distribution Stations	BRAN: 12U-504 Simcoe Hunt Street South Distribu	100422	(1)	(1)	0
310	Existing Investment	Distribution Pipe	NBAY: 247 Whitewood Ave, New Liskeard Main Re	49625	(4)	(78)	75
311	Emergent	Distribution Pipe	33-23-609 TBAY - Nelson Rd - 2 PE Main Repl - S	740698	(4)	(4)	0
312	Emergent	Distribution Stations	85151A - FORKS & TOWNLINE DISTRICT	101123	(4)	(4)	0
313	Emergent	Distribution Stations	81197A BOWEN & STEVENSVILLE DISTRICT	735299	(4)	(4)	0
314	Emergent	Distribution Pipe	King: 22-23-604 Pelham Street Abandonment	740592	(4)	(4)	0
315	Existing Investment	Distribution Pipe	THUN: PSLL Maintenance	501009	(6)	(6)	0
316	Emergent	Distribution Pipe	GTA Project Land Registration Work	739600	(7)	(7)	0
317	Existing Investment	Distribution Pipe	SARN - Christina St at Highbury Pk Leakage - Sarr	101194	(7)	(129)	122
318	No Longer in Plan	Real Estate & Workplace Ser	2031 Cabling	737024	(8)	(65)	57
319	Emergent	Distribution Stations	SUDB: 13200177 - Interpaving SMS, CWT Remove	738782	(8)	(8)	0
320	Existing Investment	Distribution Pipe	LOND - 7113 to 7079 Longwoods Rd. - London	734459	(14)	(111)	97
321	Existing Investment	Distribution Stations	McCreedy West Stn., Sudbury	49678	(14)	(14)	0
322	Emergent	Compression Stations	Dawn Dehy - Cabling Upgrade	740583	(14)	(14)	0
323	Emergent	TIS	Digital Ambition - IMS Compliance & Analytics 202	740045	(14)	(179)	164
324	Emergent	Distribution Stations	TBAY: 399A to EZR Conversion Kit	740529	(16)	(16)	0
325	No Longer in Plan	Distribution Stations	SIGNET & FINCH FEEDER	7775	(17)	(229)	212
326	Existing Investment	Distribution Stations	TBAY: Wright at O'Brien DRS Pipe Supports	733372	(17)	(17)	0
327	Emergent	Distribution Pipe	King: 22-23-603 Dundas Street Leak Replacement	740016	(17)	(17)	0
328	Emergent	Distribution Pipe	King: 22-23-602 Murney & Catherine Leak Repair (	739846	(17)	(17)	0
329	Emergent	Distribution Pipe	HAMI: Jackson St Valve Replacement, Hamilton, R	738878	(18)	(18)	0
330	Existing Investment	Distribution Stations	A80: Townline Rd, Welland, Station Replacement	18917	(18)	(93)	75
331	Emergent	Compression Stations	Coating Remediation - Dawn N/S Header Valves	740866	(19)	(19)	0
332	Existing Investment	TIS	Material Traceability	102359	(19)	(4,783)	4,764
333	Emergent	Distribution Stations	BRAN: 12U-514R 510 Queensway St W Class 7 R	738666	(19)	(19)	0
334	Existing Investment	Distribution Stations	BRAN: 12S-101 Tillsonburg Potter's Road Distribut	100550	(19)	(19)	0
335	Emergent	Compression Stations	Plant J SOLAR HMI Replacement	739988	(22)	(22)	0
336	Emergent	Distribution Stations	HAMI: National Steel Car, Telemetry	739819	(23)	(23)	0
337	No Longer in Plan	Distribution Pipe	WATE - Glen Morris (Selkirk to Stanley) Repl. BU -	48937	(25)	(243)	218
338	Emergent	Distribution Pipe	A60: Scala Isolation Valves	738856	(25)	(25)	0
339	Emergent	Distribution Pipe	King - Lowering on Water Street (Napanee)	100750	(26)	(26)	0
340	Emergent	Distribution Pipe	Mill Creek Cres Replacement	49739	(26)	(26)	0
341	Emergent	Distribution Stations	LUG - ERX Cloudlink Modem Replacement	739582	(28)	(28)	0
342	Existing Investment	Distribution Stations	TIMM: Munoro Mine SMS Retirement	734576	(29)	(29)	0
343	Emergent	Distribution Pipe	Guelph Rectifier 148 and 168 Repairs	739226	(29)	(29)	0
344	Existing Investment	Distribution Stations	6B435A - CORKSTOWN & WESTDALE DISTRICT	101153	(30)	(135)	105
345	Existing Investment	Distribution Stations	HAMI: Mye Canada, Maintenance	735056	(30)	(30)	0
346	Existing Investment	Distribution Stations	HAMI: Temple Canada, Maintenance	735057	(30)	(30)	0
347	Existing Investment	Distribution Stations	HALT: Morgan Thermal Ceramics, Maintenance	735055	(33)	(33)	0
348	Emergent	Distribution Stations	LOND: 12M-402R Glendon Dr. Reg Station Replac	738695	(33)	(33)	0
349	No Longer in Plan	Real Estate & Workplace Ser	2031 Building Systems Blanket	736994	(33)	(1,182)	1,148
350	Emergent	Distribution Stations	SUDB: 44301001 Azilda DRS, CWT Repair	738783	(33)	(33)	0
351	Emergent	Distribution Stations	Header Stations Rebuilds Area 10	739689	(34)	(34)	0

352	Emergent	Growth	WATE- Kennedy Road, Breslau, Reinforcement	738492	(35)	(35)	0
353	No Longer in Plan	Distribution Stations	HALT: EC Drury School,Rebuild	735049	(35)	(35)	0
354	Emergent	Distribution Stations	BRAN: 13U-301R Boston Class 7 Rebuild	737825	(35)	(35)	0
355	Emergent	Distribution Stations	King: Aragon PRS Hazardous Area Mitigation (King	734772	(36)	(36)	0
356	Existing Investment	Distribution Stations	BRAN: 11V-101 Port Dover South Distribution Stati	100627	(37)	(37)	0
357	Emergent	Distribution Stations	Header Stations Rebuilds Area 30	739691	(39)	(39)	0
358	Existing Investment	Distribution Stations	NE: 43501002 - Coniston DRS, Rebuild	101072	(41)	(179)	138
359	Existing Investment	Distribution Stations	TIMM: Hallnor Mine PRS Retirement	734574	(41)	(41)	0
360	Emergent	Distribution Stations	KING ST E/OLD KING RD DISTRICT (BOLTON)	18906	(42)	(100)	58
361	Emergent	Distribution Stations	Meter and Instrument Exchanges	739670	(43)	(43)	0
362	No Longer in Plan	Distribution Stations	HALT-Winston Churchill & 10 Side Rd	101081	(44)	(414)	370
363	Emergent	Distribution Stations	TIMM: Porcupine PCS, Heater Replacement	739227	(44)	(44)	0
364	Existing Investment	Distribution Stations	SSM: Goulais Ave TBS Algoma 4, Station Modifica	736079	(45)	(45)	0
365	Emergent	Compression Stations	167 Turbo Rebuild	739561	(45)	(45)	0
366	Emergent	Distribution Stations	King: McPherson Drive PRS (Napanee) Frost Heav	735797	(45)	(82)	36
367	Emergent	Distribution Pipe	01-23-610 WIND Bubbling Pipe Cut Outs	740674	(46)	(46)	0
368	Emergent	Distribution Pipe	Area 10 - Denison Rd E, North York	737637	(48)	(48)	0
369	Emergent	Distribution Stations	WATE: 26Q-271 Allan Park, Class 7 Station Rebuil	738476	(48)	(48)	0
370	Existing Investment	Distribution Stations	TBAY: Burwood Rd TBS Filter	735632	(48)	(48)	0
371	Existing Investment	Distribution Pipe	BRAN - Connaught Ave. (Hwy 3 to Delcrest) Repl. I	48956	(49)	(250)	201
372	Existing Investment	Real Estate & Workplace Ser	Thunder Bay Regional Operations Centre	100607	(49)	(5,007)	4,958
373	No Longer in Plan	Distribution Stations	REPLIN & LAWRENCE DISTRICT	18845	(50)	(119)	70
374	Emergent	Distribution Pipe	King: 22-23-630 Mill & Water - Gen. Rep. for Backy	738478	(51)	(51)	0
375	Existing Investment	Distribution Stations	WATE: Mt Elgin Dist Stn, Mt Elgin, Station	100240	(51)	(85)	34
376	Existing Investment	Distribution Pipe	Atikokan Steep Rock Mine Valve Nest Retirement	49509	(52)	(52)	0
377	No Longer in Plan	Distribution Stations	6B758A - EAGLESON & HAZELDEAN DISTRICT	101151	(53)	(131)	77
378	Emergent	Distribution Pipe	King: Fifth & McConnell Concrete Encased Main R	734741	(56)	(56)	0
379	Existing Investment	Distribution Pipe	Giles Blvd E - Southwest - Windsor - 1845	30016	(56)	(365)	308
380	Emergent	Distribution Stations	NPS 30 Beechwood Valve Actuation	733463	(56)	(56)	0
381	Emergent	Distribution Stations	Header Station Rebuilds Area 60	739692	(57)	(57)	0
382	Existing Investment	Distribution Stations	DELORAINE & YONGE DISTRICT	18887	(58)	(185)	127
383	Existing Investment	Distribution Stations	Buttonville Interconnect	733506	(61)	(61)	0
384	Existing Investment	Distribution Pipe	Stratford-Daly Ave with Birmingham to Worsley-175	30442	(61)	(66)	5
385	Emergent	Distribution Pipe	WIND: 40 Cameron Rd W Leak Repair, Kingsville,	739933	(62)	(62)	0
386	Existing Investment	Distribution Stations	SUD: Azilda DRS, Boiler Replacement	733857	(62)	(62)	0
387	Existing Investment	Distribution Stations	SUD: Kukagami TBS, Boiler Replacement	733856	(62)	(62)	0
388	Existing Investment	Distribution Stations	SUD: Inco North Mine SMS, Boiler Replacement	733853	(62)	(62)	0
389	Emergent	Distribution Pipe	Isolation Valve Mississauga	738889	(63)	(63)	0
390	Existing Investment	Distribution Stations	King - corrosion Diamond Head Park PRS 2730103	100907	(63)	(63)	0
391	Existing Investment	Distribution Stations	SUD: Copper Cliff TBS, Boiler Replacement	733841	(64)	(64)	0
392	Existing Investment	Distribution Stations	NBAY: Emsdale CMS, Boiler Replacement	733851	(64)	(64)	0
393	Existing Investment	Distribution Stations	NBAY: Callander TBS, Boiler Replacement	733842	(64)	(64)	0
394	Existing Investment	Distribution Stations	33171A - MAJOR MACKENZIE & VELLORE WOO	735170	(65)	(65)	0
395	Existing Investment	Distribution Stations	TBAY: Kenora Airport Rd, Boiler Replacement	733876	(65)	(65)	0
396	Existing Investment	Distribution Stations	TBAY: Geraldton TBS, Boiler Replacement	733875	(65)	(65)	0
397	Existing Investment	Distribution Stations	TBAY: Nipigon TBS, Boiler Replacement	733870	(66)	(66)	0
398	Existing Investment	Distribution Stations	NBAY: Warren TBS, Boiler Replacement	735030	(66)	(66)	0
399	Existing Investment	Distribution Stations	NBAY: West Ferris TBS, Boiler Replacement	733838	(66)	(66)	0
400	Emergent	Distribution Stations	HWY 9/SECOND LINE RD. DISTRICT	18895	(66)	(100)	34
401	No Longer in Plan	Distribution Pipe	BRAN - Water St. and Rebecca St. Repl. BU - Vitto	48933	(67)	(203)	136
402	Existing Investment	Distribution Stations	TBAY: Ignace TBS, Boiler Replacement	733867	(68)	(68)	0
403	Existing Investment	Distribution Stations	TBAY: McIrvine TBS, Boiler Replacement	733866	(68)	(68)	0
404	Emergent	Distribution Stations	NBAY: Balls Dr TBS - Bracebridge, Boiler Replacer	733817	(68)	(68)	0
405	Existing Investment	Distribution Stations	TIMM: Schumacher TBS, Boiler Replacement	733868	(68)	(68)	0
406	Existing Investment	Distribution Stations	NBAY: Ferguson Road, Boiler Replacement	733820	(68)	(68)	0
407	Existing Investment	Distribution Stations	NBAY: Earlton TBS, Boiler Replacement	733822	(68)	(68)	0
408	Existing Investment	Distribution Stations	SUD: Chelmsford, Boiler Replacement	733765	(68)	(109)	41
409	Existing Investment	Distribution Stations	SUD: Kelly Lake TBS, Boiler Replacement	733763	(68)	(113)	45
410	Existing Investment	Distribution Pipe	SSM: Goulais Rd Main replacement SSM	49628	(68)	(550)	482

411	Existing Investment	Distribution Pipe	LOND - Waterloo St at Horton St Leakage BU- Lon	733531	(68)	(296)	227
412	Emergent	Distribution Pipe	BRAN- Spalding Drive Leak Repair, Brantford	739811	(69)	(69)	0
413	Existing Investment	Distribution Stations	SUD: Walden TBS, Boiler Replacement	733814	(70)	(70)	0
414	Existing Investment	Distribution Stations	SUD: Coniston TBS, Boiler Replacement	733813	(70)	(70)	0
415	Existing Investment	Distribution Stations	TIMM: Matheson TBS, Boiler Replacement	733864	(70)	(70)	0
416	Existing Investment	Distribution Stations	NBAY: Mattawa TBS, Boiler Replacement	733796	(70)	(70)	0
417	Existing Investment	Distribution Stations	NBAY: Widdifield TBS, Boiler Replacement	733795	(70)	(70)	0
418	Existing Investment	Distribution Stations	NBAY: South River TBS, Boiler Replacement	733797	(70)	(70)	0
419	No Longer in Plan	Distribution Pipe	HAMI: Fleming Ave, Dundas, BU Replacement	733650	(70)	(70)	0
420	No Longer in Plan	Distribution Stations	HAMI: Empire Steel, Maintenance	735050	(71)	(71)	0
421	No Longer in Plan	Distribution Stations	HAMI: Voith Fabrics, Maintenance	735051	(71)	(71)	0
422	No Longer in Plan	Distribution Stations	YONGE AND STEELES FEEDER	2719	(72)	(293)	221
423	Existing Investment	Distribution Stations	WATE: 30Q-105C Sutherland Downs Pit FIMP	735263	(72)	(72)	0
424	Existing Investment	Distribution Stations	WATE: 30N-501 Southhampton Gate Stn. FIMP	735262	(72)	(72)	0
425	Existing Investment	Distribution Stations	WATE: 22S-402 Moorefield Dist. Stn. FIMP	735260	(72)	(72)	0
426	Existing Investment	Distribution Stations	WATE: 19U-601R Rozelle Rd. Dist. Stn FIMP	735258	(72)	(72)	0
427	Emergent	Distribution Stations	Sales Stations Rebuilds Area 20	739694	(73)	(73)	0
428	Existing Investment	Distribution Pipe	CHAT: Water St & Talbot Trail, Chatham-Kent, Rep	49893	(75)	(106)	32
429	Existing Investment	Distribution Stations	CFB Station Retirement	49612	(77)	(77)	0
430	No Longer in Plan	Distribution Pipe	TBAY: 33-23-600 Ackland's / Dryden GM Main & C	502825	(78)	(78)	0
431	Existing Investment	Distribution Stations	WATE: 12T-102 Norwich-Middleton Town Stn. FIMI	735269	(78)	(78)	0
432	Existing Investment	Distribution Pipe	SUDB: Gagnon St Lateral, Azilda	49641	(78)	(78)	0
433	Emergent	Distribution Pipe	Stratford-Laurier St - East Gore to Norfolk-1775	30460	(79)	(88)	8
434	Existing Investment	Distribution Pipe	LOND - Breck Ave. & Eastgate Cres. - London	734460	(80)	(104)	24
435	No Longer in Plan	Distribution Stations	TBAY: Balsam St TBS Filter	735633	(83)	(83)	0
436	Emergent	Growth	KING: Loyalist Pkwy Reinforcement, Wellington	49769	(83)	(83)	0
437	Emergent	Distribution Stations	King: 22-23-799 Gananoque TBS Odourant Sweep	739972	(86)	(86)	0
438	Existing Investment	Distribution Stations	2936745 MARKHAM & VERNE DISTRICT	735183	(87)	(87)	0
439	Emergent	Distribution Stations	Sales Stations Rebuilds Area 30	739695	(88)	(88)	0
440	Emergent	Distribution Pipe	45-23-603 TIMM - Earl St - NPS2 Leak Repair - K	740635	(88)	(88)	0
441	Emergent	Distribution Stations	WATE: 20S-603 Elmira South. Stn FIMP	735257	(91)	(91)	0
442	Emergent	Distribution Stations	BRAN: 13T-101 Norwich Trans Stn . FIMP	735255	(91)	(91)	0
443	Emergent	Distribution Stations	King: Ault Foods SMS (Lactalis/Parmalt - Winchest	734768	(92)	(376)	285
444	No Longer in Plan	Distribution Stations	GRASSYBROOK & MCKENNY DISTRICT	18850	(92)	(93)	0
445	Emergent	Distribution Stations	12902A - STUBBS & LESLIE DISTRICT	101050	(93)	(93)	0
446	No Longer in Plan	Distribution Stations	SUD: Barrydowne, Boiler Replacement	733762	(93)	(138)	45
447	Emergent	Distribution Stations	King: GT Machine SMS	734760	(95)	(95)	0
448	Existing Investment	Distribution Stations	SSM: Blind River TBS, Boiler Replacement	733854	(95)	(95)	0
449	Existing Investment	Distribution Stations	TIMM: Moneta TBS, Boiler Replacement	733874	(95)	(95)	0
450	No Longer in Plan	Distribution Stations	LESLIE & STEELES DISTRICT	23730	(96)	(166)	70
451	Emergent	Distribution Stations	Sales Stations Rebuilds Area 60	739696	(97)	(97)	0
452	Emergent	Distribution Stations	Header Stations Rebuilds Area 20	739690	(97)	(97)	0
453	No Longer in Plan	Distribution Stations	BRAMALEA & ADVANCE BLVD. DISTRICT	18909	(97)	(97)	0
454	Existing Investment	Distribution Stations	TIMM: Porcupine PCS, Boiler Replacement	733770	(97)	(142)	45
455	Emergent	Compression Stations	High Performance Coating 2023 - Dawn Plant E	737239	(98)	(98)	0
456	Existing Investment	Distribution Stations	SSM: Elliot Lake TBS, Boiler Replacement	733852	(98)	(98)	0
457	No Longer in Plan	Real Estate & Workplace Ser	2031 North Building Systems Blanket	737025	(98)	(843)	745
458	Existing Investment	Distribution Stations	WATE: 18T-402 Mannheim Trans Stn	735252	(99)	(99)	0
459	Existing Investment	Distribution Stations	15R-604R Young & Peel LP Stn	100998	(99)	(103)	4
460	Emergent	Distribution Stations	20003A FARMERS LANE DISTRICT- N/W COR KI	735305	(100)	(100)	0
461	No Longer in Plan	Distribution Stations	TBAY: Clark & Niven DRS Rebuild	48527	(100)	(433)	332
462	Existing Investment	Distribution Stations	TIMM: Cochrane TBS, Boiler Replacement	733773	(101)	(109)	9
463	Existing Investment	Distribution Stations	TBAY: Balmertown - Goldcorp SMS, Boiler Replace	733872	(101)	(101)	0
464	Existing Investment	Distribution Stations	NBAY: TCPL Co-gen North Bay, Boiler Replaceme	733839	(101)	(101)	0
465	Existing Investment	Distribution Stations	NBAY: Madill TBS _ Huntsville, Boiler Replacemen	733840	(101)	(101)	0
466	Emergent	Distribution Pipe	Stratford-Water St - Queen to Parkview-1763	30448	(101)	(105)	4
467	Emergent	Growth	NW3834 Glenbourne Park Dr Reinforcement	738860	(101)	(101)	0
468	Existing Investment	Distribution Stations	TIMM: Glencore Mine SMS, Boiler Replacement	733768	(102)	(106)	4
469	Emergent	Distribution Pipe	Stratford-W Gore St - St. Vincent to John-1762	30447	(103)	(106)	3

470	Existing Investment	Distribution Stations	TIMM: Kirkland Lake TBS, Boiler Replacement	733771	(103)	(113)	10
471	Emergent	Distribution Pipe	33-22-619 TBAY - Balsam St - NPS8 Main Repl - T	739469	(103)	(103)	0
472	Existing Investment	Distribution Stations	NBAY: New Liskeard TBS, Boiler Replacement	733821	(103)	(103)	0
473	Existing Investment	Distribution Stations	SHEPPARD AVE E & GRAND MARSHALL DISTRI	18844	(105)	(110)	4
474	Existing Investment	Distribution Stations	NBAY: Sturgeon Falls TBS, Boiler Replacement	733760	(106)	(116)	10
475	Existing Investment	Distribution Stations	TBAY: Kenora TBS, Boiler Replacement	733865	(106)	(106)	0
476	Existing Investment	Distribution Stations	TIMM: Hwy 655 TBS, Boiler Replacement	733877	(108)	(108)	0
477	Emergent	Growth	WATE_7321 Line 86 Woolwich Twp Reinforcement	738983	(109)	(109)	0
478	No Longer in Plan	Distribution Stations	KING: Belleville Sidney St TBS (27801001) Valve U	100835	(109)	(174)	64
479	Existing Investment	Distribution Stations	WIND: 06C-602 Puce Transmission	734665	(110)	(113)	4
480	Existing Investment	Distribution Stations	NBAY: Englehart TBS, Boiler Replacement	733761	(110)	(116)	6
481	Existing Investment	Distribution Pipe	Matchedash St N 2 (MORATORIUM UNTIL 2026) -	30225	(110)	(116)	5
482	Emergent	Growth	HAMI: Ancaster Gate Modifications	739262	(111)	(111)	0
483	Emergent	Compression Stations	SCOR: 64111 Gearbox and Glycol Pump Upgrade	740891	(112)	(112)	0
484	Existing Investment	Distribution Stations	TBAY: Dryden Domtar SMS, Station Modifications	100938	(113)	(113)	0
485	Existing Investment	Distribution Stations	BRAN: 14S-601 Norwich Brick Gate Stn. FIMP	735249	(115)	(115)	0
486	Existing Investment	Distribution Stations	WATE: 17T-201 New Dundee Gate Stn FIMP	735250	(115)	(115)	0
487	Existing Investment	Distribution Pipe	King: Bath and Gardiners Valve Replacement (King	734743	(115)	(115)	0
488	Existing Investment	LNG	Hagar MCC Building - Upgrades	735293	(117)	(124)	7
489	Existing Investment	Distribution Stations	17461A CAVERLY & MARTINGROVE DISTRICT	735188	(118)	(118)	0
490	Emergent	Compression Stations	SCOR: Boiler & Gen Start Air OPP Upgrades	740931	(118)	(118)	0
491	Emergent	Distribution Stations	BOVAIRD & MISSISSAUGA DISTRICT	18893	(118)	(180)	61
492	Existing Investment	Distribution Stations	NE: 43202063 - Vale Engineering & Exploration, Re	49894	(119)	(157)	39
493	No Longer in Plan	Distribution Stations	WATE: 18S-401 Markdale Stn. FIMP	735248	(120)	(124)	4
494	Emergent	Real Estate & Workplace Ser	Brantford Office Reconfiguration	739595	(121)	(121)	0
495	Emergent	Real Estate & Workplace Ser	Thunder Bay Office Reconfiguration	739594	(121)	(121)	0
496	Emergent	Growth	22-22-719 KING: Colborne TBS Line heater (27401	738842	(121)	(121)	0
497	Existing Investment	Distribution Stations	WIND - 04B-401R Howard and Pike - Rebuild with	101360	(121)	(179)	58
498	Emergent	Growth	KING: Upgrade Dundas & CR2 PRS (28801009)	49097	(122)	(122)	0
499	Emergent	Distribution Stations	A60: Campbell & McNabb District (61128A)	738891	(122)	(122)	0
500	Existing Investment	Distribution Stations	HAMI: Saint Gobain Abrasives, maintenance	735065	(122)	(122)	0
501	Existing Investment	Distribution Stations	HALT: Milton Hydro Dist Inc, Rebuild	735067	(122)	(122)	0
502	Existing Investment	Distribution Stations	HALT: Affinia Canada Corp, Rebuild	735066	(122)	(122)	0
503	Emergent	Distribution Pipe	WATE_Atwood Station Inlet Obstruction Emergenc	739834	(123)	(123)	0
504	Existing Investment	Distribution Stations	(O)-ELLESMERE / BUDEA	18962	(123)	(126)	3
505	Existing Investment	Distribution Pipe	A80: Regional Rd 65, West Lincoln. Replacement	502019	(123)	(136)	12
506	Emergent	Distribution Stations	HIGHWAY #3 & HOUSE RD DISTRICT	18916	(123)	(166)	43
507	No Longer in Plan	Distribution Stations	WATE: 23R-602 Rothsay Trans Stn,FIMP	735247	(124)	(124)	0
508	No Longer in Plan	Distribution Stations	WATE: 17T-202 N.Dumphries Trans. Stn FIMP	735246	(124)	(124)	0
509	Existing Investment	Distribution Pipe	SARN - Oil Heritage Rd and Douglas Line Expose	733836	(124)	(125)	1
510	Existing Investment	Distribution Stations	NBAY: West St TBS, Boiler Replacement	733766	(125)	(167)	41
511	Existing Investment	Distribution Stations	NBAY: Muskoka Falls TBS, Boiler Replacement	733757	(127)	(136)	10
512	Existing Investment	Distribution Stations	BAYVIEW & SHEPPARD DISTRICT	18812	(128)	(198)	70
513	Emergent	Distribution Pipe	LOND - Trafalgar & Oliver Leakage - London	738868	(128)	(128)	0
514	Existing Investment	Distribution Stations	TBAY: Vermillion Bay PCS, Boiler Replacement	733772	(129)	(138)	9
515	Existing Investment	Distribution Stations	TIMM: Glencore Concentrator SMS, Boiler Replace	503742	(129)	(133)	4
516	Existing Investment	Distribution Stations	15O-401R Bryanston Gate	100994	(129)	(130)	0
517	No Longer in Plan	Distribution Stations	TBAY: 500 Toledo St MUB Rebuild	734565	(130)	(130)	0
518	Existing Investment	Distribution Pipe	Weston Rd & Imogene trespassing main	2698	(131)	(426)	295
519	No Longer in Plan	Distribution Stations	NE: 43202154 - Bil-Mur PRS, Rebuild	501161	(131)	(166)	35
520	Existing Investment	Distribution Stations	NBAY: Haileybury TBS, Boiler Replacement	733759	(131)	(142)	10
521	No Longer in Plan	Distribution Stations	TBAY: Kraft SMS Retirement	502824	(132)	(132)	0
522	Existing Investment	Distribution Stations	NE: 45101001 - Sault Primary, Control Valve Modif	736082	(134)	(134)	0
523	Existing Investment	Distribution Stations	6B631A MCCARTHY DR AND HUNT CLUB RD	735164	(135)	(135)	0
524	Emergent	Compression Stations	Dawn Foxboro DCS Workstations - Back up MCR	739547	(135)	(135)	0
525	Emergent	Distribution Stations	6A149A Kemptville District	738923	(135)	(135)	0
526	Emergent	Growth	KING: Upgrade West St DRS (27601014)	49145	(136)	(136)	0
527	Existing Investment	Distribution Stations	LOND: 15J-401 Forest Gate Transmission Station	735276	(138)	(138)	0
528	Emergent	Distribution Pipe	Sarnia Industrial Line Environmental Monitoring	739745	(138)	(138)	0

529	No Longer in Plan	Distribution Stations	61128A - CAMPBELL & MCNABB DISTRICT	101154	(140)	(141)	1
530	Emergent	Growth	28106010 York ST and Pitt St PRS Rebuild- Picton	739857	(140)	(140)	0
531	Emergent	Compression Stations	High Performance Coating 2023 - Parkway	737238	(142)	(142)	0
532	Emergent	Distribution Stations	Sales Stations Rebuilds Area 10	739693	(143)	(143)	0
533	No Longer in Plan	Real Estate & Workplace Ser	2031 South Building Systems Blanket	737027	(143)	(1,232)	1,089
534	Existing Investment	Distribution Stations	VICTORIA SQUARE GATE	3624	(145)	(962)	817
535	Emergent	Compression Stations	SCOR:172 Flare Knock-out - OPP Upgrade	740875	(146)	(146)	0
536	No Longer in Plan	Distribution Stations	WIND - 06B-548I Chrysler Paint - Heater Replacem	101357	(146)	(146)	0
537	Existing Investment	Distribution Stations	NBAY: Eloy TBS, Boiler Replacement	733764	(147)	(192)	45
538	Existing Investment	Distribution Stations	SARN: 12F-201I Suncor Ethanol	734679	(149)	(149)	0
539	Existing Investment	Distribution Pipe	WIND: Glenwood Line & Port Rd, Chatham-Kent, R	49734	(151)	(183)	32
540	No Longer in Plan	Distribution Stations	WIND: 04E-438C Protolight Farms	734654	(152)	(194)	42
541	Existing Investment	Distribution Stations	WIND: 05B-205R Howard & Outer	734663	(152)	(156)	4
542	Existing Investment	Distribution Stations	TIMM: South Porcupine/Crawford TBS, Boiler Repl	733769	(152)	(152)	0
543	Existing Investment	Distribution Stations	NBAY: Ravensglen TBS, Boiler Replacement	733823	(152)	(152)	0
544	Emergent	Distribution Pipe	SARN - Vidal St Walking Bridge Valve Install - Sarr	739194	(152)	(152)	0
545	Emergent	Distribution Stations	3381554 MCCOWAN AND SHEPPARD DISTRICT	735311	(152)	(152)	0
546	Emergent	Distribution Stations	St George & Curtis LP Repalcement Phase 2	739468	(155)	(155)	0
547	No Longer in Plan	Distribution Stations	WIND - 03B-102R County Rd 20 & Concession Rd	101342	(157)	(158)	1
548	Existing Investment	Distribution Pipe	WIND: Trenton St, Windsor, Replacement	49750	(159)	(185)	26
549	No Longer in Plan	Distribution Stations	WIND - 03E-104C Thiessen Flower Shop - rebuild	502774	(163)	(168)	4
550	No Longer in Plan	Distribution Stations	NBAY: Ski Club/Trout Lake TBS, Boiler Replaceme	733758	(165)	(209)	45
551	Existing Investment	Distribution Stations	3226575 SHEPPARD & MORNINGSIDE DISTRICT	735181	(165)	(165)	0
552	Existing Investment	Distribution Stations	2936953 MEADOWVALE & GENERATION DISTRI	735182	(165)	(165)	0
553	Existing Investment	Distribution Pipe	Stratford-Mercer St from Caledonia to Brittania-175	30443	(166)	(170)	4
554	Emergent	Distribution Stations	King: Cornwall Centre PRS	734779	(166)	(166)	0
555	No Longer in Plan	Distribution Stations	ST. PAUL & SANDFIELD DISTRICT (ALEXANDRI	23766	(167)	(167)	0
556	Existing Investment	Distribution Stations	CHAT: 06J-103 Blenheim North Gate	734661	(167)	(168)	1
557	Existing Investment	Distribution Stations	TBAY: Longlac TBS, Heater Replacement	100945	(167)	(169)	1
558	Emergent	Distribution Stations	3226642 LATIMER & ROSELAWN DISTRICT STA	735186	(169)	(169)	0
559	No Longer in Plan	Distribution Stations	SUD: Lasalle TBS, Boiler Replacement	733753	(169)	(217)	48
560	Emergent	Distribution Pipe	Pr#61, NRP - 2028 - Third Street - Collingwood - 16	30107	(170)	(179)	10
561	Existing Investment	Distribution Pipe	River View Line - Southwest - Windsor - 1381	30034	(170)	(194)	23
562	Emergent	Distribution Stations	33010A YONGE & GLEN CAMERON DISTRICT	735779	(172)	(172)	0
563	Existing Investment	Distribution Stations	NE: 43201030 - Coniston Primary, Control Valve M	736083	(172)	(172)	0
564	Emergent	Distribution Pipe	Stratford - St. David to Cambria-1769	30453	(175)	(179)	4
565	Existing Investment	Distribution Pipe	SARN - Highway Dr and Lynwood Ave - Sarnia BU	48771	(176)	(298)	122
566	No Longer in Plan	Distribution Stations	WIND - 03D-322C Leamington Hospital - rebuild	502698	(176)	(199)	22
567	Emergent	Distribution Stations	17536A FENMAR & STEELES DISTRICT	738908	(177)	(177)	0
568	Emergent	Distribution Stations	A80: 1826 MILLER RD DISTRICT STATION	101115	(178)	(178)	0
569	Emergent	Distribution Pipe	Stratford-McDonald St - Willow to Devon-1766	30451	(180)	(184)	4
570	Existing Investment	Distribution Stations	30988A CONCESSION 2 & TWMARC DISTRICT	735172	(180)	(180)	0
571	No Longer in Plan	Distribution Stations	YORKGATE & FINCH DISTRICT	18963	(180)	(261)	80
572	Emergent	Distribution Pipe	Stratford-Perth St - Downie to Taylor-1761	30446	(182)	(189)	7
573	Existing Investment	Distribution Stations	12377A PURPLE DUSK TRAIL & NEILSON DISTR	735180	(186)	(186)	0
574	Existing Investment	Distribution Pipe	Shallow Main - High Street from Dunlop to Park St	736572	(186)	(186)	0
575	Existing Investment	Distribution Pipe	SUDB: RR 15 Property Line, Chelmsford, Replacer	734812	(187)	(1,065)	878
576	Existing Investment	Distribution Stations	20702A DIXIE & BRITANNIA DISTRICT	735175	(187)	(187)	0
577	Existing Investment	Distribution Stations	WATE: 19U-201 Guelph West Gate Stn. FIMP	735226	(188)	(192)	4
578	Existing Investment	Distribution Pipe	TOR10YR - Weston - Bradstock to Verobeach Re	733801	(188)	(188)	0
579	Existing Investment	Distribution Stations	KING - Under rated valve Trenton TBS 27601001	100777	(189)	(189)	0
580	Existing Investment	Distribution Stations	20782B DERRY & TOMKEN IP DISTRICT	735174	(191)	(191)	0
581	Emergent	Distribution Pipe	Stratford-Cobourg St - Parkview to Queen-1773	30458	(192)	(204)	12
582	Emergent	Distribution Pipe	TOR10YR - Railside and Lawrence Replacement -	735880	(194)	(194)	0
583	Existing Investment	Distribution Pipe	Viewmount Dr Main Lowering	734590	(195)	(225)	30
584	Emergent	Growth	WATE_375 Sligo Rd Mount Forest Reinforcement	739652	(195)	(195)	0
585	Emergent	Growth	HAMI: Nebo Rd Airport Expansion Project, Hannon	735963	(196)	(196)	0
586	Emergent	Distribution Pipe	Stratford-Queen St - Brunwick to Douro-1770	30455	(196)	(201)	6
587	Existing Investment	Distribution Stations	14435A BIRMINGHAM & NINTH DISTRICT	735177	(196)	(196)	0

588	No Longer in Plan	Distribution Stations	THUN: Gorevale Road PRS Station Relocation	735707	(197)	(197)	0
589	Existing Investment	Distribution Stations	14378A - TRETHEWAY & GREENBROOK DISTRI	101006	(198)	(198)	0
590	Existing Investment	Distribution Stations	44512A YANKEE LINE & RUSSELL DISTRICT	735168	(199)	(199)	0
591	No Longer in Plan	Distribution Stations	FINCH & HALESIA DISTRICT	20376	(200)	(201)	1
592	Existing Investment	Distribution Stations	14887A GLAMORGAN & KENNEDY DISTRICT	735187	(202)	(202)	0
593	Existing Investment	Distribution Stations	LOND - Mitchell Station Rebuild - London	48376	(203)	(203)	0
594	Existing Investment	Distribution Pipe	Matchedash St N 1 (MORATORIUM UNTIL 2026) -	30224	(205)	(215)	10
595	Existing Investment	Distribution Stations	2885749 Taunton and Gillett	735304	(206)	(268)	62
596	Emergent	Growth	NW 4521 Avondale Drive Reinforcement SRP	736667	(207)	(207)	0
597	Existing Investment	Distribution Stations	31428A - RAM FOREST & WESLEY CORNERS	101056	(207)	(207)	0
598	Existing Investment	Distribution Stations	32311A - WILLIAM & PRESTON LAKE DISTRICT	101057	(207)	(207)	0
599	Existing Investment	Distribution Pipe	NE: Ski Club Rd., North Bay	102476	(208)	(210)	3
600	Existing Investment	Distribution Stations	SARN: 13F-402 Shell Canada	734685	(208)	(208)	0
601	Emergent	Distribution Pipe	Stratford-Birmingham - Cambria to Daly-1764	30449	(211)	(220)	9
602	Emergent	Distribution Stations	King: Maple Ridge Farms DRS	734756	(212)	(212)	0
603	Emergent	Distribution Pipe	Stratford-Avondale Ave from Huron to Cemetary-17	30444	(213)	(222)	8
604	Emergent	Distribution Pipe	A60: Casselman Bridge Repair	740151	(214)	(214)	0
605	Emergent	Distribution Stations	King: Woodbine @NC Easement PRS	734780	(217)	(217)	0
606	Emergent	Distribution Pipe	Stratford-Perth St - Taylor to Borden-1767	30452	(217)	(229)	12
607	Emergent	Distribution Pipe	SARN- 2905 Bentpath Line Replacement - Sombra	738109	(217)	(217)	0
608	Existing Investment	Distribution Pipe	WIND: Oak St - Ph 2, Leamington, Replacement	49812	(218)	(848)	630
609	Emergent	Distribution Pipe	BRAN- Windham Center Leak Repair. Windham	738968	(219)	(219)	0
610	Emergent	Distribution Pipe	Stratford-Brunswick St - King to Romeo-1765	30450	(221)	(230)	9
611	Emergent	Distribution Pipe	SARN Oil Springs Line (Sarnia 10) Aerial Crossing	740848	(224)	(224)	0
612	Emergent	Real Estate & Workplace Ser	Operations Centre Retirement No. 2	100670	(224)	(224)	0
613	Existing Investment	Distribution Stations	HAMI-Summit Trans Stn,	101094	(225)	(225)	0
614	Existing Investment	Distribution Pipe	Food City Plaza STC - Area 80 - 1161	30053	(226)	(239)	14
615	Emergent	Growth	KING: Main St, Wellington Reinforcement	49768	(228)	(228)	0
616	Existing Investment	Distribution Stations	DOWNSVIEW FEEDER	7765	(230)	(247)	17
617	Existing Investment	Distribution Stations	BRIMLEY & ELESMERE DISTRICT	18816	(230)	(277)	47
618	Existing Investment	Distribution Stations	WIND - 06D-401 Belle River Gate - Replace heater	101608	(232)	(232)	0
619	Emergent	Growth	NW 3750 & 3832 Concession Rd 2 Reinforcement	736664	(233)	(233)	0
620	Existing Investment	Distribution Stations	LOND: 14O-619I 3M Customer Station Rebuild; 52	49861	(234)	(234)	0
621	Existing Investment	Distribution Stations	LOND: 14O-603I 3M Customer Station Rebuild	49862	(234)	(234)	0
622	Existing Investment	Distribution Stations	NE: 45401095 - Great Northern Rd TBS, Boiler Rep	502661	(237)	(322)	85
623	Emergent	Distribution Pipe	Dawn Mills Bare Steel Replacement	49728	(239)	(239)	0
624	Emergent	Distribution Pipe	Stratford-Woods St - Birmingham to St. Vincent-17	30456	(240)	(248)	8
625	Existing Investment	Distribution Stations	12696A BROOKFIELD AND DONINO DISTRICT	735179	(241)	(241)	0
626	Existing Investment	Distribution Stations	LOND: 19O-601 Mitchell Gate	734687	(242)	(242)	0
627	Existing Investment	Distribution Stations	HAMI: Birmingham and Burlington, Maintenance	735058	(243)	(243)	0
628	Emergent	Growth	HAMI: Dickenson Rd Airport Expansion Project, Mc	735962	(244)	(244)	0
629	Existing Investment	Distribution Pipe	Adelaide St - Eastern - Area 60 - 1828	30332	(245)	(253)	8
630	Existing Investment	Distribution Stations	WATE: 17T-202 North Dumfries Distribution Statior	100615	(245)	(245)	0
631	Emergent	Distribution Pipe	NPS 12 Marten River Lateral Dig	739945	(245)	(245)	0
632	Existing Investment	Distribution Stations	WIND: 06B-502 WALKER RD	734673	(246)	(246)	0
633	Emergent	Distribution Stations	King: Joyceville Penitentiary Unit 56	734762	(247)	(247)	0
634	Existing Investment	Distribution Stations	WATE: 22T-501R Alma Distribution Station, Alma,	503215	(247)	(247)	0
635	Emergent	Distribution Stations	A80: EIGHTH AVE LOUTH & 5TH ST DISTRICT	101113	(250)	(250)	0
636	Emergent	Distribution Pipe	SARN- Petrolia Line and Telfer Rd Replacement- S	739237	(250)	(250)	0
637	Existing Investment	TIS	Fleet Asset Management Program	734914	(252)	(633)	381
638	Existing Investment	Distribution Pipe	Bloor St. W. & The Kingsway Replacement	1702	(252)	(387)	135
639	No Longer in Plan	Distribution Stations	PETAWAWA GATE	7755	(253)	(254)	0
640	Emergent	Distribution Pipe	Homedale Blvd - Southwest - Windsor - 1287	30019	(255)	(1,392)	1,138
641	Existing Investment	Distribution Pipe	SARN - Lakeshore Rd. and Modeland Rd Leakage	101193	(255)	(450)	195
642	Existing Investment	Distribution Pipe	TOR10YR - Bay Mills and Birchmount Replacemen	735817	(257)	(257)	0
643	Existing Investment	Distribution Pipe	King: Thin Wall and Copper Pipe Replacement (Va	734706	(258)	(258)	0
644	Emergent	Compression Stations	Owen Sound Take-off (17T-502V)	740898	(258)	(258)	0
645	Emergent	Distribution Stations	2023 LP Station Mitigation Program	738918	(261)	(261)	0
646	Existing Investment	Distribution Stations	TIMM: Kapuskasing TBS, Boiler Replacement	733873	(261)	(261)	0

647	Existing Investment	Distribution Pipe	BRAN -Northern Ave. (Adams to Connaught) Repl.	48955	(263)	(464)	201
648	Existing Investment	Distribution Stations	WIND - 05A-304R Sprucewood IP - Replace heate	101611	(263)	(263)	0
649	Existing Investment	Distribution Stations	21116A - DERRY & HISTORIC TRAIL	101119	(273)	(273)	0
650	Existing Investment	Distribution Stations	21102A - BRESLER & AIRPORT	101120	(273)	(273)	0
651	Emergent	Compression Stations	SCOR: Link ESV-009 Replace	739291	(273)	(273)	0
652	No Longer in Plan	Distribution Pipe	WATE - Hamilton St. Repl. BU - Cambridge	48936	(276)	(412)	136
653	Existing Investment	Distribution Stations	TIMM: 45-23-700 2881 Hwy 655 TBS Low-Piping M	502086	(278)	(278)	0
654	Existing Investment	Distribution Stations	TIMM: 45-23-701 Porcupine Primary Low-Piping M	502087	(278)	(278)	0
655	Existing Investment	Distribution Stations	CHAT: 07H-501 MAYNARD LINE	734669	(278)	(278)	0
656	Emergent	Distribution Pipe	Stratford-Grange St - Waterloo to Front-1774	30459	(280)	(287)	7
657	Existing Investment	Distribution Stations	SARN: 13F-323R McPlank	734680	(281)	(281)	0
658	No Longer in Plan	Distribution Pipe	HR - 160-260 Chester Lee Blvd	7646	(285)	(801)	516
659	Existing Investment	Distribution Pipe	Pr#57, NRP - 2024 - Collins Street - Collingwood -	30104	(288)	(301)	13
660	Existing Investment	Distribution Stations	TBAY: Mountdale at Francis DRS Rebuild	735635	(290)	(290)	0
661	Emergent	Distribution Stations	A80: Lake and Louisa DIST STN - Aband and lay I	735163	(291)	(291)	0
662	Existing Investment	Distribution Pipe	Pr#62, NRP - 2025 - Cameron Street - Collingwood	30108	(297)	(304)	8
663	Emergent	Distribution Pipe	NPS 12 Northland Power Integrity Dig	739684	(299)	(299)	0
664	Existing Investment	Distribution Pipe	HAMI: Rainham Road, Walpole BU Repl	48954	(302)	(461)	159
665	Existing Investment	Distribution Stations	LOND: 16O-301 St. Mary's Gate	735275	(304)	(304)	0
666	Existing Investment	Distribution Stations	LOND: 13O-401 White Oaks	735272	(304)	(304)	0
667	Existing Investment	Distribution Stations	TIMM: Mattice TBS Rebuild	734624	(306)	(313)	7
668	Existing Investment	Distribution Pipe	A80: Rose St STC, VS Replacement	30074	(306)	(328)	21
669	Existing Investment	Distribution Stations	HAMI - Diltz Rd IP North	101101	(307)	(307)	0
670	Existing Investment	Distribution Stations	WATE: 18U-504 Cambridge East Distribution Static	100617	(309)	(789)	480
671	No Longer in Plan	Distribution Stations	TBAY: Arthur St at Cooper Rd PRS Rebuild	735729	(311)	(311)	0
672	Existing Investment	Distribution Pipe	Elinor St - Southwest - Windsor - 1279	30014	(311)	(486)	176
673	Emergent	Distribution Stations	WATE: 23R-602 Rothsay Distribution Station, Full S	740307	(311)	(311)	0
674	Existing Investment	Distribution Pipe	3665 Flamewood Replacement Copper Relay	736516	(313)	(313)	0
675	Existing Investment	Distribution Stations	TBAY: Dewe St DRS Relocation	735634	(313)	(313)	0
676	Existing Investment	Distribution Pipe	WIND: Elm Ave, Windsor, VSM Replacement	30015	(313)	(1,633)	1,320
677	Emergent	Distribution Pipe	Div. 06 - Norfolk County - Atherton - Lynedoch Rd -	30261	(314)	(455)	141
678	No Longer in Plan	Distribution Stations	TBAY: New Station at Mercury Ave & Maple Statior	733375	(317)	(649)	332
679	Existing Investment	Distribution Stations	CALEDONIA & RAITHERM DISTRICT	18964	(318)	(325)	7
680	No Longer in Plan	Distribution Stations	NEILSON RD FEEDER	7773	(319)	(500)	182
681	Existing Investment	Distribution Pipe	TOR10YR - Silvercrest to Aldercrest Replacement-	733664	(320)	(320)	0
682	Emergent	Growth	WATE- Pinebush Road System Reinforcement- Ca	738981	(325)	(325)	0
683	Existing Investment	Distribution Pipe	Replacement - Vintage PE Lined Mains - Peterborc	101277	(327)	(1,359)	1,032
684	Existing Investment	Distribution Stations	TIMM: Opasatika TBS Rebuild	734623	(331)	(338)	8
685	Existing Investment	Distribution Pipe	BRAN - Otterville Rd. (James to Middleton) Repl. B	48849	(331)	(517)	186
686	No Longer in Plan	Distribution Stations	HAMI: 16Y-101 Woodward bio Gas, Hamilton, Rein	735037	(331)	(331)	0
687	Emergent	Distribution Pipe	VSM - Firestone Road - 2" ST - Eastside	739942	(339)	(339)	0
688	Existing Investment	Distribution Stations	TIMM: Kirkland Lake CMS (Kenogami) - Long-Terr	734943	(346)	(346)	0
689	Existing Investment	Distribution Stations	HAMI: VOORTMAN STN, heater Replacement	735047	(347)	(383)	36
690	Existing Investment	Distribution Stations	BAYVIEW & BYNG DISTRICT	18815	(348)	(400)	51
691	Existing Investment	Distribution Pipe	A80: Shurie Rd LINC, VS Replacement	30076	(349)	(365)	17
692	Existing Investment	Distribution Pipe	Stratford-Mowat St from W. Gore to Brydges-1760	30445	(350)	(363)	13
693	Existing Investment	Distribution Pipe	000071, NRP - Wellington D2 - 2023 - 2025 - 1651	30099	(351)	(365)	14
694	Existing Investment	Distribution Stations	NE: 44702001 - Rutherglen TBS, Rebuild	502663	(352)	(383)	32
695	Existing Investment	LNG	Hagar Site Drainage Improvements	49911	(353)	(354)	0
696	Existing Investment	LNG	Hagar Obsolete Mechanical - Replace	736935	(354)	(354)	0
697	Emergent	Distribution Pipe	Stratford-Avon St - Avondale to McLagan-1772	30457	(355)	(368)	13
698	Existing Investment	Distribution Stations	TIMM: Fauquier TBS Rebuild	734626	(357)	(365)	8
699	Existing Investment	Distribution Pipe	TOR10YR - Parklawn A1 A - Horner Replacement	503164	(362)	(362)	0
700	Emergent	Distribution Pipe	LOND- 1640 Mandaumin Rd Aerial Crossing- Dawr	739576	(362)	(362)	0
701	Existing Investment	Distribution Pipe	TOR10YR - Dubray to Cornelius Replacement Sta	502933	(362)	(362)	0
702	Existing Investment	Distribution Pipe	Maher St 2 - Northeast - 1703	30221	(365)	(382)	17
703	No Longer in Plan	Distribution Pipe	A80: Lundys Lane Reg. Rd 20 Niagara Falls, VS R	503325	(368)	(379)	11
704	Existing Investment	Distribution Pipe	Princess St W 1 (MORATORIUM UNTIL 2026) - Nc	30230	(371)	(391)	20
705	Emergent	Growth	Finch Kennedy Birchmount Reinforcement	739488	(373)	(373)	0

706	Emergent	Compression Stations	Sandwich OBV-001 Valve and Actuator Replaceme	740262	(374)	(374)	0
707	No Longer in Plan	Distribution Stations	HALT - York and Broadway	101096	(374)	(414)	40
708	Existing Investment	Distribution Stations	CNG Stations - Project #4	48667	(377)	(377)	0
709	Emergent	Growth	BRAN- Shellard Lane, Brantford, Reinforcement	739483	(381)	(381)	0
710	No Longer in Plan	Distribution Stations	MCCOWAN AND SHEPPARD DISTRICT	18965	(381)	(382)	1
711	Existing Investment	Real Estate & Workplace Ser	Timmins Operations Centre	100616	(385)	(907)	522
712	Existing Investment	Distribution Pipe	Collier St (MORATORIUM UNTIL 2026) - Area 50 -	30083	(386)	(415)	29
713	Existing Investment	Distribution Pipe	HAMI:Upper Gage Ave, Hamilton, BU Replacemen	733654	(386)	(545)	159
714	Existing Investment	Distribution Stations	17904A Rathburn and Dorlen District	735176	(388)	(388)	0
715	Existing Investment	Distribution Pipe	Darlington Bay Bridge - NPS 2 Replacement	49510	(388)	(710)	321
716	Existing Investment	Distribution Pipe	LOND - SCLAIR Pipe Replacement- Mount Brydge	101543	(392)	(404)	11
717	Existing Investment	Distribution Stations	KING: 22-24-704 College and Sidney DRS (27801(	101198	(393)	(911)	518
718	Emergent	Distribution Pipe	Grand River St S - Southeast - Waterloo - 1805	30469	(394)	(394)	0
719	Emergent	Compression Stations	Coating Remediation - Sandwich Comp Stn	740870	(396)	(396)	0
720	Existing Investment	Distribution Pipe	Centre St - Eastern - Area 60 - 1085	30343	(397)	(428)	31
721	Existing Investment	Distribution Stations	TIMM: Swastika TBS, Station Rebuild	100922	(398)	(519)	122
722	Existing Investment	Distribution Pipe	Concord St Isolated Steel Replace with Main St PE	23126	(398)	(398)	0
723	Emergent	Growth	GreenFirst Forest Products Hearst New Kiln	739611	(401)	(401)	0
724	Existing Investment	Distribution Pipe	SARN - Errol Rd W & Newell St. Leakage - Sarnia I	48951	(401)	(596)	195
725	Existing Investment	Distribution Stations	WIND - 06C-401 Manning Rd station rebuild	503331	(405)	(443)	38
726	Existing Investment	Distribution Pipe	Regent St - Kawartha Lakes - Area 40 - 1697	30190	(410)	(428)	18
727	Existing Investment	Distribution Pipe	TOR10YR - Evans Industrial Replacement- Networ	733665	(412)	(412)	0
728	Existing Investment	Distribution Pipe	Tanguay Ave - Northeast - 1280	30232	(412)	(424)	12
729	Existing Investment	Distribution Stations	HAMI: 12Z-301 Port Maitland Rymer Station, Haldir	103529	(413)	(414)	0
730	No Longer in Plan	Real Estate & Workplace Ser	TIS Technology and Innovation Lab	22004	(414)	(414)	0
731	Emergent	Compression Stations	STO Security Remediations (East)	740221	(414)	(414)	0
732	Existing Investment	Distribution Pipe	TOR10YR - Tiffany and Woodthorpe Replacement	735864	(416)	(416)	0
733	Existing Investment	Distribution Stations	NE: 42801004 - Cobalt TBS, Rebuild	502662	(419)	(455)	36
734	Existing Investment	Distribution Pipe	Div. 16 - Haldimand - Fisherville - Erie Ave N 2 - Ha	30400	(419)	(691)	272
735	Existing Investment	Distribution Stations	HARVIE & MORRISON DISTRICT	18888	(420)	(550)	130
736	Emergent	Distribution Pipe	TOR10YR - Compton and Guild Hall Replacement	735846	(421)	(421)	0
737	Existing Investment	Distribution Stations	TIMM: Dalton TBS (Mcbride St S.), Station Rebuil	733871	(423)	(423)	0
738	Existing Investment	Distribution Stations	Halt: Ninth/Britannia, Rebuild	735035	(423)	(447)	24
739	Existing Investment	Distribution Stations	TBAY: Belrose PCS, Boiler Replacement	733869	(426)	(426)	0
740	Existing Investment	LNG	Hagar Obsolete Instrumentation-Replace	736939	(431)	(431)	0
741	Existing Investment	LNG	Hagar Obsolete Electrical-Replace	736938	(431)	(431)	0
742	Emergent	Compression Stations	SSOM: V-0806 Iso Valves - Replace	738093	(434)	(434)	0
743	Emergent	Real Estate & Workplace Ser	London Office Reconfiguration	739592	(435)	(435)	0
744	Existing Investment	Distribution Pipe	CHAT: Base Line, Wallaceburg, Replacement	49721	(436)	(713)	277
745	Emergent	Growth	Canada Wonderland Reinforcement	739075	(437)	(437)	0
746	Emergent	Distribution Pipe	AR40: VSM Replacement Wilson Rd S Oshawa Blc	737817	(438)	(438)	0
747	Emergent	Growth	HAMI: New Hannon Airport Expansion Project, Har	739257	(438)	(438)	0
748	Existing Investment	Distribution Pipe	Div. 16 - Hamilton - Wentworth St S 2 - Hamilton -	30413	(439)	(644)	205
749	Existing Investment	Distribution Pipe	Lockhart St NOTL - Area 80 - 1189	30063	(441)	(456)	15
750	No Longer in Plan	Distribution Stations	EASTGATE AND DIXIE DISTRICT	7781	(441)	(449)	8
751	Existing Investment	Distribution Pipe	Ontario Rd - Southwest - London - 1803	30465	(442)	(470)	28
752	Emergent	Distribution Pipe	Dauw Ave - Southwest - Windsor - 1384	30009	(446)	(478)	32
753	Existing Investment	Distribution Stations	TIMM: Val Gagne TBS Rebuild	734625	(450)	(460)	10
754	No Longer in Plan	Distribution Stations	SUD: Inco Smelter SMS, Boiler Replacement	733755	(454)	(460)	6
755	No Longer in Plan	Distribution Stations	VINELAND GATE	7760	(458)	(503)	45
756	Existing Investment	Distribution Stations	SPADINA & MACPHERSON DISTRICT	18886	(459)	(832)	374
757	Existing Investment	Distribution Pipe	Victoria St STC- Area 80 - 1148	30079	(459)	(477)	19
758	Emergent	Real Estate & Workplace Ser	Waterloo Office Reconfiguration	739593	(459)	(459)	0
759	Existing Investment	Distribution Pipe	Howard Ave 1 - Kawartha Lakes - Area 40 - 1692	30183	(459)	(476)	17
760	Existing Investment	Distribution Pipe	Elm St W - Eastern - Area 60 - 1726	30347	(462)	(481)	19
761	Existing Investment	Distribution Pipe	Ross St (MORATORIUM UNTIL 2025) - Southwest	30317	(468)	(575)	107
762	Existing Investment	Distribution Pipe	Hamilton - Rosemary Ave - VSM Replacement	30411	(470)	(637)	168
763	Existing Investment	Distribution Pipe	TOR10YR - Parklawn - Delta North Replacement	503169	(472)	(472)	0
764	Existing Investment	Distribution Pipe	BRAN - Schafer Side Rd. Repl. BU - Norfolk	48928	(474)	(572)	99

765	Existing Investment	Distribution Pipe	Downie St 3 - Southwest - London - 1808	30464	(476)	(476)	0
766	Existing Investment	Distribution Pipe	Fairview Line Replacement	49732	(482)	(482)	0
767	No Longer in Plan	Distribution Stations	HALT-Milton TBS	101089	(487)	(828)	341
768	Existing Investment	Distribution Pipe	Div. 06 - Brantford - Abigail Ave - Southeast - Wate	30237	(494)	(1,222)	728
769	Existing Investment	Distribution Pipe	Welland St PTC- Area 80 - 1173	30080	(496)	(507)	11
770	Existing Investment	Distribution Pipe	TOR10YR - Weston - Verobeach and Palms Repl	733799	(502)	(502)	0
771	Existing Investment	Distribution Pipe	Ann St (MORATORIUM UNTIL 2026) - Eastern - Ar	30334	(504)	(528)	24
772	Existing Investment	Distribution Pipe	TOR10YR - Browns and Owen Replacement- Netw	733677	(508)	(508)	0
773	Existing Investment	Distribution Stations	LOND - 17K-601R Grand Bend Northgate	100978	(509)	(987)	478
774	Emergent	Compression Stations	SCOR:171 Emerg Vent System - Upgrade	740925	(511)	(511)	0
775	Emergent	Distribution Pipe	Homewood Ave PTC - Area 80 - 1149	30059	(511)	(534)	23
776	Emergent	TIS	Hydrogen Blending And RNG Initiatives	739003	(511)	(554)	43
777	Existing Investment	Distribution Pipe	Wortley Rd - Southwest - London - 1474	30329	(512)	(554)	43
778	Existing Investment	Distribution Pipe	Div. 16 - Hamilton - Province St N - Hamilton - 1416	30410	(514)	(557)	44
779	No Longer in Plan	Distribution Stations	THOROLD TOWNLINE GATE	7759	(515)	(531)	17
780	Existing Investment	Distribution Pipe	Front St - Southwest - London - 1393	30294	(519)	(894)	375
781	Emergent	Distribution Pipe	Div. 16 - Hamilton - Wentworth St S 1 - Hamilton -	30412	(520)	(558)	38
782	Emergent	Compression Stations	SCOR:541 Condensate System MOP/OPP Upgrad	740924	(521)	(521)	0
783	Existing Investment	Distribution Stations	HAMI - US Steel Blast Furnace Atm Tank Replacer	101140	(522)	(522)	0
784	Existing Investment	Distribution Pipe	Barton St - Southwest - Windsor - 1657	30029	(524)	(539)	15
785	Existing Investment	Distribution Pipe	LOND - Waterloo St. BU - London	48372	(526)	(854)	329
786	Emergent	Distribution Pipe	TOR10YR - Deanvar and Glasworthy Replacement	735881	(538)	(538)	0
787	Existing Investment	Distribution Pipe	Creston Ave - Southwest - London - 1734	30285	(540)	(835)	296
788	Existing Investment	Distribution Pipe	000724, NRP - HNS Grove B1, 2030 - 2032 - 1605	30102	(540)	(573)	32
789	Emergent	Distribution Pipe	TOR10YR - Goldsmith and Townley Replacement -	735882	(541)	(541)	0
790	Existing Investment	Distribution Pipe	Othello Ave - Eastern - Area 60 - 1096	30376	(541)	(569)	27
791	Existing Investment	Distribution Pipe	Highgate Rd - Eastern - Area 60 - 1166	30358	(542)	(556)	14
792	Existing Investment	Distribution Pipe	TOR10YR - Horner and Orianna Replacement- Net	733672	(549)	(549)	0
793	Emergent	Distribution Pipe	SARN - London Rd Leakage BU Remainder- Sarnia	739402	(550)	(550)	0
794	Existing Investment	Distribution Pipe	Prospect St-Bowmanville-1086	30189	(551)	(581)	30
795	Existing Investment	Distribution Pipe	Laforest Ave - Northeast - 1270	30219	(554)	(592)	38
796	Emergent	Distribution Stations	King: Esco SMS	734761	(556)	(555)	0
797	Emergent	Distribution Stations	A80: Logan Ave, Welland, Station Replacement- at	738017	(558)	(558)	0
798	Emergent	Distribution Pipe	Grand Marais Rd W - Southwest - Windsor -Phase	30017	(564)	(570)	5
799	Existing Investment	Distribution Pipe	TOR10YR - Anewen and Kenewen Replacement -	735865	(569)	(569)	0
800	Emergent	Distribution Pipe	A60: Tenth Line Rd & Innes Rd Valve Replacement	739106	(569)	(569)	0
801	Existing Investment	Distribution Stations	NE: 43601001 - Balls Dr TBS, Rebuild	502704	(573)	(674)	102
802	Existing Investment	Distribution Stations	TBAY: Fisher 621 PRS Rebuild Program	735629	(575)	(575)	0
803	Emergent	Distribution Pipe	000725, NRP - HNS Grove B2, 2028 - 2030 - 1608	30103	(575)	(612)	37
804	Existing Investment	Distribution Pipe	Colborne St W 2 - Northeast - 1683	30201	(576)	(604)	27
805	Existing Investment	Distribution Pipe	Neff St PTC - Area 80 - 1165	30065	(581)	(598)	17
806	Existing Investment	Distribution Pipe	TOR10YR - Westin and Jasmine Replacement Star	733803	(583)	(583)	0
807	Existing Investment	Distribution Pipe	Farah Ave - Northeast - 1288	30205	(586)	(608)	22
808	No Longer in Plan	Distribution Stations	WIND - 04D-601R Albuna Station rebuild	502701	(587)	(587)	0
809	Existing Investment	Distribution Pipe	TOR10YR - Mooregate and Treverton Replacemen	735492	(588)	(588)	0
810	Emergent	Distribution Pipe	NPS 10 Owen Sound Section 3 Dig	739943	(589)	(589)	0
811	Existing Investment	Distribution Pipe	WIND: Mersea Rd 2 - Ph 2, Leamington, Replacem	49816	(595)	(1,544)	950
812	Existing Investment	Distribution Stations	CHAT: 07K-409 MCKINLAY RD STATION	734671	(595)	(595)	0
813	Emergent	Distribution Pipe	Cumberland St - Area 50 - 1200	30084	(597)	(643)	46
814	Existing Investment	Distribution Pipe	Main St (MORATORIUM UNTIL 2025) - Area 50 - 1	30087	(599)	(625)	26
815	Existing Investment	Distribution Stations	CHAT - 09G-501 Tupperville Trans - heater replace	502778	(601)	(600)	0
816	Existing Investment	Distribution Stations	NGV Rental VRA's - (2026-2032)	17404	(601)	(601)	0
817	Existing Investment	Distribution Stations	WIND: 06B-607I Ford/Nemak Station Rebuild	502950	(602)	(602)	0
818	Existing Investment	Distribution Stations	NE: 13403001 - Vale Totten Mine, Rebuild	101068	(602)	(688)	86
819	Existing Investment	Distribution Pipe	Greenwood Ave - Southwest - London - 1428	30300	(603)	(1,696)	1,094
820	No Longer in Plan	Distribution Stations	SSM: Goulais Ave TBS Algoma 4, Boiler Replacem	733756	(611)	(621)	10
821	No Longer in Plan	Distribution Pipe	Lanoue St - Southwest - Windsor - 1354	30022	(617)	(923)	306
822	Emergent	Distribution Pipe	TOR10YR - Lawrence and Warden East Replacem	735845	(620)	(620)	0
823	Emergent	Distribution Pipe	Arthur St N - Southeast - Waterloo - 1800	30467	(620)	(620)	0

824	Existing Investment	Distribution Pipe	Colborne St W 1 - Northeast - 1682	30200	(621)	(635)	14
825	Existing Investment	Distribution Pipe	NW_Lateral Clamp Cut Outs_ATIKOKAN	49256	(621)	(1,148)	527
826	Emergent	Distribution Pipe	HAMI: Steel Riser Replacement Proposal	735537	(625)	(625)	0
827	Emergent	Distribution Pipe	WATE: High St, Brant, VSM Replacement	30235	(627)	(673)	46
828	No Longer in Plan	Distribution Stations	LEEDS GATE	1012	(629)	(632)	3
829	Existing Investment	Distribution Pipe	Herriott St - Eastern - Area 60 - 1089	30357	(629)	(670)	40
830	Emergent	Distribution Pipe	Sunset Dr (MORATORIUM UNTIL 2025) - Southwe	30322	(630)	(1,055)	425
831	Emergent	Distribution Stations	Peterborough - CNG Station	738065	(633)	(633)	0
832	Emergent	Distribution Pipe	TOR10YR - Roanoke Replacement - Network # 45	735878	(633)	(633)	0
833	Existing Investment	Distribution Pipe	TOR10YR - Parklawn - A1 E-Alderbrae and Hallma	503159	(633)	(633)	0
834	No Longer in Plan	Distribution Pipe	SUDB: Copper Cliff Replacement	735465	(635)	(1,011)	376
835	Emergent	Distribution Pipe	Oak St 2 - Area 50 - 1655	30090	(635)	(671)	36
836	Existing Investment	Distribution Pipe	Elmsley St N - Eastern - Area 60 - 1725	30348	(635)	(674)	39
837	Existing Investment	Distribution Pipe	Courthouse Sq - Southwest - London - 1802	30461	(637)	(669)	33
838	No Longer in Plan	Distribution Stations	TBAY: Paquette Road Station Rebuild	735631	(638)	(649)	10
839	Existing Investment	Distribution Pipe	Carling Ave - Eastern - Area 60 - 1104	30342	(639)	(660)	21
840	Emergent	Distribution Pipe	TOR10YR - Pharmacy North Lawrence Replaceme	735883	(639)	(639)	0
841	Existing Investment	Distribution Pipe	TOR10YR - Laurentide and Silverdale Replacemen	735848	(644)	(644)	0
842	Existing Investment	Distribution Pipe	Old Lakeshore Rd - Southwest - London - 1572	30313	(645)	(716)	71
843	Existing Investment	Distribution Pipe	Div. 06 - Brantford - Ewing Dr - Southeast - Waterlo	30245	(648)	(1,491)	844
844	Existing Investment	Distribution Pipe	TOR10YR - Bertrand and Birchmount Replacement	735498	(649)	(649)	0
845	Existing Investment	Distribution Pipe	Stanley Ave - Eastern - Area 60 - 1069	30388	(651)	(687)	36
846	Existing Investment	Distribution Stations	WATE: 23Q-301 Harriston Gate Station, Harriston,	100912	(653)	(690)	37
847	Emergent	Distribution Pipe	Hughes St - Southwest - London - 1394	30303	(657)	(754)	97
848	Emergent	Distribution Pipe	Div. 06 - Brantford - St Paul Ave (MORATORIUM U	30254	(657)	(1,160)	502
849	Existing Investment	Distribution Pipe	Erie St STC - Area 80 - 1159	30052	(659)	(678)	20
850	Existing Investment	Distribution Pipe	Ridout St S (EXECUTE 2024) - Southwest - Londo	30316	(659)	(1,011)	352
851	Existing Investment	Distribution Stations	BAY & SCOLLARD DISTRICT LP	18818	(659)	(660)	1
852	Existing Investment	Distribution Pipe	George St - Eastern - Area 60 - 1088	30352	(660)	(727)	67
853	Existing Investment	Distribution Pipe	TOR10YR - Pharmacy and Dewey Replacement - N	735866	(660)	(660)	0
854	Existing Investment	Distribution Pipe	TOR10YR - Toro to Cataford Replacement Standa	502932	(665)	(665)	0
855	Existing Investment	Distribution Pipe	Howard Ave 2 - Kawartha Lakes - Area 40 - 1694	30184	(666)	(682)	15
856	Existing Investment	Distribution Pipe	Div. 06 - Brantford - Balmoral Dr - Southeast - Wat	30238	(668)	(1,257)	589
857	Emergent	Growth	TBAY :33-25-503 Riverdale Rd to Hwy 61 via 20th	503234	(668)	(668)	0
858	Emergent	LNG	Hagar Desication Skid	49967	(670)	(670)	0
859	Existing Investment	Distribution Pipe	Aberdeen St - Southwest - Windsor - 1356	30001	(671)	(799)	128
860	Existing Investment	Distribution Pipe	HAMI: Rainham Rd Ph2, Dunn, BU Replacement	733623	(671)	(843)	172
861	Existing Investment	Distribution Pipe	TOR10YR - Groveland and Lacewood Replacemen	735851	(675)	(675)	0
862	Existing Investment	Distribution Pipe	Summer St NFalls- Area 80 - 1137	30077	(676)	(692)	16
863	Emergent	Distribution Pipe	TOR10YR - Danube and Wayne Replacement - Ne	735842	(679)	(679)	0
864	Emergent	Distribution Pipe	Mary St 2 - Northeast - 1709	30223	(681)	(710)	29
865	Existing Investment	Distribution Pipe	TOR10YR - Fenelon and Graydon Hall Replacemer	735853	(683)	(683)	0
866	Existing Investment	Distribution Pipe	Bush Line Leakage Replacement Phase 1 & 2	49714	(683)	(683)	0
867	Existing Investment	Distribution Stations	KING: Ingredion (Casco SMS28801004) Rebuild	49888	(683)	(683)	0
868	Existing Investment	Distribution Pipe	TOR10YR - Browns Evans Gair Replacement- Netv	733667	(684)	(684)	0
869	Existing Investment	Distribution Pipe	Edgar St - Southwest - Windsor - 1277	30013	(686)	(1,313)	627
870	Existing Investment	Distribution Stations	WIND: 06A-605R Matchette & Prince	734666	(686)	(686)	0
871	No Longer in Plan	Distribution Pipe	SARN - Eastlawn Ave and Kember Ave Leakage - S	101214	(692)	(836)	144
872	Emergent	Distribution Pipe	Circle St 1-Kapuskasing-1847	30140	(694)	(719)	25
873	Emergent	Distribution Pipe	TOR10YR - Tower and Timgren Replacement - Net	735888	(695)	(695)	0
874	Emergent	Distribution Pipe	Colborne Ave - GTA East - Area 30 - 1705	30165	(696)	(741)	44
875	Existing Investment	TIS	Attachment Growth Program	734912	(697)	(2,125)	1,429
876	Existing Investment	TIS	Construction Program	735071	(697)	(2,125)	1,429
877	Existing Investment	Distribution Pipe	Alder St 2 (MORATORIUM UNTIL 2026) - Northea	30199	(698)	(728)	29
878	Existing Investment	Distribution Stations	WATE: 21S-601 Fergus 1st Trans Stn FIMP, Heate	735235	(698)	(698)	0
879	Emergent	Distribution Pipe	William St (MORATORIUM UNTIL 2027)_GTA We	30133	(702)	(748)	46
880	Existing Investment	Distribution Pipe	Hixon St LINC - Area 80 - 1153	30058	(705)	(738)	33
881	Existing Investment	Distribution Pipe	4th Ave E - Northeast - 1302	30197	(708)	(746)	38
882	Existing Investment	Distribution Stations	19O-101 Dublin Gate	100993	(709)	(718)	9

883	Existing Investment	Distribution Stations	BRAN: 12S-202 Fernlea Farm Distribution Station,	100610	(709)	(709)	0
884	Existing Investment	Distribution Pipe	TOR10YR - Bayford to Dubray Replacement Stanc	502935	(709)	(709)	0
885	Existing Investment	Distribution Stations	WIND - 05B-201 Windsor McGregor Line - rebuild	502697	(711)	(1,025)	314
886	Existing Investment	Distribution Pipe	Hamilton - Oak Ave - VSM Replacement	30409	(712)	(779)	66
887	No Longer in Plan	Real Estate & Workplace Ser	Owen Sound Operations Centre	100671	(713)	(1,278)	565
888	Emergent	Distribution Pipe	Byng Ave 1-Kapuskasing-1850	30139	(714)	(752)	39
889	Existing Investment	Distribution Stations	WIND: 06B-404 Bruce Ave	734667	(720)	(720)	0
890	Emergent	Distribution Pipe	OBrien Ave Ph 1-Kapuskasing-1856	30154	(721)	(788)	67
891	Existing Investment	Distribution Pipe	TOR10YR - Parklawn - Parklawn A1 C-Gamma R	503156	(725)	(725)	0
892	Emergent	Distribution Pipe	Div. 06 - Norfolk County - Silver Hill - 10th Concess	30264	(727)	(1,169)	442
893	Existing Investment	Distribution Pipe	Yonge St 2 - GTA East - Area 30 - 1707	30176	(730)	(750)	20
894	Existing Investment	Distribution Stations	HAMI: Hamilton Gate 2, Noise Issues	735023	(738)	(738)	0
895	Existing Investment	Distribution Pipe	Georgina Ave 2 - Northeast - 1695	30211	(738)	(762)	23
896	Emergent	Growth	LOND - Beards Lane Re-inforcement - Woodstock	739351	(739)	(739)	0
897	Existing Investment	Distribution Pipe	TOR10YR - Moorecroft and Sedgewick Replaceme	735495	(740)	(740)	0
898	Existing Investment	Distribution Pipe	Wilson St E - Eastern - Area 60 - 1094	30394	(740)	(832)	92
899	Emergent	Distribution Pipe	Sherbrooke St E - Eastern - Area 60 - 1081	30386	(742)	(807)	65
900	Existing Investment	Distribution Pipe	TOR10YR - Treverton & Stratton Replacement - Ne	735491	(744)	(744)	0
901	Existing Investment	Distribution Pipe	Maher St 1 - Northeast - 1701	30220	(744)	(762)	17
902	Existing Investment	Distribution Pipe	A80: Ridge Rd.N Fort Erie, VS Replacement	502017	(744)	(757)	12
903	Emergent	Distribution Pipe	Partington Ave - Southwest - Windsor - 1293	30030	(744)	(784)	39
904	Existing Investment	Distribution Pipe	TOR10YR - Keelesgate and Cuffley Replacement	502929	(745)	(745)	0
905	Existing Investment	Distribution Pipe	King St W (MORATORIUM UNTIL 2026) - Northeas	30218	(748)	(780)	33
906	Existing Investment	Distribution Pipe	Queen St E - Southwest - London - 1804	30466	(748)	(809)	61
907	Existing Investment	Distribution Pipe	TOR10YR - Lilac and Griffith Replacement Standar	733802	(749)	(749)	0
908	Existing Investment	Distribution Pipe	Ferguson Ave 1 - Northeast - 1686	30206	(753)	(786)	33
909	Emergent	Compression Stations	Lobo B - Hydraulic Fuel Valve Replacement	740371	(757)	(757)	0
910	Existing Investment	Distribution Pipe	Alder St 1 (MORATORIUM UNTIL 2026) - Northeas	30198	(760)	(791)	32
911	No Longer in Plan	Distribution Stations	LOND: 13O-206R London Baseline Reg Station	734688	(760)	(852)	92
912	Existing Investment	Distribution Pipe	TOR10YR - Browns Line at Horner Replacement- N	733675	(764)	(764)	0
913	Emergent	Distribution Pipe	Pine St E (MORATORIUM UNTIL 2025)-Ganonoqu	30434	(765)	(827)	62
914	Existing Investment	Distribution Pipe	Invergordon Ave, Toronto 3" PE Replacement	100512	(765)	(835)	70
915	Existing Investment	Distribution Stations	HAMI: WATERDOWN NORTH DISTR'N STN, Boile	735044	(767)	(767)	0
916	Emergent	Distribution Pipe	Kains St (MORATORIUM UNTIL 2028) - Southwes	30308	(767)	(910)	143
917	Existing Investment	Distribution Pipe	TOR10YR - Larabee and Tetbury Replacement - N	735849	(769)	(769)	0
918	Emergent	Distribution Stations	King: Strathcona TBS 2-81-02-001 Rebuild	734758	(771)	(774)	3
919	Existing Investment	Distribution Pipe	Niagara Wine Route 2 NOTL- Area 80 - 1191	30067	(773)	(786)	13
920	Emergent	Distribution Pipe	Tiffen St - Area 50 - 1212	30096	(774)	(828)	54
921	Existing Investment	Distribution Stations	DURHAM 23 FEEDER	7766	(778)	(1,063)	285
922	Existing Investment	Distribution Pipe	North Bay - Galt St Phase 1 - Northeast - VSM Rep	30208	(782)	(806)	24
923	Existing Investment	Distribution Pipe	Sudbury - Janet St Phase 1 - Northeast - VSM Rep	30214	(785)	(814)	29
924	No Longer in Plan	Distribution Pipe	HAMI: Rainham Rd Ph1, Dunn, BU Replacement	733622	(788)	(974)	186
925	Existing Investment	Distribution Stations	TIMM: Monteith CMS	735730	(790)	(828)	37
926	Existing Investment	Distribution Stations	NE: Espanola DRS & Domtar SMS, Station Rebuilc	733843	(791)	(852)	61
927	Existing Investment	Distribution Pipe	Queen St S 2 (EXECUTE 2026 - ROAD REHABILI	30127	(791)	(830)	39
928	Emergent	Distribution Pipe	Div. 06 - Brantford - Grand St (MORATORIUM UNT	30247	(792)	(902)	109
929	Existing Investment	Distribution Pipe	Hilda St 2 - Northeast - 1698	30213	(794)	(816)	22
930	Existing Investment	Distribution Pipe	Presley St 2 - Northeast - 1714	30229	(796)	(829)	34
931	Emergent	Distribution Pipe	Russel St W-Kawartha Lakes-1105	30191	(799)	(842)	42
932	Existing Investment	Distribution Pipe	VSM-HWY 7 Dufferin St Perth	734548	(802)	(815)	13
933	Emergent	Distribution Pipe	Div. 06 - Tillsonburg - Hyman St - Southeast - Wate	30268	(803)	(914)	112
934	Existing Investment	Distribution Pipe	Riverside Dr E - Southwest - Windsor - 1357	30035	(803)	(913)	110
935	Existing Investment	Distribution Pipe	Sudbury - Janet St Phase 2 - Northeast - VSM 170	30215	(806)	(843)	37
936	Existing Investment	Distribution Pipe	Div. 06 - Tillsonburg - Victoria St - Southeast - Wat	30272	(809)	(846)	36
937	Emergent	Distribution Pipe	Sarnia Rd (MORATORIUM UNTIL 2029) - Southwe	30318	(813)	(881)	68
938	Existing Investment	Distribution Pipe	E Centre St - Southwest - London - 1412	30290	(813)	(935)	121
939	Existing Investment	Distribution Pipe	A80: Burleigh Hill Dr STC - VS Replacement	30048	(816)	(839)	24
940	Existing Investment	Distribution Pipe	TOR10YR - Parklawn -A1 B-Delta Replacement	503160	(816)	(816)	0
941	Existing Investment	Distribution Pipe	TOR10YR - Eccleston and Tinder Replacement - N	735859	(819)	(819)	0

942	Emergent	Distribution Pipe	St Felix St (MORATORIUM UNTIL 2028) - Cornwal	30435	(822)	(866)	44
943	Emergent	Distribution Pipe	NPS 6 St. Mary's Digs 2023	738943	(824)	(824)	0
944	Existing Investment	Distribution Pipe	Jeffrey St - Area 50 - 1199	30086	(824)	(844)	20
945	Emergent	Distribution Pipe	Malden Rd 1 - Southwest - Windsor - 1659	30025	(825)	(859)	34
946	Emergent	Growth	A80: NW 8521_8520 Brawn Rd - Wainfleet - Reinfc	736685	(826)	(826)	0
947	Existing Investment	Distribution Pipe	Mary St 1 - Northeast - 1708	30222	(827)	(850)	24
948	Existing Investment	TIS	Locate Delivery Enhancements	734917	(833)	(1,728)	895
949	Emergent	Distribution Pipe	Ogden Ave - Eastern - Area 60 - 1076	30374	(835)	(874)	40
950	Existing Investment	Distribution Stations	WIND - 06C-502 Patillo Rd station rebuild	503333	(835)	(873)	38
951	Existing Investment	Distribution Pipe	WATE: Norfolk County Rd 21, Andy's Corners, VSM	30260	(836)	(979)	143
952	No Longer in Plan	Distribution Stations	TALISMAN PRODUCTION	16586	(837)	(1,098)	262
953	No Longer in Plan	Distribution Pipe	LOND - Jacqueline BU - London	48811	(839)	(1,126)	287
954	Existing Investment	Distribution Stations	SARN: 12F-106I Suncor Hydrogen/Air Products	734662	(841)	(841)	0
955	Existing Investment	Distribution Pipe	Drummond St W - Eastern - Area 60 - 1142	30345	(843)	(877)	33
956	Existing Investment	Distribution Pipe	Hickory St-Ganonoque-1454	30426	(844)	(933)	89
957	Existing Investment	Distribution Pipe	Dunning Ave - GTA East - Area 30 - 1710	30166	(848)	(876)	29
958	Existing Investment	Distribution Pipe	TOR10YR - Savona and Bisset Replacement- Netw	733668	(851)	(851)	0
959	Emergent	Distribution Pipe	Morand St - Southwest - Windsor - 1656	30028	(855)	(963)	108
960	Existing Investment	Distribution Pipe	McCain St PTC - Area 80 - 1136	30064	(856)	(879)	23
961	Existing Investment	Distribution Pipe	Prince Albert St - Eastern - Area 60 - 1099	30378	(857)	(1,083)	226
962	Emergent	Distribution Pipe	Malden Rd 3 - Southwest - Windsor - 1661	30027	(857)	(903)	45
963	Emergent	Distribution Pipe	Div. 17 - Halton - Oakville - Kerr St (MORATORIUM	30416	(859)	(1,422)	563
964	Emergent	Distribution Pipe	Dundas St 3 (MORATORIUM UNTIL 2029) - South	30289	(861)	(963)	102
965	Existing Investment	Distribution Pipe	Hilda St 1 - Northeast - 1696	30212	(867)	(890)	23
966	Emergent	Distribution Pipe	Centre St - Southwest - London - 1479	30281	(868)	(955)	87
967	Existing Investment	Distribution Pipe	Flora St - Eastern - Area 60 - 1151	30351	(869)	(912)	44
968	Existing Investment	Distribution Pipe	Hillcrest Ave STC - Area 80 - 1176	30057	(869)	(890)	21
969	Emergent	Growth	BRAN- Old Highway 24, Waterford, System Reinfor	740082	(869)	(869)	0
970	Existing Investment	Distribution Pipe	McGonigal St E - Eastern - Area 60 - 1041	30368	(869)	(952)	83
971	Existing Investment	Distribution Pipe	Oak St 1 - Area 50 - 1654	30089	(870)	(905)	35
972	Emergent	Distribution Pipe	000088, NRP - HNS Grove A2, 2028 - 2030 - 1611	30100	(873)	(924)	51
973	Existing Investment	Distribution Pipe	TOR10YR - Parklawn - Parklawn A1 F-Sheldon an	503158	(874)	(874)	0
974	Emergent	Distribution Pipe	Iroquois Ave (MORATORIUM UNTIL 2026) - South	30305	(875)	(921)	46
975	Emergent	Distribution Pipe	WATE: Ontario St, Brantford, VSM Replacement	30250	(876)	(944)	67
976	Emergent	Distribution Pipe	Sunnidale St - Area 50 - 1219	30095	(876)	(906)	30
977	Emergent	Distribution Pipe	Taylor St Shallow Main - Huron St to Cheapside St	30440	(877)	(913)	36
978	Emergent	Distribution Pipe	Gore St W - Eastern - Area 60 - 1097	30353	(877)	(919)	42
979	Existing Investment	Distribution Pipe	Halton - Oakville - 6th Line-Phase 1- VSM Replace	30415	(881)	(913)	32
980	Emergent	Distribution Pipe	The Parkway - Southwest - London - 1432	30324	(881)	(973)	92
981	Existing Investment	Distribution Pipe	Ferguson Ave 2 - Northeast - 1688	30207	(881)	(911)	30
982	Existing Investment	Distribution Pipe	TOR10YR - Sunset and Burlington Replacement- N	733678	(883)	(883)	0
983	Existing Investment	Distribution Pipe	Mcgill St-Trenton-1596	30430	(886)	(916)	31
984	Existing Investment	Distribution Pipe	Dominion Ave 2-Kapuskasing-1540	30142	(887)	(925)	38
985	Existing Investment	Distribution Pipe	TOR10YR - Westhead Replacement- Network # 12	733670	(888)	(888)	0
986	Existing Investment	Distribution Pipe	Spring St - Eastern - Area 60 - 1047	30387	(889)	(928)	39
987	Emergent	Distribution Pipe	Dubois Ave - Southwest - Windsor - 1385	30011	(889)	(962)	72
988	Existing Investment	Distribution Pipe	Main St - Gananoque - Eastern - 1737	30428	(889)	(958)	69
989	Existing Investment	Distribution Pipe	Pr#58, NRP - 2023 - High Street - Collingwood - 16	30105	(892)	(901)	9
990	Existing Investment	Distribution Pipe	Victoria St - Eastern - Area 60 - 1138	30391	(896)	(926)	30
991	Existing Investment	Distribution Pipe	TOR10YR - Foch and Woodbury Replacement- Ne	733680	(896)	(896)	0
992	Existing Investment	Distribution Pipe	TOR10YR - Willowmount & Birchmount Replaceme	735489	(897)	(897)	0
993	Existing Investment	Distribution Pipe	TOR10YR - Foxbridge-Roebuck Replacement - Ne	735485	(898)	(898)	0
994	No Longer in Plan	Distribution Pipe	LOND - Cheapside, Gammage & Linwood BU - Lo	48917	(899)	(1,085)	186
995	Existing Investment	Distribution Pipe	TOR10YR - Delma and Ecker Replacement- Netwo	733669	(902)	(902)	0
996	Existing Investment	Distribution Pipe	Queen St LINC - Area 80 - 1150	30071	(903)	(934)	31
997	Emergent	Distribution Pipe	Riordon Ave - Eastern - Area 60 - 1102	30383	(903)	(939)	36
998	Existing Investment	Distribution Pipe	TOR10YR - Truxford and Overbank Replacement -	735871	(904)	(904)	0
999	Emergent	Distribution Pipe	Daniel St S - Eastern - Area 60 - 1213	30344	(907)	(947)	41
1000	Emergent	Distribution Pipe	Div. 06 - Norfolk County - Halfway House Corner -	30262	(907)	(1,149)	242

1001	Existing Investment	Distribution Pipe	TOR10YR - Browns and Finsbury Replacement- Ne	733671	(908)	(908)	0
1002	Existing Investment	Distribution Pipe	TOR10YR - Parklawn - Hallmark to Lunness Repla	503165	(910)	(910)	0
1003	Existing Investment	Distribution Pipe	St Paul St - Area 50 - 1220	30094	(911)	(946)	35
1004	Existing Investment	TIS	Push to Talk Radios (2029)	101951	(913)	(913)	0
1005	Emergent	Distribution Pipe	TOR10YR - Elinor Replacement - Network # 455	735885	(915)	(915)	0
1006	Existing Investment	Distribution Pipe	Div. 06 - Brantford - Dundas St E - Southeast - Wal	30243	(916)	(1,001)	85
1007	Existing Investment	Distribution Pipe	Cattell Dr NFalls- Area 80 - 1170	30049	(917)	(952)	34
1008	Existing Investment	Distribution Pipe	TOR10YR - Valentine and York Mills Replacement	735852	(918)	(918)	0
1009	Existing Investment	Distribution Pipe	Grant St - Eastern - Area 60 - 1098	30354	(920)	(961)	42
1010	Existing Investment	Distribution Pipe	Ainsley Dr - Eastern - Area 60 - 1723	30333	(922)	(945)	23
1011	Existing Investment	Distribution Pipe	Spring Garden Rd - Southwest - Windsor - 1658	30037	(925)	(1,084)	159
1012	Existing Investment	Distribution Pipe	TOR10YR - Victoria Park Ivordale Replacement - N	735867	(928)	(928)	0
1013	Existing Investment	Distribution Pipe	Beckwith St N - Eastern - Area 60 - 1198	30338	(929)	(969)	40
1014	Existing Investment	Distribution Pipe	TOR10YR - Parklawn - Beta and Gamma North Re	503168	(929)	(929)	0
1015	Emergent	Distribution Pipe	Christena Cres 2 - Ajax - Area 40 - 1704	30180	(932)	(968)	35
1016	Existing Investment	Distribution Pipe	North Bay - Galt St Phase 2 - Northeast - VSM 169	30209	(938)	(978)	40
1017	Existing Investment	Distribution Pipe	TOR10YR - Mitcham and Fulham Replacement - N	733673	(942)	(942)	0
1018	Existing Investment	Distribution Pipe	TOR10YR - Birchmount North Ellesmere Replacem	735847	(942)	(942)	0
1019	Emergent	Distribution Pipe	TOR10YR - Avonwick Gate and Beveridge Replace	735875	(946)	(946)	0
1020	Existing Investment	Distribution Pipe	TOR10YR - Yorkdale and Wallasey Replacement S	733804	(948)	(948)	0
1021	Emergent	Distribution Pipe	TOR10YR - Warden West Replacement - Network	735887	(951)	(951)	0
1022	Existing Investment	Distribution Pipe	Wallace Ave - Southwest - Windsor - 1350	30018	(951)	(1,048)	97
1023	Existing Investment	Distribution Pipe	TOR10YR - Eltham and Delma Replacement- Netw	733674	(952)	(952)	0
1024	Emergent	Distribution Pipe	VSM - Royal Group Cres	7670	(956)	(1,680)	724
1025	Existing Investment	Distribution Stations	CHAT: 09F-501 Wallaceburg Baseline	734660	(957)	(1,291)	335
1026	Existing Investment	Distribution Pipe	TOR10YR - Elvaston Replacement - Network # 455	735858	(958)	(958)	0
1027	Existing Investment	Distribution Pipe	North St - Eastern - Area 60 - 1087	30372	(958)	(1,006)	48
1028	Emergent	Distribution Pipe	Dundas St 2 (MORATORIUM UNTIL 2030) - South	30288	(960)	(1,087)	128
1029	Existing Investment	Distribution Pipe	000715, NRP - Wellington B - 2031 - 2033 - 1604	30101	(960)	(1,001)	41
1030	No Longer in Plan	Real Estate & Workplace Ser	Ancaster Operations Centre	100664	(960)	(3,760)	2,800
1031	Existing Investment	Distribution Pipe	Sarah St - Eastern - Area 60 - 1188	30385	(962)	(1,011)	49
1032	Existing Investment	Distribution Stations	HAMI - Hillcrest Station	101345	(965)	(1,065)	100
1033	Existing Investment	Distribution Pipe	TOR10YR - Starview and Weston Replacement Sta	733805	(966)	(966)	0
1034	Emergent	Real Estate & Workplace Ser	VPC Security Improvements	739533	(966)	(966)	0
1035	Emergent	Distribution Pipe	Div. 16 - Haldimand - Jarvis - Talbot St E - Hamilton	30401	(967)	(1,406)	439
1036	Existing Investment	Distribution Pipe	William St - Eastern - Area 60 - 1092	30393	(968)	(1,024)	56
1037	Emergent	Distribution Pipe	King St W (MORATORIUM UNTIL 2030) - Ganonoc	30427	(974)	(1,047)	73
1038	Existing Investment	Distribution Pipe	Hemlock St-Timmins-1569	30147	(975)	(1,006)	30
1039	Emergent	Distribution Pipe	Walton St (MORATORIUM UNTIL 2028) - Cornwall	30438	(979)	(1,024)	45
1040	Emergent	Distribution Pipe	Harriett St (MORATORIUM UNTIL 2028)-Belleville-	30425	(982)	(1,025)	43
1041	Existing Investment	Distribution Pipe	TOR10YR - Albright and Roseland Replacement- N	733679	(984)	(984)	0
1042	Existing Investment	Distribution Stations	KING: 29501001 Cornwall East Town Border rebuil	101199	(985)	(988)	3
1043	Existing Investment	Distribution Pipe	Malden Rd 2 - Southwest - Windsor - 1660	30026	(985)	(1,029)	44
1044	Existing Investment	Distribution Pipe	Elm St E - Eastern - Area 60 - 1147	30346	(987)	(1,022)	34
1045	Existing Investment	Distribution Pipe	TOR10YR - Parklawn A1 D - Beta and Aldercrest F	503161	(988)	(988)	0
1046	Existing Investment	Distribution Pipe	WIND: PSLL Maintenance	501004	(989)	(989)	0
1047	Existing Investment	Distribution Pipe	TOR10YR - Weston - Gulfstream Replacement	733682	(991)	(991)	0
1048	Emergent	Distribution Pipe	Blake St - Area 50 - 1209	30082	(993)	(1,036)	43
1049	Emergent	Distribution Pipe	Dundas St (MORATORIUM UNTIL 2030) - Southwe	30287	(995)	(1,113)	118
1050	Existing Investment	Distribution Pipe	Augustus St - Cornwall - Eastern - 1729	30418	(995)	(1,035)	40
1051	Emergent	Distribution Pipe	King George St - Eastern - Area 60 - 1143	30362	(996)	(1,047)	51
1052	Existing Investment	Distribution Pipe	Trenton Ave - Eastern - Area 60 - 1181	30390	(996)	(1,040)	44
1053	Emergent	Distribution Pipe	TOR10YR - Cassandra Replacement - Network # 4	735873	(997)	(997)	0
1054	Existing Investment	Distribution Pipe	Oak St - Eastern - Area 60 - 1133	30373	(999)	(1,047)	48
1055	Existing Investment	Distribution Pipe	Div. 16 - Hamilton - Centennial Pkwy N - Hamilton -	30404	(1,000)	(1,398)	398
1056	Existing Investment	Distribution Pipe	TOR10YR - Aragon and Malamute Replacement - I	735821	(1,000)	(1,000)	0
1057	Existing Investment	Distribution Pipe	TOR10YR - Parklawn - Lanor and Valermo Replac	503167	(1,000)	(1,000)	0
1058	Emergent	Distribution Pipe	Morin St - Eastern - Area 60 - 1123	30371	(1,001)	(1,102)	100
1059	Existing Investment	Distribution Pipe	Rochester St - Eastern - Area 60 - 1222	30384	(1,002)	(1,056)	54

1060	Existing Investment	Distribution Pipe	TOR10YR - Ionview South Replacement - Network	735501	(1,005)	(1,005)	0
1061	Emergent	Distribution Pipe	Div. 06 - Delhi - James St (MORATORIUM UNTIL 2	30258	(1,005)	(1,205)	200
1062	Existing Investment	Distribution Pipe	Z1193, NRP - HNS Brock Park B, 2024 - 2025 - 16	30110	(1,011)	(1,049)	38
1063	Existing Investment	Distribution Pipe	TOR10YR - Weston - Coral Gable Replacement	733800	(1,013)	(1,013)	0
1064	Existing Investment	Distribution Pipe	Cheapside St - Southwest - London - 1453	30282	(1,014)	(1,194)	180
1065	Emergent	Distribution Pipe	Div. 16 - Hamilton - Kenilworth Ave N - Hamilton - 1	30407	(1,014)	(1,115)	102
1066	Existing Investment	Distribution Pipe	TOR10YR - Colingwood and Dempster Replaceme	735839	(1,014)	(1,014)	0
1067	Existing Investment	Distribution Pipe	Rholaine Dr - Southwest - Windsor - 1299	30033	(1,018)	(1,078)	60
1068	Existing Investment	Distribution Pipe	Briarsdale Dr STC - Area 80 - 1174	30047	(1,029)	(1,086)	56
1069	Emergent	Distribution Pipe	TOR10YR - Gooderham Replacement - Network #	735886	(1,029)	(1,029)	0
1070	Existing Investment	Distribution Pipe	Windsor Dr-Ajax-1193	30196	(1,032)	(1,075)	43
1071	No Longer in Plan	Distribution Stations	WIND - 05B-401R Smith Ind Park - Station Rebuild	101347	(1,034)	(1,036)	1
1072	Existing Investment	Distribution Pipe	TOR10YR - Scarden and Tourmaline Replacement	735822	(1,035)	(1,035)	0
1073	Existing Investment	Distribution Pipe	Pine St - Area 50 - 1205	30091	(1,035)	(1,107)	72
1074	Emergent	Distribution Pipe	Spruce Ave - GTA East - Area 30 - 1491	30171	(1,036)	(1,365)	330
1075	Existing Investment	Distribution Pipe	Queen St S 1 (EXECUTE 2026 - ROAD REHABILI	30126	(1,041)	(1,079)	38
1076	Existing Investment	Distribution Pipe	TOR10YR - Gaydon and Highbury Replacement St	733806	(1,045)	(1,045)	0
1077	Existing Investment	Distribution Pipe	TOR10YR - Bellman to N Carson Replacement- Ne	733666	(1,046)	(1,046)	0
1078	Existing Investment	Distribution Stations	WIND - 05A-601 Front & Malden full rebuild	502699	(1,048)	(1,085)	37
1079	Existing Investment	Distribution Pipe	VSM - Yonge and Davis Dr West - Phase2	502190	(1,062)	(1,169)	107
1080	Existing Investment	Distribution Stations	LOND: 21L-201 Goderich Gate	735155	(1,064)	(1,099)	35
1081	Emergent	Distribution Pipe	VSM on College from Huron to Elizabeth	4109	(1,073)	(1,094)	21
1082	Existing Investment	Distribution Pipe	James St W - Eastern - Area 60 - 1184	30361	(1,073)	(1,111)	38
1083	Existing Investment	Distribution Pipe	Market St - Area 50 - 1221	30088	(1,073)	(1,121)	48
1084	Existing Investment	Distribution Pipe	Tilbury South Line Replacement	49749	(1,073)	(1,073)	0
1085	Existing Investment	Distribution Pipe	Ferris Ln - Area 50 - 1201	30085	(1,076)	(1,156)	80
1086	Existing Investment	Distribution Pipe	TOR10YR - Sloane and Ruscica Replacement - Ne	735856	(1,076)	(1,076)	0
1087	Emergent	Distribution Pipe	Riddell Ave S (MORATORIUM UNTIL 2026) - East	30382	(1,077)	(1,102)	25
1088	Existing Investment	Distribution Pipe	Poplar Ave 2 - Ajax - Area 40 - 1681	30187	(1,077)	(1,089)	12
1089	Emergent	Distribution Pipe	Ormond St - Eastern - Area 60 - 1108	30375	(1,078)	(1,115)	36
1090	Existing Investment	Distribution Pipe	Irene Cres - Eastern - Area 60 - 1141	30359	(1,080)	(1,117)	37
1091	Existing Investment	Distribution Pipe	Z74, NRP - HNS Queens Park B, 2023 - 2025 - 165	30111	(1,080)	(1,133)	53
1092	Existing Investment	Distribution Pipe	TOR10YR - Parklawn - Aldercrest to Lunness Nort	733447	(1,093)	(1,093)	0
1093	Existing Investment	Distribution Pipe	Randolph Ave - Southwest - Windsor - 1334	30032	(1,094)	(1,157)	63
1094	Existing Investment	Distribution Pipe	TOR10YR - Three Valley Dr Replacement - Networ	735850	(1,094)	(1,094)	0
1095	Emergent	Distribution Pipe	Eyre St - Northeast - 1286	30204	(1,094)	(1,124)	30
1096	Existing Investment	Distribution Pipe	AR40: VSM Replacement - Wilson Rd S Oshawa P	735948	(1,095)	(1,349)	255
1097	Existing Investment	Distribution Stations	TIMM: 45-22-702 Kirkland Lake (Northland) Power	502088	(1,097)	(1,097)	0
1098	Existing Investment	Distribution Pipe	Sproule Dr 2 - GTA West - Area 20 - 1677	30131	(1,098)	(1,125)	27
1099	Emergent	Distribution Stations	LEG - ERX Cloudlink Modem Replacement	739580	(1,099)	(1,099)	0
1100	Existing Investment	Distribution Pipe	TOR10YR - Wallingford Replacement - Network # 4	735872	(1,100)	(1,100)	0
1101	Existing Investment	Distribution Pipe	Ross St - Area 50 - 1210	30092	(1,105)	(1,161)	57
1102	Existing Investment	Distribution Pipe	Yonge St - Area 50 - 1206	30097	(1,108)	(1,146)	38
1103	Emergent	Distribution Pipe	Div. 06 - Brantford - Charing Cross St (MORATORI	30241	(1,108)	(1,167)	58
1104	Emergent	Distribution Pipe	Pinewood Dr - Southwest - London - 1523	30314	(1,113)	(1,168)	54
1105	Existing Investment	Distribution Pipe	Div. 06 - Tillsonburg - Brownsville Rd - Southeast -	30267	(1,118)	(1,134)	16
1106	Existing Investment	Distribution Pipe	Emily St - Eastern - Area 60 - 1101	30349	(1,120)	(1,164)	44
1107	Existing Investment	Distribution Pipe	James St - Eastern - Area 60 - 1112	30360	(1,122)	(1,163)	41
1108	Existing Investment	Growth	Hydrogen for Compression Facilities Feasibility Ass	736973	(1,123)	(1,123)	0
1109	Existing Investment	Distribution Pipe	Talbot Rd - Southwest - Windsor - 1369	30039	(1,124)	(1,192)	68
1110	Existing Investment	Distribution Pipe	Bell St - Eastern - Area 60 - 1052	30339	(1,124)	(1,192)	68
1111	Existing Investment	Distribution Pipe	TOR10YR - Wigmore and Draycott Replacement -	735857	(1,128)	(1,128)	0
1112	Emergent	Distribution Pipe	Park Ave - Eastern - Area 60 - 1224	30377	(1,128)	(1,185)	56
1113	Existing Investment	Distribution Pipe	Finlayson St-Thunder Bay-1870	30144	(1,132)	(1,168)	36
1114	Emergent	Distribution Pipe	Karl Pl - Southwest - Windsor - 1360	30020	(1,139)	(1,204)	65
1115	Existing Investment	Distribution Pipe	Main St E - Eastern - Area 60 - 1172	30366	(1,143)	(1,185)	42
1116	Existing Investment	Distribution Pipe	Wickstead Ave (MORATORIUM UNTIL 2026) - Nor	30233	(1,146)	(1,183)	37
1117	Emergent	Distribution Pipe	Hamilton St - Eastern - Area 60 - 1056	30355	(1,147)	(1,222)	75
1118	Existing Investment	Distribution Pipe	Moffatt St - Eastern - Area 60 - 1195	30369	(1,147)	(1,188)	41

1119	Existing Investment	Distribution Pipe	Delaware Ave - Southwest - Windsor - 1364	30010	(1,148)	(1,211)	63
1120	Existing Investment	Distribution Pipe	Borthwick Ave (MORATORIUM UNTIL 2025) - East	30340	(1,148)	(1,205)	57
1121	No Longer in Plan	Distribution Stations	WOODBINE & CNR FEEDER	7778	(1,148)	(1,354)	206
1122	Existing Investment	Distribution Pipe	Rourke Line Rd - Southwest - Windsor - 1373	30036	(1,152)	(1,210)	58
1123	Existing Investment	Distribution Pipe	Div. 06 - Brantford - Toll Gate Rd - Southeast - Wat	30256	(1,157)	(1,604)	447
1124	Existing Investment	Distribution Pipe	Lavinia St FE - Area 80 - 1171	30062	(1,158)	(1,183)	25
1125	Emergent	Distribution Pipe	Div. 06 - Brantford - Colborne St - Southeast - Wate	30242	(1,158)	(1,239)	80
1126	Emergent	Distribution Pipe	Div. 06 - Tillsonburg - Tillson Ave - Southeast - Wat	30271	(1,162)	(1,198)	36
1127	Existing Investment	Distribution Pipe	Woodside Dr - Eastern - Area 60 - 1178	30395	(1,163)	(1,218)	54
1128	No Longer in Plan	Distribution Stations	13P-101R Sovereign & Gore	100996	(1,164)	(1,206)	43
1129	Existing Investment	Distribution Pipe	Downie St 1 - Southwest - London - 1806	30462	(1,169)	(1,260)	91
1130	Existing Investment	Distribution Pipe	Gordon St_GTA West_Area 20_1227	30120	(1,173)	(1,218)	45
1131	Emergent	Distribution Pipe	Lewisham Dr_GTA West_Area 20_1146	30124	(1,173)	(1,455)	282
1132	Emergent	Growth	King: Brighton Reinforcement	734744	(1,173)	(1,173)	0
1133	Emergent	Distribution Pipe	Bank St (MORATORIUM UNTIL 2026) - Eastern - A	30336	(1,176)	(1,194)	18
1134	Existing Investment	Distribution Pipe	Seagull Dr 1 - GTA West - Area 20 - 1674	30128	(1,177)	(1,240)	64
1135	Emergent	Distribution Pipe	Div. 16 - Hamilton - Barton St E (MORATORIUM UI	30403	(1,179)	(1,563)	384
1136	Existing Investment	Distribution Pipe	Presley St 1 - Northeast - 1713	30228	(1,182)	(1,239)	57
1137	Existing Investment	Distribution Pipe	TOR10YR - Bay Mills and Birchmount Services Rep	735819	(1,182)	(1,182)	0
1138	Existing Investment	Distribution Pipe	Victoria Ave-Ganonoque-1457	30436	(1,184)	(1,262)	78
1139	Emergent	Distribution Pipe	Whitton Crescent - Eastern - Area 60 - 1140	30392	(1,185)	(1,291)	105
1140	Existing Investment	Distribution Pipe	Div. 06 - Tillsonburg - Potters Rd - Southeast - Wat	30269	(1,188)	(1,237)	48
1141	Existing Investment	Distribution Pipe	Queen Mary St - Eastern - Area 60 - 1103	30379	(1,188)	(1,272)	84
1142	Existing Investment	Distribution Stations	NGT Existing customer Maintenance Capital - (+20	17403	(1,190)	(1,190)	0
1143	Existing Investment	Distribution Pipe	TIMM: Xstrata (Kidd Creek) Smelter SMS Service I	100951	(1,190)	(1,190)	0
1144	Existing Investment	Distribution Pipe	TOR10YR - Weston - Verobeach and Belleglade F	733683	(1,190)	(1,190)	0
1145	Existing Investment	Real Estate & Workplace Ser	North Bay Regional Operations Centre	100697	(1,194)	(5,314)	4,119
1146	Existing Investment	Distribution Pipe	Madawaska St - Eastern - Area 60 - 1072	30365	(1,200)	(1,278)	78
1147	Emergent	Distribution Pipe	Woods St - Southwest - Windsor - 1337	30045	(1,203)	(1,367)	164
1148	Existing Investment	Distribution Pipe	Flanders Ave STC - Area 80 - 1809	30056	(1,209)	(1,275)	66
1149	Emergent	Distribution Pipe	Oakwood St PTC - Area 80 - 2030	30068	(1,210)	(1,271)	61
1150	Emergent	Distribution Pipe	Front St W 2 - Southwest - London - 1547	30296	(1,211)	(1,282)	71
1151	Existing Investment	Distribution Pipe	Brock St - Eastern - Area 60 - 1485	30341	(1,213)	(1,249)	36
1152	Existing Investment	Distribution Pipe	TOR10YR - Parkwoods Village Replacement - Netv	735869	(1,214)	(1,214)	0
1153	Existing Investment	Distribution Pipe	Glenora Dr - Southwest - London - 1517	30298	(1,219)	(1,264)	46
1154	Existing Investment	Distribution Pipe	Queen St N - Eastern - Area 60 - 1158	30380	(1,223)	(1,292)	69
1155	Existing Investment	Distribution Pipe	Forkes Rd E PTC - Area 80 - 1132	30054	(1,223)	(1,249)	26
1156	No Longer in Plan	Real Estate & Workplace Ser	50 Keil Renovations - Phase 6	100775	(1,224)	(3,891)	2,667
1157	No Longer in Plan	Real Estate & Workplace Ser	50 Keil Renovations - Phase 4	100773	(1,224)	(3,891)	2,667
1158	Existing Investment	Distribution Pipe	Stratford-Huron St-Matilda to Douglas Phase 2-175	30441	(1,224)	(1,261)	37
1159	Existing Investment	Distribution Stations	TIMM: Smooth Rock Falls CMS, TBS, and DRS Re	734628	(1,226)	(1,916)	691
1160	Existing Investment	Distribution Pipe	TOR10YR - Evans Ave Replacement- Network # 12	733448	(1,228)	(1,228)	0
1161	Existing Investment	Distribution Pipe	TOR10YR - Kingsdown and Ranstone Replacemer	735497	(1,228)	(1,228)	0
1162	Existing Investment	Distribution Pipe	TOR10YR - Birchmount & Foxbridge Replacement	735487	(1,236)	(1,236)	0
1163	Existing Investment	Distribution Pipe	Summerville Ave - Eastern - Area 60 - 1484	30389	(1,238)	(1,306)	69
1164	Emergent	Distribution Pipe	Lorne Ave (MORATORIUM UNTIL 2027) - Southwe	30309	(1,238)	(1,348)	109
1165	Emergent	Distribution Pipe	Div. 06 - Brantford - Catherine Ave - Souheast - Wa	30240	(1,246)	(1,338)	93
1166	Emergent	Distribution Pipe	Avondale Blvd 1 - GTA West - Area 20 - 1663	30112	(1,249)	(1,307)	58
1167	Emergent	Distribution Pipe	Moore Line 2 - Southwest - London - 1564	30311	(1,250)	(1,339)	89
1168	Emergent	Distribution Pipe	Haldimand - Selkirk - Erie St S-Phase 1 - Hamilton	30402	(1,252)	(1,270)	18
1169	Existing Investment	Distribution Pipe	Montgomery Pl - Eastern - Area 60 - 1228	30370	(1,253)	(1,301)	48
1170	Existing Investment	Distribution Pipe	North Alley-Ganonoque-1468	30432	(1,253)	(1,275)	21
1171	Existing Investment	Distribution Pipe	Tecumseh Rd W 2 - Southwest - Windsor - 1492	30042	(1,258)	(1,435)	176
1172	Existing Investment	Distribution Pipe	First Ave - Eastern - Area 60 - 1175	30350	(1,261)	(1,299)	38
1173	Emergent	Distribution Pipe	Lauzon Rd - Southwest - Windsor - 2025	30023	(1,267)	(1,283)	15
1174	Emergent	Distribution Pipe	Div. 16 - Hamilton - Market St - Hamilton - 1456	30408	(1,268)	(1,348)	80
1175	Existing Investment	Distribution Pipe	Elizabeth St S 2 - GTA West - Area 20 - 1668	30118	(1,268)	(1,324)	56
1176	Existing Investment	Distribution Stations	TIMM: Iroquois Falls TBS, Station Rebuild	734941	(1,268)	(1,281)	12
1177	Existing Investment	Distribution Pipe	Second St - Area 50 - 1194	30093	(1,272)	(1,346)	74

1178	Existing Investment	Distribution Pipe	TOR10YR - Brookbanks and Valley Woods Replac	735870	(1,277)	(1,277)	0
1179	No Longer in Plan	Real Estate & Workplace Ser	50 Keil Renovations - Phase 5	100774	(1,277)	(3,747)	2,470
1180	Existing Investment	Distribution Pipe	Taylor Mills Dr S - GTA East - Area 30 - 1843	30172	(1,288)	(1,347)	58
1181	Existing Investment	Distribution Pipe	2nd Ave - Eastern - Area 60 - 1197	30330	(1,289)	(1,334)	46
1182	Existing Investment	Distribution Pipe	TOR10YR - Weston - St Lucie Replacement	733681	(1,296)	(1,296)	0
1183	Existing Investment	Distribution Stations	TIMM: Tembec Spruce Falls SMS, Rebuild	733880	(1,298)	(1,298)	0
1184	Existing Investment	Distribution Pipe	Christena Cres 1 - Ajax - Area 40 - 1702	30179	(1,299)	(1,345)	46
1185	Existing Investment	Distribution Pipe	SARN - Errol Rd E Leakage - Sarnia BU	48846	(1,307)	(1,535)	227
1186	Emergent	Distribution Pipe	Gordon Ave - Southwest - London - 1482	30299	(1,310)	(1,710)	400
1187	Existing Investment	Distribution Pipe	Elizabeth St S 1 - GTA West - Area 20 - 1667	30117	(1,311)	(1,375)	64
1188	Existing Investment	Distribution Stations	HALT: Burlington Gate, boiler	735054	(1,314)	(1,314)	0
1189	Existing Investment	Distribution Pipe	Broadway_GTA West_Area 20_1249	30114	(1,316)	(1,358)	43
1190	Existing Investment	Distribution Pipe	Div. 16 - Haldimand - Canborough - Smithville Rd -	30397	(1,316)	(1,435)	120
1191	Emergent	Distribution Stations	CNG Station Project - #5	503412	(1,317)	(1,317)	0
1192	Existing Investment	Distribution Stations	NE: 42601002 - Englehart TBS, Relocation	101073	(1,317)	(1,407)	90
1193	Existing Investment	Distribution Pipe	Walker Rd - Southwest - Windsor - 1333	30044	(1,318)	(1,686)	368
1194	Existing Investment	Distribution Pipe	LOND - PH 2 Stevenson & Brydges BU - London	48856	(1,320)	(1,481)	161
1195	Existing Investment	Distribution Pipe	SARN-Point Edward LP Leakage - Sarnia BU	48831	(1,322)	(1,497)	176
1196	Existing Investment	Distribution Pipe	Div. 06 - Norfolk County - Tillsonburg - 3rd Concess	30266	(1,328)	(1,423)	95
1197	Emergent	Distribution Pipe	Baseline Rd E-Whitby-1182	30177	(1,328)	(1,381)	53
1198	Existing Investment	Distribution Pipe	TOR10YR - Knighton and Prestbury Replacement -	735862	(1,329)	(1,329)	0
1199	Existing Investment	Distribution Pipe	Div. 16 - Haldimand - Dunnville - Central Lane - Ha	30398	(1,336)	(1,767)	432
1200	Existing Investment	Distribution Pipe	Hamilton - Crooks St 2 -VSM Replacement	30406	(1,340)	(1,378)	39
1201	Emergent	Compression Stations	Parkway 602 Disch Valve - Replace	740935	(1,341)	(1,341)	0
1202	No Longer in Plan	Distribution Stations	Bellville Yard Station	503415	(1,341)	(1,341)	0
1203	Emergent	Growth	LOND - Strathroy Industrial Park Reinforcement - S	738258	(1,341)	(1,341)	0
1204	Existing Investment	Distribution Pipe	Simcoe Street-40-Kawartha Lakes-1060	30192	(1,344)	(1,396)	52
1205	Existing Investment	Distribution Pipe	Lake Ave E - Eastern - Area 60 - 1145	30363	(1,345)	(1,385)	40
1206	Emergent	Distribution Pipe	Frederick_GTA West_Area 20_1481	30119	(1,346)	(1,422)	75
1207	Existing Investment	Distribution Pipe	TOR10YR - North Sloane Replacement - Network #	735860	(1,348)	(1,348)	0
1208	Existing Investment	Distribution Pipe	Seventh St S-Kenora-1542	30158	(1,352)	(1,402)	50
1209	Emergent	Distribution Pipe	Lambeth - Southwest - London - 1776	30439	(1,352)	(2,076)	724
1210	Existing Investment	Distribution Pipe	Div. 16 - Hamilton - Crooks St 1 - Hamilton - 1745	30405	(1,357)	(1,431)	74
1211	Emergent	Distribution Pipe	Regina St - Eastern - Area 60 - 1144	30381	(1,357)	(1,379)	22
1212	Existing Investment	Distribution Pipe	Paliser Cres S - GTA East - Area 30 - 1389	30168	(1,360)	(1,467)	107
1213	Emergent	Distribution Pipe	TOR10YR - Underhill Replacement - Network # 455	735874	(1,361)	(1,361)	0
1214	Emergent	Distribution Pipe	TOR10YR - Cornerbrook and Redwillow Replacem	735879	(1,364)	(1,364)	0
1215	Existing Investment	Distribution Pipe	Adelaide St N (EXECUTE 2024 - MUNICIPAL WOF	30275	(1,374)	(1,553)	179
1216	Existing Investment	Distribution Pipe	Joymar Dr 1 (EXECUTE 2024 - ROAD REHABILIT	30122	(1,374)	(1,419)	44
1217	Emergent	Distribution Pipe	Avondale Blvd 2 - GTA West - Area 20 - 1664	30113	(1,377)	(1,444)	67
1218	Existing Investment	Distribution Pipe	Div. 06 - Brantford - Greenwich St - Southeast - Wa	30248	(1,382)	(1,453)	71
1219	Existing Investment	Distribution Pipe	Clarke Rd (EXECUTE 2025 - MUNICIPAL WORK F	30284	(1,383)	(1,584)	201
1220	Existing Investment	Distribution Pipe	Windsor Ave (EXECUTE BY 2025 - MUNICIPAL W	30328	(1,383)	(1,457)	73
1221	Emergent	Distribution Stations	King: Augusta CMS Rebuild	734775	(1,385)	(1,385)	0
1222	Existing Investment	Distribution Pipe	Div. 17 - Halton - Burlington - Guelph Line - Hamilto	30414	(1,386)	(2,348)	962
1223	Existing Investment	Distribution Pipe	Caddy St-Peterborough-1179	30178	(1,389)	(1,441)	51
1224	Existing Investment	Distribution Pipe	McCann St - Eastern - Area 60 - 1160	30367	(1,389)	(1,454)	64
1225	Existing Investment	Distribution Pipe	Arthur St - Cornwall - Eastern - 1727	30417	(1,390)	(1,449)	59
1226	Existing Investment	Distribution Pipe	TOR10YR - Araman and Earlton Replacement - Ne	735836	(1,391)	(1,391)	0
1227	Existing Investment	Distribution Pipe	TOR10YR - Allanford and Pender Replacement - N	735835	(1,391)	(1,391)	0
1228	Existing Investment	Distribution Pipe	Ashlar Rd - GTA East - Area 30 - 1841	30162	(1,395)	(1,478)	83
1229	Existing Investment	Distribution Pipe	Sproule Dr 1 - GTA West - Area 20 - 1676	30130	(1,405)	(1,481)	76
1230	Existing Investment	Distribution Pipe	Seagull Dr 2 - GTA West - Area 20 - 1675	30129	(1,422)	(1,479)	57
1231	Emergent	Distribution Pipe	WATE: Carden St, Guelph, VSM Replacement	30468	(1,423)	(1,423)	0
1232	Existing Investment	Distribution Pipe	Ruggles Ave - GTA East - Area 30 - 1706	30169	(1,428)	(1,491)	63
1233	Existing Investment	Distribution Pipe	TBAY: 33-22-601 Atikokan Lateral Leak Dwnst of S	503015	(1,438)	(1,438)	0
1234	Existing Investment	Distribution Pipe	TOR10YR - Moraine Hill and Sunmount Replaceme	735824	(1,438)	(1,438)	0
1235	Existing Investment	Distribution Pipe	3rd Ave - Eastern - Area 60 - 1830	30331	(1,438)	(1,479)	41
1236	Existing Investment	Distribution Pipe	Sixth Ave-Timmins-1566	30159	(1,440)	(1,487)	47

1237	Emergent	Distribution Pipe	Grove St-Belleville-1591	30424	(1,445)	(1,472)	27
1238	Emergent	Distribution Pipe	Garden Alley 1-Ganonoque-1460	30422	(1,446)	(1,561)	115
1239	Existing Investment	Distribution Pipe	VSM - Firestone Road - 2" ST - PH1	100497	(1,446)	(1,547)	101
1240	Existing Investment	Distribution Pipe	Prince St-Bowmanville-1846	30188	(1,448)	(1,501)	53
1241	Existing Investment	Distribution Pipe	Div. 06 - Tillsonburg - Quarter Town Line - Southea	30270	(1,448)	(1,501)	52
1242	Existing Investment	Distribution Stations	TIMM: 45-22-700 Goldcorp Dome Mine SMS, Rebu	101158	(1,451)	(1,564)	113
1243	Existing Investment	Distribution Pipe	Dexter Dr WELL - Area 80 - 1169	30050	(1,452)	(1,496)	44
1244	Existing Investment	Distribution Pipe	Wilton Grove Rd - Southwest - London - 1395	30327	(1,456)	(1,814)	358
1245	Emergent	Distribution Pipe	Front St W - Southwest - London - 1544	30295	(1,458)	(1,579)	121
1246	Existing Investment	Distribution Pipe	LOND - Fellner & Langmuir, Ashland & Wilton BU	48891	(1,461)	(1,633)	172
1247	Existing Investment	Distribution Pipe	TOR10YR - Carnforth and Wyndcliff Replacement -	735863	(1,465)	(1,465)	0
1248	Existing Investment	Distribution Pipe	Div. 16 - Haldimand - Fisherville - Erie Ave N 1 - Ha	30399	(1,472)	(1,489)	17
1249	Existing Investment	Distribution Pipe	Prince Arthur Blvd-Thunder Bay-1538	30156	(1,475)	(1,543)	68
1250	Emergent	Growth	HAMI: Caledonia North Reinforcement, Haldimand	739185	(1,477)	(1,477)	0
1251	Emergent	Distribution Pipe	Wharncliffe Rd S - Southwest - London - 1451	30326	(1,481)	(1,593)	113
1252	Existing Investment	Distribution Stations	TBAY: English River PCS Rebuild	503174	(1,481)	(1,533)	52
1253	Existing Investment	Distribution Pipe	WIND: Ducharme St, Windsor, VSM Replacement	30012	(1,486)	(1,641)	154
1254	Existing Investment	Distribution Pipe	Joymar Dr 2 (EXECUTE 2024 - ROAD REHABILIT	30123	(1,497)	(1,541)	45
1255	Existing Investment	Distribution Pipe	Pillette Rd - Southwest - Windsor - 1320	30031	(1,500)	(1,598)	98
1256	Existing Investment	Distribution Pipe	KING: King St W, Cobourg, VSM Replacement	30470	(1,501)	(1,521)	19
1257	Existing Investment	Distribution Pipe	Cedar Alley-Ganonoque-1455	30420	(1,507)	(1,594)	87
1258	No Longer in Plan	Distribution Pipe	Briscoe St W - Southwest - London -1735	30278	(1,517)	(1,583)	66
1259	Emergent	Distribution Pipe	Div. 06 - Brantford - Wilkes St (MORATORIUM UN	30257	(1,517)	(1,586)	69
1260	Emergent	Distribution Pipe	Jacqueline St - Southwest - London - 1426	30306	(1,519)	(2,209)	690
1261	Emergent	Distribution Pipe	Birch St N (MORATORIUM UNTIL 2028) -Timmins-	30138	(1,522)	(1,580)	58
1262	Existing Investment	Distribution Pipe	Tulloch Dr-Ajax-1594	30193	(1,524)	(1,614)	89
1263	Emergent	Distribution Pipe	Dearness Dr - Southwest - London - 1396	30286	(1,530)	(2,718)	1,188
1264	Emergent	Distribution Pipe	Div. 06 - Brantford - N Park St (MORATORIUM UN	30249	(1,530)	(1,689)	159
1265	Existing Investment	LNG	Hagar LNG Tank Boil Off Gas Recovery System	502916	(1,537)	(7,006)	5,469
1266	Existing Investment	Distribution Pipe	Div. 16 - Haldimand - Caledonia - Argyle St S - Har	30396	(1,540)	(2,021)	481
1267	Existing Investment	Distribution Pipe	Kenora- Seventh Ave N-Phase 1 VSM Replacemer	30157	(1,541)	(1,621)	80
1268	No Longer in Plan	Distribution Stations	TBAY: 33-23-700 Arthur St TBS, Thunder Bay, Stat	100918	(1,541)	(1,656)	114
1269	Emergent	Distribution Pipe	King Street-40-Peterborough-1064	30185	(1,542)	(1,613)	71
1270	Existing Investment	Distribution Stations	CAWTHRA AND QUEENSWAY DISTRICT	1043	(1,542)	(2,015)	473
1271	Existing Investment	Distribution Pipe	TOR10YR - Combermere Replacement - Network #	735868	(1,545)	(1,545)	0
1272	Emergent	Distribution Pipe	Riverside Dr WELL- Area 80 - 1810	30072	(1,546)	(1,568)	23
1273	Existing Investment	Distribution Pipe	VSM - LePage Ave (EXECUTE BY 2025 - PAVING	30364	(1,547)	(1,602)	55
1274	Existing Investment	Distribution Pipe	Swan Dr STC- Area 80 - 1163	30078	(1,553)	(1,622)	68
1275	Existing Investment	Distribution Pipe	2nd Ave PTC - Area 80 - 1180	30046	(1,554)	(1,604)	50
1276	Existing Investment	Distribution Pipe	Wellington St - Kawartha Lakes - Area 40 - 1678	30194	(1,555)	(1,597)	42
1277	Existing Investment	Distribution Pipe	Garden Alley 2-Ganonoque-1494	30423	(1,567)	(1,637)	69
1278	Existing Investment	Distribution Pipe	Wellington St - GTA East - Area 30 - 1417	30174	(1,582)	(1,649)	67
1279	Existing Investment	Growth	Hydrogen Fuel Heating Systems Feasibility Assess	736972	(1,598)	(1,598)	0
1280	Emergent	Growth	WATE - Speedvale Ave W Elmira Rd Northwest Gu	501677	(1,603)	(1,603)	0
1281	Emergent	Distribution Pipe	Pr#60, NRP - 2024 - High Street - Collingwood - 16	30106	(1,605)	(1,614)	9
1282	Existing Investment	Distribution Pipe	Vista Dr_GTA West_Area 20_1529	30132	(1,609)	(1,711)	102
1283	Emergent	Distribution Pipe	TOR10YR - Castlegrove Replacement - Network #	735876	(1,617)	(1,617)	0
1284	Emergent	Distribution Pipe	Talbot St (MORATORIUM UNTIL 2028) - Southwes	30323	(1,622)	(1,919)	296
1285	Existing Investment	Distribution Pipe	Cheapside St 2 - Southwest - London -1534	30283	(1,630)	(1,867)	237
1286	Emergent	Distribution Pipe	Huron St - Southwest - London - 1525	30304	(1,638)	(1,801)	163
1287	Existing Investment	Distribution Pipe	Euclid Ave-Peterborough-1106	30182	(1,646)	(1,687)	41
1288	Emergent	Distribution Pipe	Anne St S - Area 50 - 1204	30081	(1,649)	(1,705)	56
1289	Existing Investment	Distribution Pipe	Maple St N-Timmins-1535	30150	(1,651)	(1,698)	47
1290	Emergent	Distribution Pipe	Downie St 2 - Southwest - London - 1807	30463	(1,653)	(1,653)	0
1291	Existing Investment	Distribution Stations	CHAT - 07G-601 Chatham North Gate	503334	(1,654)	(1,654)	0
1292	Existing Investment	Distribution Pipe	Div. 06 - Brantford - Elgin St - Southeast - Waterloc	30244	(1,657)	(2,001)	345
1293	Emergent	Distribution Stations	HALT: Georgetown TBS Rebuild, 21X-401R	739155	(1,659)	(1,659)	0
1294	Emergent	Distribution Pipe	TOR10YR - Broadlands Replacement - Network # 4	735877	(1,660)	(1,660)	0
1295	No Longer in Plan	Distribution Pipe	Briscoe St W Ph 2 - Southwest - London - 1736	30279	(1,661)	(1,801)	140

1296	Existing Investment	Distribution Pipe	Main St (EXECUTE 2024 - STREETSCAPE PLANI	30125	(1,664)	(1,725)	61
1297	Existing Investment	Distribution Pipe	Poplar Ave 1 - Ajax - Area 40 - 1680	30186	(1,669)	(1,716)	47
1298	Existing Investment	Distribution Pipe	Dominion Ave-Kapuskasing-1499	30143	(1,677)	(1,738)	61
1299	Existing Investment	Distribution Pipe	Tecumseth St - GTA East - Area 30 - 1362	30173	(1,677)	(1,792)	115
1300	Existing Investment	Distribution Pipe	TOR10YR - Birchmount South Sheppard Replacem	735830	(1,677)	(1,677)	0
1301	Existing Investment	Distribution Stations	BROCKVILLE GATE	3608	(1,681)	(1,736)	56
1302	Emergent	Distribution Pipe	Percival St-Port Hope-1593	30433	(1,681)	(1,732)	50
1303	Emergent	Distribution Pipe	N Murray St-Trenton-1595	30431	(1,710)	(1,778)	68
1304	Emergent	Distribution Pipe	Ridout St N (MORATORIUM UNTIL 2028) - Southw	30315	(1,715)	(1,918)	203
1305	Emergent	Distribution Pipe	Div. 07 - Waterloo - Union St E - Southeast - Water	30274	(1,718)	(1,774)	57
1306	Emergent	Distribution Pipe	Div. 06 - Norfolk County - Simcoe - Blue Line Rd - S	30265	(1,724)	(1,996)	272
1307	No Longer in Plan	Distribution Pipe	Hamilton Rd - Southwest - London - 1408	30301	(1,724)	(1,986)	262
1308	Existing Investment	Distribution Pipe	Hart St-Timmins (MORATORIUM UNTIL 2025) -15	30146	(1,724)	(1,763)	38
1309	Existing Investment	Distribution Pipe	Spruce St-Kapuskasing-1565	30160	(1,728)	(1,776)	48
1310	Existing Investment	Distribution Pipe	Div. 06 - Brantford - Franklin St - Southeast - Wate	30246	(1,734)	(1,865)	131
1311	Emergent	Distribution Pipe	NPS 4 New Liskeard Wabi Creek Replacement	739567	(1,736)	(1,736)	0
1312	Existing Investment	Distribution Pipe	Emery St E (MORATORIUM UNTIL 2026) - Southw	30292	(1,737)	(1,795)	58
1313	Emergent	Distribution Pipe	Ann St (MORATORIUM UNTIL 2028) - Southwest -	30276	(1,739)	(1,887)	147
1314	No Longer in Plan	Growth	SRP_Southwest_Windsor_05A-201STN_Rebuild	101359	(1,740)	(1,742)	2
1315	Emergent	Distribution Pipe	Moore Line - Southwest - London - 1516	30310	(1,741)	(1,982)	242
1316	Existing Investment	Distribution Pipe	Wellington Rd (EXECUTE 2025 - BRT DESIGNS E	30325	(1,753)	(2,299)	546
1317	Emergent	Distribution Pipe	Fanshawe Park Rd E - Southwest - London - 1478	30293	(1,759)	(1,944)	185
1318	Existing Investment	Distribution Pipe	Yonge St - GTA East - Area 30 - 1358	30175	(1,761)	(1,879)	118
1319	Emergent	Distribution Pipe	Hill St - Southwest - London - 1567	30302	(1,772)	(1,860)	88
1320	Existing Investment	Distribution Pipe	Div. 06 - Brantford - St George St - Southeast - Wa	30252	(1,776)	(2,181)	406
1321	No Longer in Plan	Distribution Stations	BATHURST GATE	1148	(1,784)	(2,502)	717
1322	Existing Investment	Distribution Pipe	Bay St-Timmins-1561	30137	(1,792)	(1,849)	58
1323	Emergent	Distribution Pipe	Bartholomew St - Eastern - Area 60 - 1116	30337	(1,798)	(1,842)	44
1324	Existing Investment	Distribution Pipe	TOR10YR - Roywood and York Mills Replacement	735855	(1,802)	(1,802)	0
1325	Emergent	Growth	Welland IP NW8925 Reinforcement	7727	(1,802)	(1,870)	68
1326	Existing Investment	Distribution Pipe	A:10 Dawlish Ave & Valleyanna Dr	736024	(1,822)	(1,822)	0
1327	Existing Investment	Distribution Pipe	Clarkson Rd (EXECUTE 2025 - ROAD REHABILIT	30115	(1,830)	(1,888)	58
1328	Existing Investment	Distribution Pipe	4th Ave S-Kenora-1562	30134	(1,836)	(1,882)	46
1329	Existing Investment	Distribution Pipe	Div. 06 - Brant - Broadway St W - Southeast - Wate	30234	(1,839)	(1,937)	98
1330	Existing Investment	Distribution Pipe	Ogden St-Thunder Bay-1568	30155	(1,845)	(1,897)	52
1331	No Longer in Plan	Distribution Pipe	VSM - Preston St - LP	8262	(1,858)	(1,980)	122
1332	Existing Investment	Distribution Pipe	TOR10YR - Browns Line and Jellicoe Replacemen	733910	(1,869)	(1,869)	0
1333	Existing Investment	Distribution Pipe	Bridge St W-Napanee-1602	30419	(1,874)	(1,931)	57
1334	Existing Investment	Distribution Pipe	Durham St W - Kawartha Lakes - Area 40 - 1687	30181	(1,879)	(1,942)	63
1335	Existing Investment	Distribution Pipe	George St-Hearst-1558	30145	(1,882)	(1,934)	52
1336	Existing Investment	Distribution Pipe	Div. 06 - Brantford - St George St 2 - Southeast - W	30253	(1,919)	(2,233)	314
1337	Existing Investment	Distribution Pipe	TOR10YR - Sweeney Replacement - Network # 45	735861	(1,933)	(1,933)	0
1338	No Longer in Plan	Distribution Stations	CROWLAND STORAGE TRANSFER	3610	(1,937)	(2,036)	100
1339	Existing Investment	Distribution Pipe	Arthur St W (EXECUTE 2024) -Thunder Bay-1496	30136	(1,949)	(1,983)	35
1340	Existing Investment	Distribution Pipe	Haggert Ave_GTA West_Area 20_1477	30121	(1,959)	(2,024)	65
1341	Existing Investment	Distribution Pipe	TOR10YR - Amethyst and Cass Replacement - Ne	735820	(1,962)	(1,962)	0
1342	Existing Investment	Distribution Stations	WIND - 05A-203 LaSalle Boismier Ave - Heater rep	101626	(1,963)	(1,980)	17
1343	Emergent	Distribution Pipe	Glendon Dr - Southwest - London - 1465	30297	(1,966)	(2,005)	39
1344	Emergent	Distribution Pipe	000046, NRP - HNS Grove A1, 2025 - 2027 - 1612	30098	(1,968)	(2,038)	70
1345	Existing Investment	Real Estate & Workplace Se	Burlington Operations Centre	100666	(2,050)	(2,050)	0
1346	Existing Investment	Distribution Pipe	Front St (MORATORIUM UNTIL 2025) -Belleville-1	30421	(2,052)	(2,087)	35
1347	Emergent	Distribution Pipe	William St N - Kawartha Lakes - Area 40 - 1816	30195	(2,065)	(2,086)	21
1348	Existing Investment	Distribution Stations	SARN: 12F-205 Novacor Moore Trans	734683	(2,081)	(2,089)	8
1349	Existing Investment	Distribution Pipe	Toronto Island NPS 2 Feed Relocation	23147	(2,092)	(2,501)	410
1350	Existing Investment	Distribution Pipe	Rupert Ave - GTA East - Area 30 - 1815	30170	(2,124)	(2,180)	57
1351	Existing Investment	Distribution Pipe	TOR10YR - Fenside and Lynedock Replacement -	735854	(2,129)	(2,129)	0
1352	No Longer in Plan	Distribution Stations	SUMMERSTOWN GATE	3622	(2,138)	(2,160)	22
1353	Existing Investment	Distribution Pipe	Axminster Dr - GTA East - Area 30 - 1842	30163	(2,182)	(2,261)	79
1354	Existing Investment	Distribution Stations	MOUNTAIN RD GATE	3620	(2,188)	(2,266)	78

1355	Emergent	Distribution Pipe	TOR10YR - Lawrence at Wayne Replacement - Ne	735844	(2,190)	(2,190)	0
1356	Existing Investment	Distribution Pipe	Marks St S-Thunder Bay-1537	30151	(2,221)	(2,310)	89
1357	Emergent	Distribution Pipe	TOR10YR - Warden South Lawrence Replacement	735843	(2,241)	(2,241)	0
1358	Emergent	Distribution Pipe	Div. 06 - Brantford - Spalding Dr - Southeast - Wate	30251	(2,293)	(2,354)	61
1359	Existing Investment	Distribution Stations	KEELE AND STEELES/CNR FEEDER	7769	(2,317)	(2,726)	410
1360	No Longer in Plan	Distribution Pipe	Base Line Rd E - Southwest - London - 1461	30277	(2,369)	(2,715)	346
1361	Emergent	Distribution Pipe	TOR10YR - Lawrence Ave E at Pharmacy Replace	735884	(2,396)	(2,396)	0
1362	Existing Investment	Distribution Stations	LOND: 15Q-603 Canada Cement Trans Stn	734695	(2,397)	(2,403)	6
1363	Existing Investment	Distribution Pipe	Oshawa LP Replacement Phase 1 Olive Ave	100517	(2,424)	(2,655)	231
1364	Existing Investment	Distribution Pipe	Manse Alley-Ganonoque-1466	30429	(2,445)	(2,531)	86
1365	Existing Investment	Real Estate & Workplace Ser	555 Riverview Regional Operations Centre	100620	(2,463)	(5,017)	2,554
1366	Existing Investment	Distribution Stations	NOBLETON GATE	7753	(2,494)	(2,582)	88
1367	Existing Investment	Distribution Stations	Harmer District Station	3455	(2,515)	(2,515)	0
1368	Existing Investment	Distribution Stations	OSHAWA GATE	7754	(2,518)	(2,520)	2
1369	Existing Investment	Distribution Stations	NIAGARA GATE	7752	(2,556)	(2,707)	151
1370	Existing Investment	Distribution Pipe	Church St South_2 - GTA East - Area 30 - 1382	30164	(2,606)	(2,756)	149
1371	Existing Investment	Distribution Pipe	Southdale Rd E - Southwest - London - 1434	30319	(2,628)	(3,726)	1,097
1372	Existing Investment	Distribution Pipe	A60: Havelock St , Brockville, VSM Replacement	30356	(2,687)	(2,739)	52
1373	Existing Investment	Distribution Stations	THORNTON GATE	7758	(2,739)	(2,841)	102
1374	Emergent	Distribution Pipe	North Shore Section A Integrity Digs	739664	(2,743)	(2,743)	0
1375	Emergent	Distribution Pipe	Wall St-Trent-1271	30437	(2,759)	(2,842)	83
1376	No Longer in Plan	Distribution Stations	BOWMANVILLE GATE	7749	(2,815)	(3,003)	188
1377	Existing Investment	Distribution Pipe	Geneva St STC - Area 80 - 1187	30055	(2,859)	(2,955)	95
1378	Existing Investment	Distribution Stations	HAMI: 16X-601 Hamilton Gate 3, Hamilton, Full Sta	101086	(3,007)	(5,592)	2,585
1379	Existing Investment	Distribution Pipe	Oshawa LP Replacement Phase 2 King St	103427	(3,049)	(3,296)	247
1380	Existing Investment	Distribution Pipe	Mornington Ave - Southwest - London - 1531	30312	(3,089)	(3,250)	161
1381	Existing Investment	Distribution Pipe	Elgin Mills Rd E - GTA East - Area 30 - 1351	30167	(3,096)	(3,186)	90
1382	No Longer in Plan	Distribution Stations	KEMPTVILLE GATE	7751	(3,205)	(3,207)	1
1383	Existing Investment	Distribution Stations	SCHOMBERG GATE	1011	(3,317)	(3,714)	397
1384	Existing Investment	Distribution Pipe	AR40: VSM Replacement - Wilson Rd S Oshawa P	735949	(3,348)	(3,597)	249
1385	Existing Investment	Distribution Stations	KEELE AND FINCH FEEDER	1147	(3,453)	(3,500)	46
1386	No Longer in Plan	Distribution Stations	MARKHAM GATE	1013	(3,538)	(3,718)	180
1387	Existing Investment	TIS	Contract Market Harmonization	102291	(3,643)	(12,753)	9,110
1388	Emergent	Distribution Pipe	Norwich South & Delhi 6 Phase 2 Int. Digs	739467	(3,880)	(3,880)	0
1389	No Longer in Plan	Distribution Stations	HAMI :CALEDONIA TRANSMISSION STN, Rebuil	735048	(3,893)	(4,258)	365
1390	No Longer in Plan	Distribution Stations	BOND HEAD GATE	3614	(3,900)	(4,154)	254
1391	Existing Investment	Distribution Stations	SARN: 13F-503 Churchill Rd. Trans Stn	734697	(3,947)	(3,955)	8
1392	No Longer in Plan	Distribution Stations	HAMI: Hamilton Takeoff & Carlisle Gate, Rebuild	735038	(4,020)	(4,967)	947
1393	Existing Investment	Real Estate & Workplace Ser	Brantford Regional Operations Centre	100665	(4,079)	(4,079)	0
1394	Existing Investment	Distribution Stations	HAMI: KIRKWALL/DOMINION, Full Rebuild	735045	(4,554)	(4,599)	45
1395	No Longer in Plan	Distribution Pipe	Oshawa LP Replacement Phase 3 Masson St	103429	(4,781)	(4,991)	210
1396	Existing Investment	LNG	Hagar Cold Box	48714	(4,828)	(5,410)	582
1397	Existing Investment	Distribution Pipe	Wardsville Line - Southwest - London - 1797	736302	(4,908)	(4,954)	46
1398	Existing Investment	Distribution Stations	LOND: 14O-503R Highbury and Cheapside Dist St	734674	(5,027)	(6,090)	1,063
1399	Existing Investment	Distribution Stations	BAYVIEW FEEDER	3605	(5,207)	(5,275)	68
1400	Existing Investment	Distribution Pipe	A60: Sparks St, Ottawa, Replacement	101343	(5,601)	(8,801)	3,200
1401	Existing Investment	Growth	Hydrogen Blending Phase 2	736974	(5,802)	(5,802)	0
1402	Existing Investment	Distribution Stations	WIND - 06B-403 California Ave station rebuild	503332	(6,115)	(6,115)	0
1403	Existing Investment	Distribution Stations	SARN: 13F-220R Vidal St	734676	(6,564)	(6,564)	0
1404	Existing Investment	Real Estate & Workplace Ser	Dawn Administrative Centre	100621	(6,576)	(8,596)	2,020
1405	Emergent	Distribution Stations	Sarnia Industrial Station 2029 Rebuild	735022	(6,746)	(6,746)	0
1406	Existing Investment	Distribution Stations	SARN: 13F-501 Sarnia Industrial	734670	(6,786)	(6,830)	44
1407	Existing Investment	TIS	General Service Rebasing Changes	736081	(7,052)	(12,384)	5,333
1408	Existing Investment	Distribution Stations	LOND - 12F-501 Payne Kimball Rebuild	735540	(7,290)	(7,320)	31
1409	Existing Investment	Distribution Stations	LOND: 14R-104 Beachville Domtar Trans Stn	734689	(8,161)	(8,976)	815
1410	Existing Investment	Distribution Pipe	NPS 10 Glenridge Avenue, St. Catharines	1938	(8,599)	(9,437)	838
1411	Existing Investment	Distribution Stations	BRAN: 16U-601 Brantford Gate Station, Station Re	103426	(9,084)	(9,130)	46
1412	Existing Investment	TIS	Records Management Technology Obsolescence (	102364	(9,106)	(16,768)	7,662
1413	Emergent	Distribution Pipe	NPS20 KOL - Parliament St.	740604	(9,769)	(9,769)	0

1414	Existing Investment	LNG	Hagar JVG Compressor Upgrade	49955	(12,100)	(12,629)	529
1415	Existing Investment	Distribution Stations	Lisgar Station	503369	(12,955)	(13,113)	158
1416	Existing Investment	LNG	Hagar KVGR and Cycle Mix Cooler	48709	(14,443)	(14,973)	529
1417	Existing Investment	Distribution Pipe	NPS 12 Martin Grove Rd Main Replacement: Lavin	11443	(17,574)	(17,726)	153
1418	Emergent	TIS	2024 ePackages	740228	(22,775)	(356)	(22,419)
1419	Emergent	Real Estate & Workplace Ser	GTA West - New Build - Halton Hills	739715	(25,615)	(28,856)	3,240
1420	Existing Investment	Distribution Pipe	A10: Wilson Avenue, Toronto, VSM Replacement	100339	(60,709)	(61,281)	573

ENBRIDGE GAS INC.

Answer to Interrogatory from
School Energy Coalition (SEC)

Interrogatory

Reference:

2-6-2, Appendix A

Question(s):

With respect to the material capital investments included in the Appendix to the AMP:

a) Please provide the total number of projects and total cost.

b) How many projects, and what is the total costs, for those that meet each of the following Enbridge investment categories:

   i. Compliance - Compliance Investment
   ii. Must Do – Must DO Investment
   iii. Must Do – Intolerable Risk (EGI)
   iv. Mist Do – Third-Party Relocation (EGI)
   v. Must Do – Program work with sufficient history and risk to warrant continuation (EGI)

Response:

The following response has been updated to reflect the Capital Update provided at Exhibit 2, Tab 5, Schedule 4, filed on June 16, 2023. /u

a) 46 Projects valued at $2.27 billion not including overhead allocations. /u

b) Please note the Compliance and Must Do descriptions under the Investment Overview section of each Investment Summary Report does not map directly into the Investment Categories summarized at Exhibit 2, Tab 6, Schedule 2, page 46 of 288, Table 4.1-2. In particular there are no fields for Value-Driven Projects and there are compliance components flagged for value driven investments. The requested information is provided in parts i-v.

i. Compliance: /u
0 Projects

ii. Must Do – Must Do:
12 Projects with an estimated cost of $1.08 billion /u

iii. Must Do – Intolerable Risk (EGI):
1 Project with an estimated cost of $29.8 million* /u
*$347 million for Dawn to Corunna has not been accounted for in this category, for mapping reasons as described above. However, it is considered an investment which addresses a risk exceeding EGI's upper threshold and is a mandatory investment and, therefore, should be considered as part of this category.

iv. Must Do – Third Party Relocation (EGI)
0 Projects

v. Must Do – Program with sufficient history to warrant continuation (EGI)
0 Projects.

Table 2
Integration Savings as Achieved by Category

Line No.	Particulars ($ millions)	2019 Actual	2020 Actual	2021 Actual	2022 Estimate	2023 Bridge Year
		(a)	(b)	(c)	(d)	(e)
1	Organizational Restructuring	25.1	41.8	54.8	54.8	54.8
2	Alignment for Customers	2.9	2.9	1.8	16.8	16.8
3	Policies, Programs, Processes & Procedures Alignment	1.7	3.4	4.0	4.1	4.3
4	Integration of Operating Models	-	0.1	5.7	5.2	5.2
5	Cost Rationalization	2.6	4.2	4.9	4.9	4.9
6	Total Annual Savings	32.3	52.4	71.2	85.8	86.0
7	Sustained Savings included in Rebasing					86.0

Table 3
Integration Savings as Achieved by Area

Line No.	Particulars ($ millions)	2019 Actual	2020 Actual	2021 Actual	2022 Estimate	2023 Bridge Year
		(a)	(b)	(c)	(d)	(e)
	O&M Savings					
1	Business Development & Regulatory	6.8	9.6	10.4	10.4	10.4
2	Customer Care	5.5	6.6	7.5	22.5	22.5
3	Distribution Operations	6.3	9.8	17.3	16.8	16.8
4	Energy Services	2.6	5.6	5.9	5.9	5.9
5	Engineering & STO	5.2	9.0	11.6	11.6	11.8
6	Central Functions	3.9	9.1	15.7	15.8	15.8
7	Other	2.0	2.7	2.8	2.8	2.8
8	Total Annual Savings	32.2	52.4	71.2	85.8	86.0

2.1. Organizational Restructuring

8. Organizational restructuring was the largest contributor to integration savings. The initial organizational restructuring was delivered by the end of first quarter in 2019

ENBRIDGE GAS INC.

Answer to Interrogatory from
School Energy Coalition (SEC)

Interrogatory

Reference:

1-9-1

Question(s):

In addition to saving arising from integration activities, please detail all other productivity and efficiency measures that the applicant has taken since 2018 and plans to take through to the end of the test year. Please quantify those actual and forecast savings and explain the calculations.

Response:

Please see Table 1 for the productivity savings Enbridge Gas has achieved since 2018 and plans to take through to the end of the test year:

Table 1
EGI Productivity Savings

Line No.	Particulars ($millions)	2019 Actuals	2020 Actuals	2021 Actuals	2022 Actuals	2023 Bridge Year	2024 Test Year
		(a)	(b)	(c)	(d)	(e)	(f)
	Business Development & Regulatory						
1	Process Optimization*	-	-	0.4	0.2	0.2	0.2
2	Cost Rationalization**	0.3	0.3	0.3	0.3	0.3	0.3
3	Embedded productivity***	-	-	-	-	0.5	0.5
	Customer Care						
4	Process Optimization*	5.3	15.8	14.1	13.9	13.9	13.9
5	Embedded productivity***	-	-	-	-	1.0	1.1
	Energy Services						
6	Process Optimization*	-	-	0.2	0.1	0.1	0.1
	Engineering & STO						
7	Process Optimization*	0.1	0.1	0.7	0.4	0.4	0.4
8	Cost Rationalization**	2.5	2.4	2.4	2.4	1.9	1.9
9	Embedded productivity***	-	-	-	-	8.0	9.5
	Operations						
10	Process Optimization*	-	-	0.6	0.3	0.3	0.3
11	Embedded productivity***	-	-	-	-	4.4	7.0
12	Total Productivity Savings	8.2	18.6	18.6	17.6	31.0	35.2

*Process Optimization initiatives relate to changes in the way work is organized to achieve efficiencies. Please see Exhibit 4, Tab 4, Schedule 2, paragraph 16 for details of significant initiatives.
** Cost Rationalization relates to spend that could be eliminated.
*** Please see Exhibit 4, Tab 4, Schedule 2, paragraph 17 for further information on embedded productivity.

Similar to integration savings provided in response at Exhibit I.1.9-CCC-25, to calculate the productivity savings, each budget cycle, Enbridge Gas conducts a detailed review of savings that were achieved by the business. When sustainable savings are achieved, those amounts are removed from the budget as the costs are no longer applicable and tracked separately.

ENBRIDGE GAS INC.

Answer to ADR Information Request

Question:

[1.9-SEC-90] Are the productivity savings shown in Table 1 all O&M savings? If not, please provide a breakdown of which savings are capital vs. O&M.

Response:

All productivity savings shown in Exhibit I.1.9-SEC-90 Table 1 are O&M savings.

4. PREP and D2C

34. As noted above, Enbridge Gas is proposing an alternative treatment for cost recovery of PREP and that D2C be moved to Phase 2 of this proceeding. The sections below provide details on these treatments for each project respectively.

4.1 PREP

35. This Capital Update has been adjusted to exclude forecast expenditures and 2024 in-service additions in relation to PREP. Enbridge Gas is proposing a separate levelized recovery mechanism for the project.

36. PREP is a large project ($358.0 inclusive of overheads) that is required to serve increasing demands in the Panhandle Market and is subject to leave-to-construct (LTC) approval[18] application. As noted in the updated LTC application, the proposed project consists of pipeline facilities and stations work forecast to close into service in 2024, and yard facilities that are forecast to close into service in 2025.

37. Recognizing that PREP has yet to receive LTC approval, Enbridge Gas believes that separate treatment of the project is warranted. As a result, Enbridge Gas proposes to exclude the costs and incremental revenues, that are attributable to the project's forecast 2024 in-service component, from the determination of the base 2024 cost of service revenue requirement. In this way, if forecast timing or costs are altered, or if OEB approval is not granted, then no adjustment to base rates or revenue requirement will be necessary. Subject to OEB approval of the PREP LTC application, Enbridge Gas proposes to separately calculate the forecast net

[18] EB-2022-0157.

revenue requirement of the project for the 2024 Test Year and each year of the IR term (2025 – 2028), for inclusion into rates in a levelized manner.

38. This proposal is similar to how approved ICM projects were handled over the deferred rebasing term. A separate unit rate will be calculated, based on the average of the five year net revenue requirement for the project, which would be implemented in the 2024 Test Year and remain fixed and in place for the duration of the IR term (or for the remainder of the term following OEB approval). The average unit rate would eliminate the rate fluctuations that would occur if the project's annual revenue requirement was treated as a y-factor each year (i.e. the revenue requirement would be negative in year 1 due to the partial rate base effectivity and income tax benefit provided by capital cost allowance, followed positive cost impacts in each of the following years of the IR term).

39. Also, similar to the treatment of prior ICM projects (and the proposed prospective treatment of future ICM projects), Enbridge Gas proposes to establish an associated variance account, the PREP Variance Account (PREPVA), that would capture any variance between the project's actual net revenue requirement and the actual revenues collected through the average unit rate that would be in place over the IR term. The variance account would ensure ratepayers do not over or under pay for the project, and that Enbridge Gas does not over or under recover over the IR term. The clearance of any cumulative balance in the account is proposed to occur at the end of the IR term, as during the IR term the account will be expected to capture the temporary differences between the average annual revenue requirement and the actual annual revenue requirement. Establishing an average unit rate at the outset of the IR term will be administratively efficient, as the project costs will not need to be reviewed annually as part of the annual price cap applications. Attachment 2 contains a draft accounting order for the PREPVA.

40. The annual forecast of costs, incremental revenues, and resulting revenue requirement attributable to the PREP 2024 in-service additions are provided in Attachment 2. The project's forecast revenue requirement includes carrying charges (costs of capital) and depreciation attributable to the $251.5 million capital addition forecast to occur in November 2024, as well as incremental operation and maintenance, property tax, and income tax amounts, partially offset by transmission margin revenue associated with incremental demands served by the project. Attachment 2 also provides the forecast average annual net revenue requirement for the project, of $7.3 million which the Company is proposing to derive a separate unit rate for inclusion in rates for the duration of the 2024 – 2028 IR term. The unit rates will be filed with the OEB with the Draft Rate Order for this proceeding.

41. Enbridge Gas notes that under its proposal, PREP capital costs associated with the yard facilities, which are forecast to be placed into service in 2025, will be recovered through the Company's proposed 2025 through 2028 price cap mechanism (i.e. through base rate price cap escalation or through the ICM mechanism), and are therefore not included in the proposed levelized recovery mechanism.

42. As part of the proposal for the separate treatment for the recovery of the revenue requirement related to the 2024 PREP in-service additions, the segregated PREP costs (including rate base, depreciation, and revenue requirement amounts) and associated unit rate would be excluded from the annual ICM threshold calculations and price cap escalations. Enbridge Gas's proposal, inclusive of the proposed variance account will ensure that only actual project costs are recovered, thus associated revenues will not be able to support additional capital spending (i.e.

through the ICM mechanism).

43. Attachment 5, page 3, provides details of the 2024 Test Year revenue deficiency excluding forecasted PREP costs but including the impact of the proposed levelized approach.

4.2 D2C

44. Enbridge Gas proposes that the determination of rate base treatment for D2C be deferred to Phase 2 of this proceeding. In its LTC Decision for D2C, the OEB approved the D2C project indicated that it was not making any decision on whether any part of the project cost is appropriate for inclusion in rate base. The OEB indicated the following:

> The OEB is of the view that the concerns raised by Pollution Probe and Energy Probe regarding the need for an examination of the overall integration of storage assets between the legacy storage of Enbridge Gas Distribution and Union Gas Limited is best addressed in the upcoming Enbridge Gas rebasing proceeding.
>
> The rebasing proceeding will address the appropriate allocation of storage and storage related costs to each of the regulated business and the unregulated business and, if Enbridge Gas seeks to put the Project into rate base, the extent to which the recovery of the cost of the Project from ratepayers is appropriate.[19]

45. Given that issues related to allocation of costs between Enbridge Gas's regulated and unregulated operations are being addressed in Phase 2 of this proceeding, Enbridge Gas believes that it is appropriate to consider the inclusion of the D2C

[19] EB-2022-0086, Decision and Order, November 3, 2022, p.9.

2024-2028 Panhandle Regional Expansion Project

Line No.	Particulars ($ millions)	Revenue Requirement 2024	2025	2026	2027	2028	Average
		(a)	(b)	(c)	(d)	(e)	(f)
	Rate Base Investment						
1	Capital Expenditures	197.2	-	-	-	-	-
2	Cumulative Capital Expenditures	251.5	251.5	251.5	251.5	251.5	251.5
3	Average Investment	30.9	249.0	244.3	239.8	235.2	199.8
	Revenue Requirement Calculation:						
	Operating Expenses:						
4	Operating and Maintenance Expenses	0.0	0.1	0.1	0.1	0.1	0.1
5	Depreciation Expense (1)	0.4	4.6	4.6	4.6	4.6	3.7
6	Property Taxes	0.1	0.9	0.9	0.9	0.9	0.7
7	Total Operating Expenses	0.5	5.5	5.6	5.6	5.6	4.6
8	Required Return (2)	1.8	14.6	14.4	14.1	13.8	11.7
9	Total Operating Expense and Return	2.4	20.2	19.9	19.7	19.4	16.3
	Income Taxes:						
10	Income Taxes - Equity Return (3)	0.4	3.0	2.9	2.8	2.8	2.4
11	Income Taxes - Utility Timing Differences (4)	(16.5)	(4.4)	(3.8)	(3.4)	(2.9)	(6.2)
12	Total Income Taxes	(16.2)	(1.4)	(0.9)	(0.5)	(0.1)	(3.8)
13	Total Revenue Requirement	(13.8)	18.7	19.0	19.1	19.3	12.5
14	Incremental Project Revenue	0.6	4.0	6.3	7.1	7.9	5.2
15	Net Revenue Requirement	(14.4)	14.7	12.7	12.1	11.4	7.3

Notes:

(1) Depreciation expense at 2024 Proposed depreciation rates.

(2) The required return assumes a capital structure of 62% long-term debt at 4.17% and 38% common equity at the 2022 Board Formula return of 8.66%. The annual required return calculation is as follows:

Average Investment (row 3) * 62% * 4.17% plus Average Investment (row 3) * 38% * 8.66%

(3) Taxes related to the equity component of the return at a tax rate of 26.5%.

(4) Taxes related to utility timing differences are negative as the capital cost allowance deduction in arriving at taxable income exceeds the provision of book depreciation in the year.

ENBRIDGE GAS INC.

Answer to Interrogatory from
School Energy Coalition (SEC)

Interrogatory

Reference:

2-6-1, p.34

Question(s):

SEC seeks to better understand the connection between approvals sought in this application and that sought/granted in other applications.

a) Please provide a table that shows for each year between 2014 and 2028, total capital expenditures broken down into the following categories:
   i. Granted leave to construct approval and approved as an ICM or Y-Factor
   ii. Granted leave to construct approval only
   iii. Leave to construct not required, project approved as an ICM or Y-Factor
   iv. Leave to construct approval will be required
   v. Other

b) Please provide a version of table requested in part (a) on an in-service additions basis.

c) Please explain what would happen if the OEB approves the 2024 in-service additions as applied for in this application, but subsequently, denies leave to construct for a specific project that is scheduled to go in-service in 2024.

Response:

The following response has been updated to reflect the Capital Update provided at Exhibit 2, Tab 5, Schedule 4, filed on June 16, 2023 /u

a) Please see Attachment 1. /u

b) Please see Attachment 1. Note that project level in-service details are not available for 2014 to 2018. Please also see response at Exhibit I.2.5-SEC-108, Attachment 1. /u

c) In the event that the OEB approves the 2024 forecast rate base reflecting the forecast 2024 in-service additions, but then subsequently denies leave to construct

for a particular project that was forecast to be placed into service in 2024 (without any consideration for why it was denied and the corresponding implications), the Company expects that revenue requirement related to that project would be one of many positive or negative actual versus forecast variances that will be reflected in utility results for 2024.

As noted in Section 4.3.5 of the AMP at Exhibit 2, Tab 6, Schedule 2, page 56, the "identification of risks and the execution of projects is dynamic. During the year, project scopes may change or new projects may arise, resulting in cost pressures (increases or decreases) to the current portfolio. As these pressures are identified, trade-off decisions are made based on value and available capital, a direct demonstration of EGI's Plan-Do-Check-Act cycle".

Table 1 - Capital Expenditure View of LTC and ICM Projects

$ millions	2014 Actual	2015 Actual	2016 Actual	2017 Actual	2018 Actual	2019 Actual	2020 Actual	2021 Actual	2022 Actual	2023 Bridge Year	2024 Forecast	2025 Forecast	2026 Forecast	2027 Forecast	2028 Forecast	
Granted leave to construct approval and approved as an ICM or Y-Factor	154.6	352.6	690.8	368.0	156.2	119.1	59.4	127.4	105.3	34.0	-	-	-	-	-	/u
Granted leave to construct approval only	207.0	597.9	147.6	25.8	28.8	63.4	67.6	63.0	42.3	293.2	14.5	-	-	-	-	/u
Leave to construct not required, project approved as an ICM or Y-Factor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Leave to construct approval will be required	-	-	-	-	-	-	-	0.3	8.2	45.3	125.9	377.8	154.7	184.0	-	/u
Other	727.6	756.2	789.4	758.6	747.5	904.9	880.1	1,120.1	1,247.1	1,054.7	1,329.7	1,246.0	1,252.1	1,208.2	1,279.5	/u
Total	1,089.2	1,706.7	1,627.8	1,152.4	932.5	1,087.4	1,007.2	1,310.8	1,402.9	1,427.2	1,470.2	1,623.8	1,406.7	1,392.3	1,279.5	/u

(1) Total capital expenditures excludes Panhandle Regional Expansion Project amounts of $34.2 million in 2022, $22.7 million in 2023, $194.9 million in 2024 and $6.7 million in 2025.

-

Table 2 - In-Service View of LTC and ICM Projects

$ millions	2014 Actual	2015 Actual	2016 Actual	2017 Actual	2018 Actual	2019 Actual	2020 Actual	2021 Actual	2022 Actual	2023 Bridge Year	2024 Forecast	2025 Forecast	2026 Forecast	2027 Forecast	2028 Forecast	
Granted leave to construct approval and approved as an ICM or Y-Factor						95.2	70.8	123.5	106.7	34.0	-	-	-	-	-	/u
Granted leave to construct approval only						52.7	90.8	64.3	7.8	332.7	13.8	-	-	-	-	/u
Leave to construct not required, project approved as an ICM or Y-Factor						-	-	-	-	-	-	-	-	-	-	
Leave to construct approval will be required						-	-	-	-	-	88.1	438.6	133.7	241.2	-	/u
Other						909.9	866.6	1,052.1	1,244.7	1,002.4	1,211.6	1,186.0	1,401.3	1,093.2	1,275.2	/u
Total	-	-	-	-	-	1,057.8	1,028.2	1,239.9	1,359.3	1,369.1	1,313.6	1,624.7	1,535.0	1,334.4	1,275.2	/u

(1) In-service actuals in detail are not available for 2014-2018
(2) Excludes in-service additions for PREP of $252M in 2024 and $6.8M in 2025.

Distribution steel mains provide gas to some of the oldest and most populated parts of the EGI franchise area, including the downtown cores of Toronto, Hamilton, London and Ottawa. Over time, urban encroachment and infrastructure activities supporting municipal growth have impacted the condition and consequences associated with potential asset failures. In urban areas, challenges exist in ensuring adequate cathodic protection due to interference from subway, streetcar, and light-rail transit systems.

5.2.3.4.1.1 Condition Methodology

The condition methodology of distribution steel mains is common across its asset subclasses and determined through:

- **Maintenance programs:** These programs (such as Leak Survey and Cathodic Protection) monitor asset conditions and restore assets to their functional state.
- **Condition assessment programs:** These programs (such as integrity assessments and Quality Material Equipment Reports (QMER) identify and assess the failure mechanisms of EGI's assets.
- **Tacit knowledge (subject matter advisors [SMAs] / worker input):** Field knowledge is used to identify potential condition issues through regular meetings with SMAs.
- **Reliability modelling:** One of the major hazards to steel mains is corrosion. A reliability model accounting for pipe attributes has been developed through the Asset Health Review (AHR) operating process under DIMP to forecast the number of corrosion leaks based on statistical analysis of corrosion leak history (including factors that accelerate degradation).

5.2.3.4.1.2 Condition Findings

5.2.3.4.1.2.1 Steel Mains

Based on the condition assessment methodologies outlined in the previous section, **Table 5.2.3-3** outlines the condition findings generally associated with assets in the Steel Mains (Pre- and including 1970) asset subclass.

Table 5.2.3-3: Condition Findings for Steel Mains (Pre- and including 1970)

Issue	Description
Corrosion	Over time, coating degradation and poor cathodic protection can cause corrosion, resulting in wall loss. Some components that are particularly susceptible to corrosion are: bare and unprotected steel mains, isolated steel mains and headers, and mains with vintage coatings – for example, coal tar coatings can disbond and cause shielding. Below-grade threaded connections are also susceptible to corrosion. Bare and unprotected failures (see **Figure 5.2-7**) are corrosion-driven and directly tied to lack of coating and cathodic protection.
Bridge Crossing: Corrosion	Continuous exposure to road salt and seasonal ground movement on bridge-crossing assets can result in accelerated corrosion and external loading/stresses (see **Figure 5.2-9**).
Pipe Casing: Corrosion	Casings may cause a short with the carrier pipe if the spacers or internal integrity of the casing degrades over time. Many casings in the EGI network lack test points, preventing monitoring for shorts.
Compression Couplings: Corrosion	Compression couplings on steel mains can be susceptible to external corrosion and lead to an increased risk of leaks.
Compression Couplings: Pull-Out	Compression couplings (mechanical fittings not welded onto the main) that are not properly restrained can cause a loss of containment due to exposed points of thrust. Compression couplings are held in place by the weight of the soil. When the soil is disturbed, the pipe can pull out of the fitting, resulting in gas escaping through the open pipe end. Some vintage gas mains (such as the Kipling Oshawa Loop [KOL] main) do not have sufficient records identifying the existence and location of these fittings. EGI has mitigation practices in place to address existing known compression couplings.

Issue	Description
Seam Welds	Manufacturing defects associated with seam welds and fittings are weak points in the distribution system and can result in a loss of containment due to prolonged exposure to stress and corrosion (see **Figure 5.2-10** and **Figure 5.2-11**). Low-frequency Electric Resistance Welded (ERW) pipe (used up to the early 1970s) can also pose a hazard through the potential of cold welds weakening bond lines leading to brittle-like failures. Defects in low-frequency ERW pipe welds have ruptured at operating pressures below 30% SMYS.
Geohazard	Geohazards are earth conditions that pose hazards to the public or their activities. The cause of the hazard may be natural or spurred by human activities. The following are integrity issues relating to Geohazard risks at EGI: spanning/ loss of support, deformation, overloading, and stretching/compression. These risks are accentuated by melting of ice sheets, landscape erosion by running water, landform by highly compressible organic soils, shoreline coastal erosion, and landslides, etc.
Depth of Cover	Reduction in the original depth of cover due to urban development or initial poor depth of cover due to construction practices at the time of installation can increase the potential for damages due to excavation activities and increased external loading. A minimum depth of cover is needed to ensure the maximum weight of vehicles traversing across pipelines is not exceeded. If the depth of cover is not appropriate, excessive pipe stress and failures can result (see **Figure 5.2-8**).
Aerial Crossings (Union)	Aerial crossings are segments of unsupported steel pipe that span water crossings and ditches. These are from legacy construction practices from the Union distribution network; and over time, the condition of these aerial crossings has degraded. Since they are aboveground pipe segments, the cathodic protection barrier is not effective, so corrosion initiation sites are able to progress unchecked (see **Figure 5.2-14**). The coatings have degraded over time as well; erosion in many locations has increased unsupported spans (see **Figure 5.2-15**). There may also be mechanical couplings present that can experience pull-outs with ground movement (see **Figure 5.2-13**). Third-party damages continue to be problematic for these exposed pipe segments.
Third-Party Damage: Appurtenances on Pipe	Any appurtenances which protrude from the surface of the main are susceptible to damage during excavation activities, as their depth of cover may be significantly less than that of the main. Steel drips (see **Figure 5.2-12**:) with a protruding drip rod that extend vertically towards the surface and shallow blow-off valve assemblies are examples.
Latent Third-Party Damage	Unreported, latent damages to pipe coatings can become active corrosion sites and can reduce the effectiveness of the corrosion protection system, resulting in accelerated corrosion and potential loss of containment.

Figure 5.2-7: Bare and unprotected steel failures

Figure 5.2-8: Shallow and embedded gas main due to road grade change

Figure 5.2-9: Severe corrosion on bridge-crossing pipe

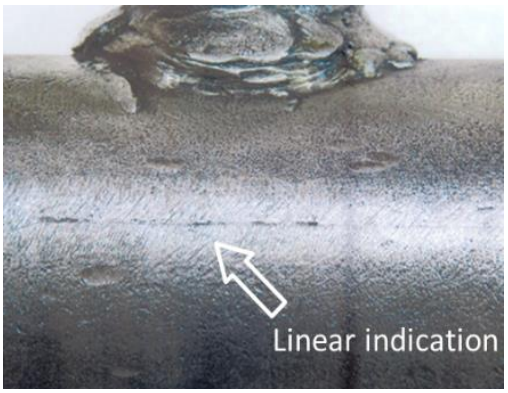

Figure 5.2-10: Vintage NPS 2 steel main with linear indication along weld seam

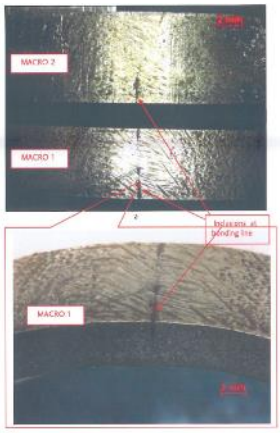

Figure 5.2-11: Inclusion at pipe weld seam on vintage NPS 2 gas main

Figure 5.2-12: Damaged drip rod on vintage NPS 2 gas main

Figure 5.2-13: Aerial crossing with exposed mechanical fitting

Figure 5.2-14: Coating degradation and corrosion pitting

Figure 5.2-15: Erosion increasing the unsupported length of an aerial crossing

Failure history for the Steel Mains (Pre- and including 1970) population is shown in **Figure 5.2-16** and **Figure 5.2-17** for the EGD and Union rate zones respectively.

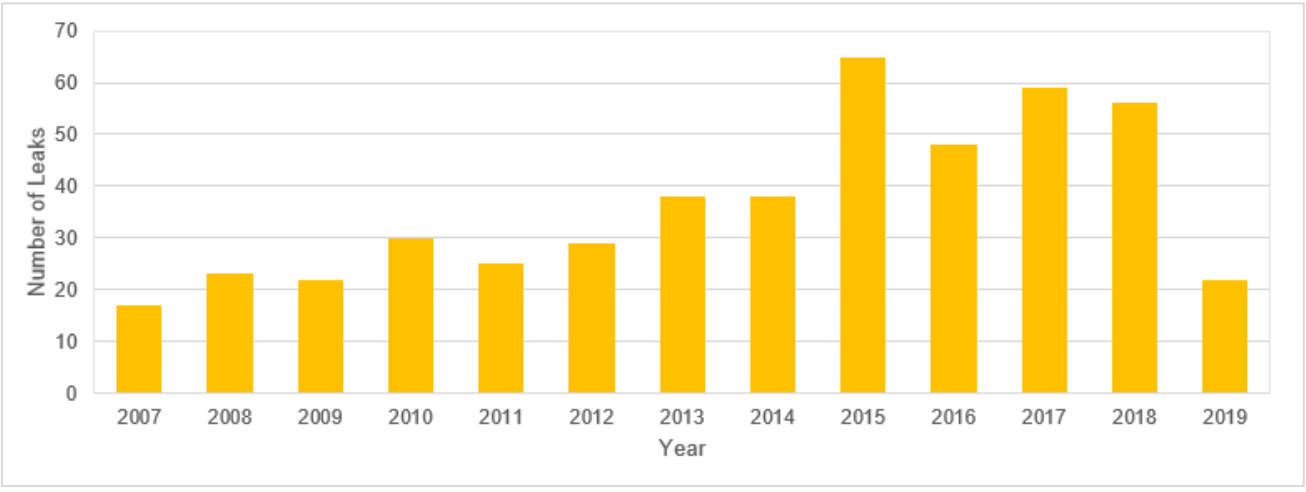

Figure 5.2-16: Corrosion Leak History: Steel Mains (Pre- and including 1970) - EGD Rate Zone

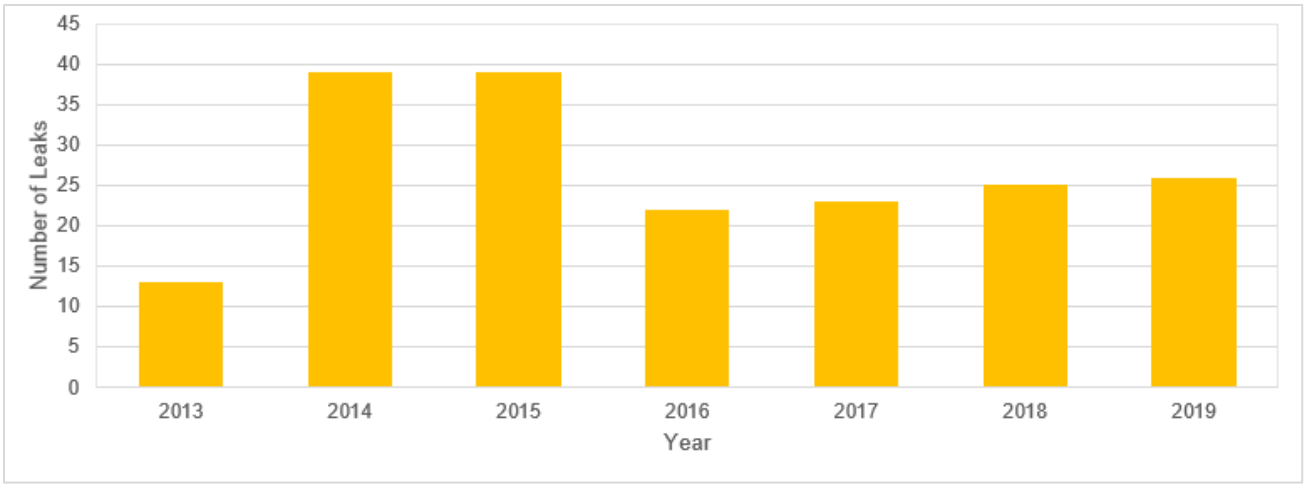

Figure 5.2-17: Corrosion Leak History: Steel Mains (Pre- and including 1970) - Union Rate Zones

The failure history is shown over the 2007 to 2019 timeframe for the EGD rate zone (see **Figure 5.2-16**) and between 2013 and 2019 for the Union rate zones (see **Figure 5.2-17**). Irregularities are most likely due to the mix of assets being leak-surveyed in a given year and the survey cycle. The survey is optimized for geography for efficient execution, rather than leveling the number of leaks found. Note additional differences in the origins of these two charts:

- **EGD Rate Zone**: Leak repair data was analyzed to classify leaks to the failure type (i.e., leak), failed component (i.e., pipe) and failure cause (i.e., corrosion), as part of reliability modelling within DIMP.
- **Union Rate Zones**: Leak repair data was analyzed for location (i.e., above-grade vs below-grade), operating pressure, pipe diameter and others. Open leaks (i.e., C-leaks) are excluded from this data set.

As the analytics practices are aligned for reliability modelling within DIMP, the trends and predictions will evolve and become increasingly reliable.

Reliability modelling within DIMP is used to project the annual number of leaks on steel mains (pre- and including 1970) over the next 20 years (see **Figure 5.2-18** and **Figure 5.2-19**). Projections assume no change to maintenance practices (namely, that most steel main leaks are mitigated via repair within a relatively short period of time and a small number of leaks are eliminated when the pipe is replaced).

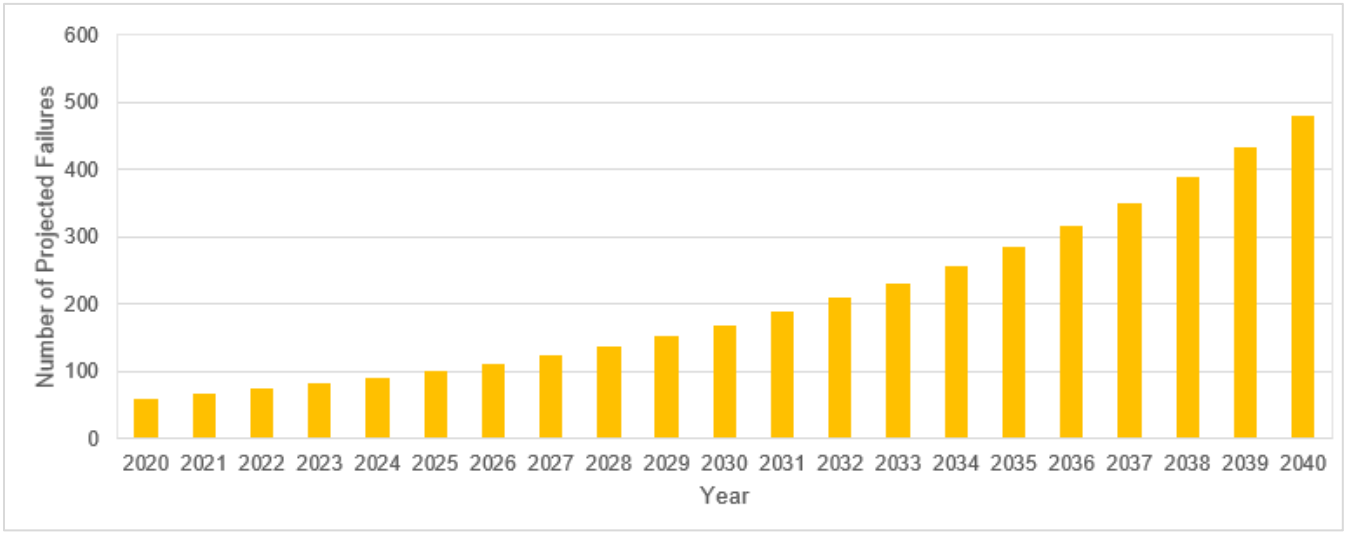

Figure 5.2-18: Corrosion Leak Projections for Steel Mains (Pre- and including 1970) - EGD Rate Zone

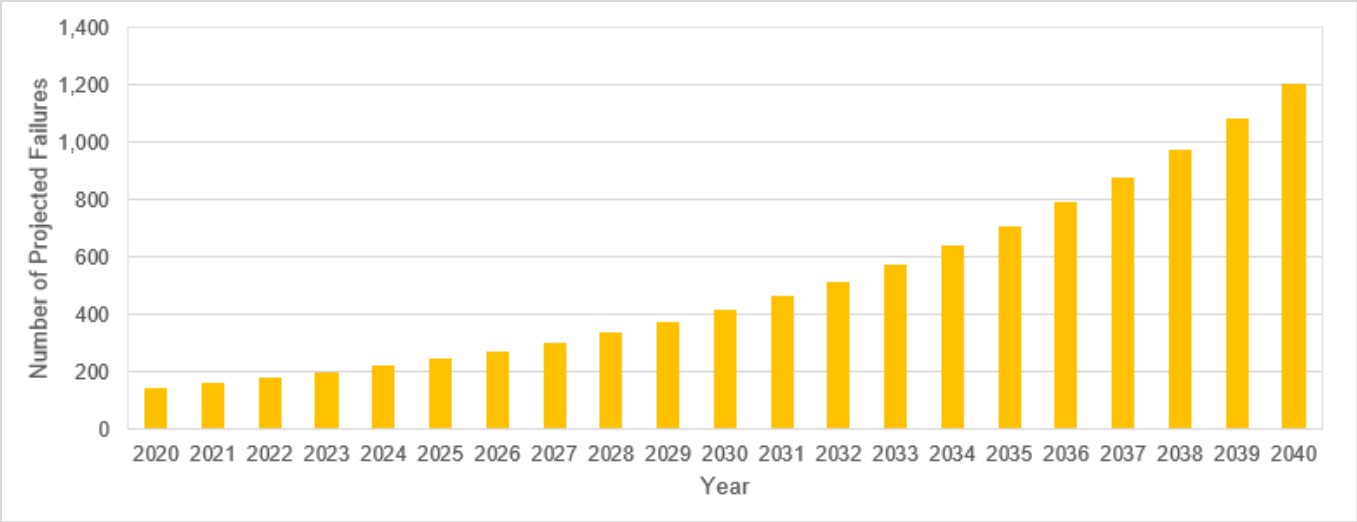

Figure 5.2-19: Corrosion Leak Projections for Steel Mains (Pre- and including 1970) - Union Rate Zones

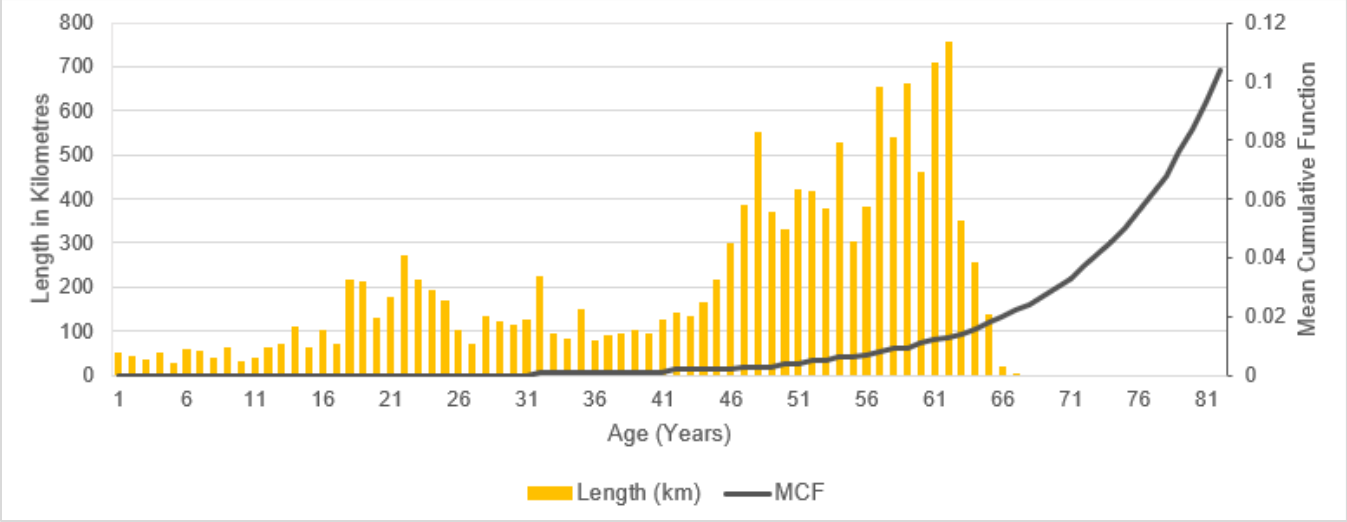

Figure 5.2-20: Steel Mains Population vs. Mean Cumulative Function for Corrosion Leaks - EGD Rate Zone

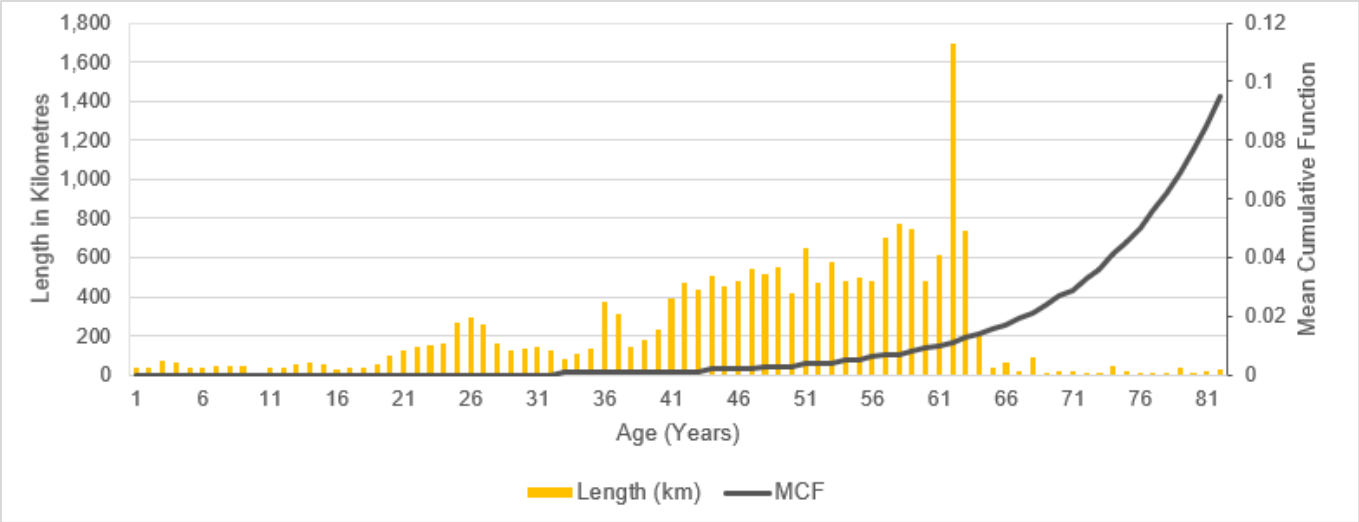

Figure 5.2-21: Steel Mains Population vs. Mean Cumulative Function for Corrosion Leaks - Union Rate Zones

The steel main reliability model forecasts the number of annual leaks will increase steadily over the next 20 years. **Figure 5.2-18** and **Figure 5.2-19** show the predicted cumulative number of corrosion-based leak failures of pipe for a given age. By 2040, the number of leaks will have increased by approximately tenfold. This represents an exponential growth in the number of leaks.

The significant increase in corrosion leaks is forecast to take place as a portion of the mains population approaches 100 years of age. This occurs between 2037 and 2057. **Figure 5.2-20** and **Figure 5.2-21** show a sharp increase in failures that could be due to multiple coating defects along the pipe body and/or poor cathodic protection history. Coating defects can result from manufacturing defects, field-applied coating anomalies, coating degradation from environmental factors or latent third-party damage.

Pipe coatings used on steel mains (pre- and including 1970), like coal tar and field-applied coatings such as mastic wrap, can get brittle over time and are susceptible to cracking and disbondment, allowing for corrosion to occur. As an example of a corrosion failure, **Figure 5.2-22** to **Figure 5.2-25** show a leak repair on a 12-inch vintage steel main located in downtown Toronto. This steel main was installed in the 1960s, showing the use of mechanical fittings (i.e., compression couplings) to join gas mains together using a fabricated fitting (i.e., steel cross).

EGI continues to monitor the asset health of steel mains and updates its reliability models with best available information to determine the appropriate mitigating action. Failure data from repair work orders and field observations made during steel main repairs and other maintenance activities show that vintage steel mains have demonstrated a more rapid decline in health compared to steel mains installed after the 1970s. This is attributed to material specifications, construction, past damage prevention practices and latent damage (such as coating damage) from third-party construction activities near the mains.

Figure 5.2-22: Leak investigation on vintage NPS 12 gas main

Figure 5.2-23: Detail of fabricated fitting after removal

Figure 5.2-24: Multiple leaks due to severe corrosion on vintage NPS 12 gas main

Figure 5.2-25: Multiple leaks on vintage NPS 12 gas main

Figure 5.2-26 shows that for the EGD rate zone, about 70% of recorded steel main corrosion leaks in the past 13 years are from pipe installed before 1970. **Figure 5.2-26** also displays the failures normalized by pipe length for EGD confirming that corrosion leaks per kilometre are disproportionately higher than those on post-1970 pipe.

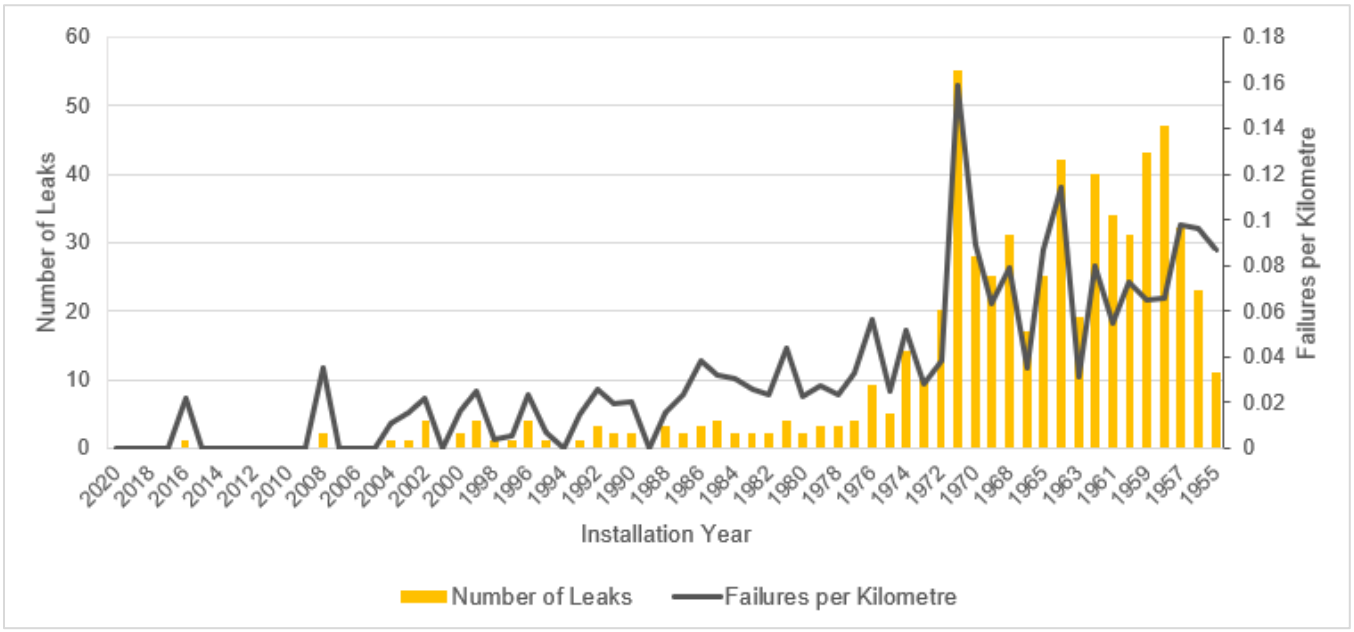

Figure 5.2-26: Steel Main Corrosion Leaks on Pipe Installed from 1955 to 2020 - EGD Rate Zone

5.2.3.4.1.2.2 Copper Services

Copper services were installed from 1960 to 1979 in the EGD rate zone only. Typical issues associated with these assets include leaks, circumferential cracks and choked flow due to buildup of corrosion by-product, resulting in the interruption of gas service. Degradation mechanisms for copper services include galvanic corrosion in the vicinity of the copper service connection to the main, external corrosion at above- and below-ground transitions and internal corrosion (also known as erosion corrosion), which causes thinning of the service wall over time.

Annual failure rates for copper services are steadily increasing. Highest-risk copper services have been removed from the system and any remaining copper services now require replacement to prevent future failures.

5.2.3.4.1.3 Risk and Opportunity

Distribution pipe provides natural gas services to EGI's customers and runs down the streets of most residential, commercial, and industrial neighbourhoods in close proximity to buildings and dwellings.

Steel mains are susceptible to external corrosion when barriers of pipe coatings and cathodic protection are compromised. Underground corrosion leaks can migrate to nearby structures and create gaseous environments. Leaks on steel mains in densely populated areas pose a greater risk than in suburban settings, as the ground surface is often paved across the entire width of the street, leaving no openings for escaping natural gas to vent to the atmosphere. In these cases, the path of least resistance can be underground infrastructure. Gas can migrate through these channels into buildings, creating a gaseous and potentially explosive environment for customers and the public. Corrosion leaks through pinholes are the common mode of failure for steel mains.

5.2.3.4.1.3.1 DIMP Risk Model

Understanding the condition and risk of the distribution pipe system has long been an industry struggle due to the vast number of assets (for EGI, this is over 32,802 km of steel mains of which over 17,423 km are Vintage Steel Mains) and the complexities associated with the distribution network geographically. According to CSA Z662 Clause 10.3.1:

> The pipeline system integrity management program required by Clause 3.3 shall include procedures to monitor for conditions that can lead to failures, to eliminate or mitigate such conditions, and to manage integrity data. Such integrity management programs shall include a description of operating company commitment and responsibilities, quantifiable objectives, and methods for:
>
> a) assessing risks
>
> b) identifying risk reduction approaches and corrective actions
>
> c) implementing the integrity management program; and
>
> d) monitoring results.

To provide insight into the Distribution Pipe system risk, EGI has recently developed a DIMP Risk Model, that adopts an analytical platform (PiMSlider) from TIMP to combine the Asset Health Review operating process reliability models (specifically the corrosion failure model for steel mains) with a geospatially-assessed consequence of failure to produce risk for each distribution main. The analytical process dynamically segments pipelines based on changes to factors (such as changes in population density, Ontario building footprints and Municipal Property Assessment Corporation [MPAC] property assessment data) that impact the consequence of a failure (in this case, the failure is a below-grade corrosion leak). The analytics follow an event tree format to assess the likelihood of several consequence streams, then aggregate all contributions into a risk value for the main. These analytics are performed systemically for all mains. The risk results can then be outputted as data tables and can be graphically represented on a GIS format map view (see **Figure 5.2-27**).

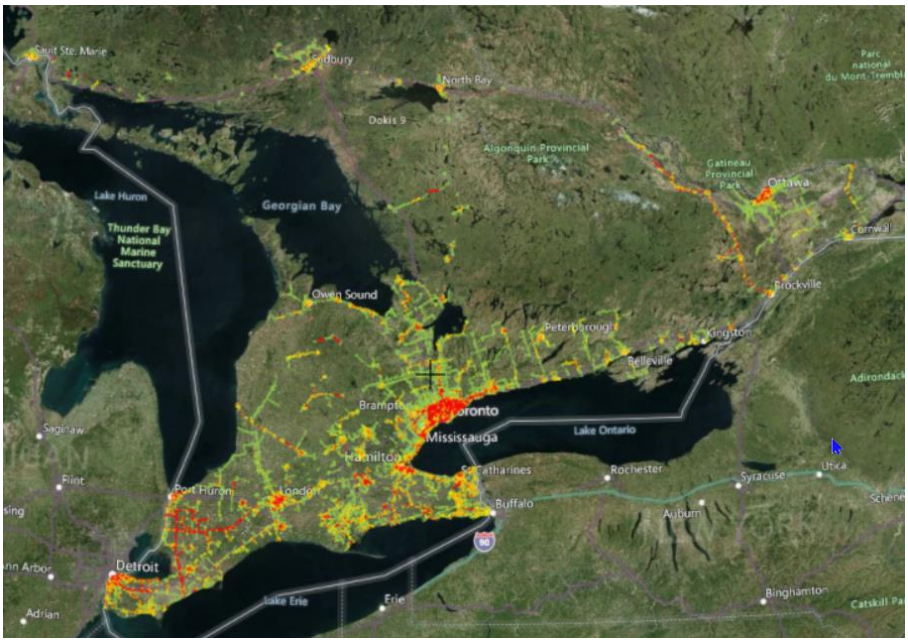

Figure 5.2-27: DIMP Risk Model output showing EGI Distribution Steel Pipe Relative Ranked Risk

Figure 5.2-27 shows the results from the DIMP Risk Model for the EGI Steel Distribution pipe system, where predicted risk is a result of combining the likelihood of a corrosion failure with the consequence of that failure. The map shows a **heat map** colouring scheme (i.e., red, orange, yellow, green) where assets are assigned a relative risk ranking based on the risk of a specific main as compared to the population. Mains coloured red represent assets with the highest predicted risk for the population. Green-coloured mains represent assets with the lowest predicted risk for the population. The colour-coded outputs assist the user to identify steel mains that pose the highest-predicted relative risk for the population. The platform allows the user to create systemic risk views for current or future years, based on the reliability curves from the Asset Health Review Reliability Models. **Figure 5.2-27** shows the predicted relative risk of steel mains in 40 years for the EGI Distribution network.

As previously discussed and demonstrated the pre- and including 1970 Vintage Steel population is expected to experience increased corrosion based failures in the near future, creating increased risk for EGI, possible reductions in reliability and service for EGI's customers, and increased Greenhouse Gas (GHG) emissions. As the number of leaks grows over time, there is a risk to EGI's ability to respond to emergency calls and manage operational costs.

5.2.3.4.1.3.2 Copper Services

Copper service lines (underground gas infrastructure close to a building) pose another risk; a service leak may have a more direct path to the building foundation, increasing the chance of migration. Natural gas migrating into a building has the potential of creating a gaseous and potentially explosive environment, which poses safety and property risks.

The consequences of these failures are dependent on the proximity of the service to building premises, number of linear assets in the vicinity, foundation integrity and surface structures (soft/hard street surface). These consequences are then quantified and evaluated by translating the condition and leak projection to risk. This evaluation indicates that as the failure rate increases, so does cumulative asset risk. Other risks that are associated with pipe failures are relight costs, regulatory penalties, GHG emissions and customer outages.

5.2.3.4.1.3.3 Aerial Crossings

Aerial crossings are segments of unsupported steel pipe that span water crossings and ditches. These are from legacy construction practices from the Union distribution network; and over time, the condition of these aerial crossings has degraded. Since they are aboveground pipe segments, the cathodic protection barrier is not effective; so, corrosion initiation sites are able to progress unchecked. The coatings have degraded over time as well; erosion in many locations has increased unsupported spans. There may also be mechanical couplings present that can experience pull-outs with ground movement. Third-party damages continue to be problematic for these exposed pipe segments.

The risk for these degrading unsupported aerial crossings is through corrosion leaks, third-party damages, environmental damages from fallen trees or waterborne debris, potential pipe failures due to mechanical fitting pull-out, or potential pipe failure due to unsupported stress to the pipe. Some of these mains supply a significant number of downstream customers, so a failure could result in loss of gas supply for these customers while repairs are performed.

Failures as described above are increasing as these degradation factors have fueled the deterioration of these pipe segments. Some recent failures have resulted in loss of gas supply to hundreds of customers.

5.2.3.4.2 DISTRIBUTION STEEL PIPE POST-1970

The Distribution Steel Pipe Post-1970 asset subclass consists of mains (along with associated services and components) installed after 1970 and covered by the Distribution Integrity Management Program (DIMP). In this portfolio, the steel pipeline system consists of approximately 15,381 km of steel mains for EGI (see **Figure 5.2-5** and **Figure 5.2-6**). This pipe was generally constructed with improved materials and construction practices and is performing well. These mains operate at different pressure classes, ranging from low pressure to extra-high pressure.

Although post-1970 steel mains are exposed to many of the same hazards as steel mains from 1970 and earlier, their materials, coatings and construction practices have enabled the primary corrosion barriers of pipe coating and cathodic protection to be more effective, resulting in fewer corrosion-based leaks as shown in **Figure 5.2-24**.

5.2.3.4.2.1 Condition Methodology

See **Section 5.2.3.4.1.1**.

5.2.3.4.2.2 Condition Findings

These mains are exposed to some of the same issues as steel mains from 1970 and earlier (see **Table 5.2.3-3**). However, some issues (such as unrestrained compression couplings) do not apply due to different design and construction practices and other issues (such as corrosion) are better mitigated as a result of better construction practices, maintenance practices and materials. Corrosion-based leak history for the post-1970 distribution steel pipe population for the EGD and Union rate zones is shown in **Figure 5.2-28** and **Figure 5.2-29** respectively.

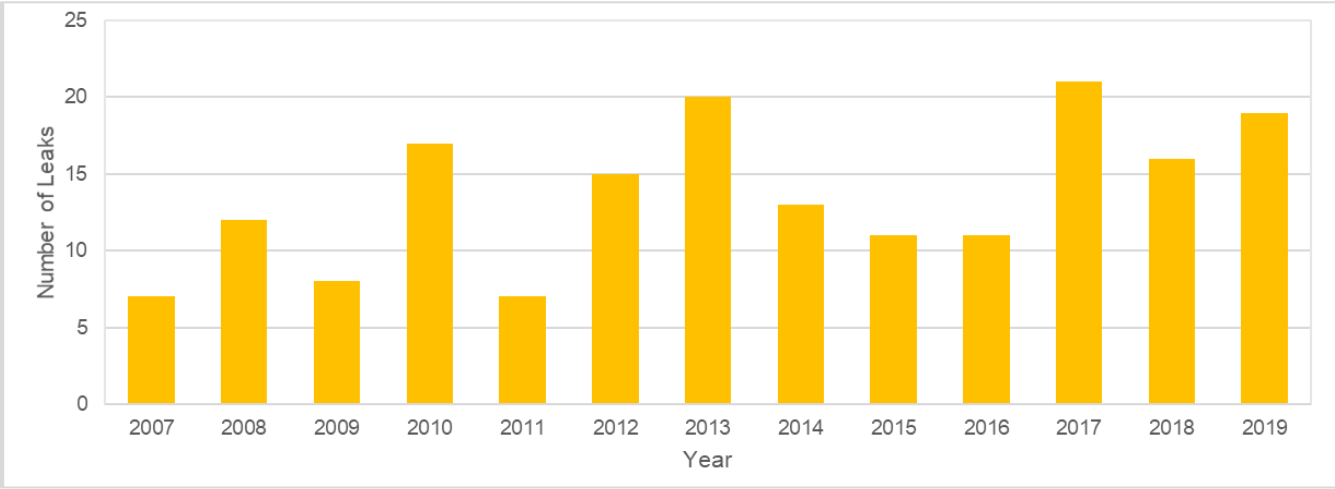

Figure 5.2-28: Historical Steel Main Corrosion Leaks (Post-1970) – EGD Rate Zone

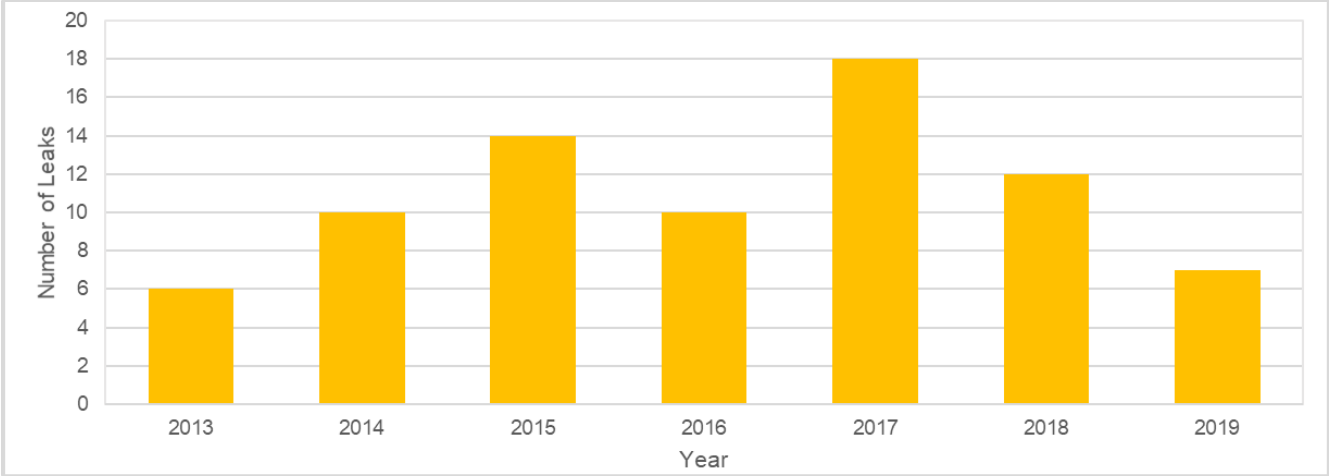

Figure 5.2-29: Historical Steel Main Corrosion Leaks (Post-1970) – Union Rate Zones

5.2.3.4.2.3 Risk and Opportunity

As demonstrated by the projected leak trends in **Figure 5.2-30** and **Figure 5.2-31**, the post-1970 steel mains population is performing well and is expected to continue to perform well in future years, with leak rates that do not pose a significant risk. Mains are in good condition, associated with adequate cathodic protection and good coating performance. However, some hazards (third-party latent damages and environmental conditions) may accelerate degradation and result in leaks. These carry the same risks noted for pre- and including 1970 steel mains (see **Section 5.2.3.4.1**), including supply interruption to customers and greenhouse gas emissions associated with an uncontrolled gas release. As well, gas can migrate into buildings, creating a gaseous and potentially explosive environment for customers and the public.

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

DECISION AND ORDER

EB-2020-0293

ENBRIDGE GAS INC.

St. Laurent Ottawa North Replacement Project

BEFORE: Anthony Zlahtic
Presiding Commissioner

Emad Elsayed
Commissioner

May 3, 2022

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

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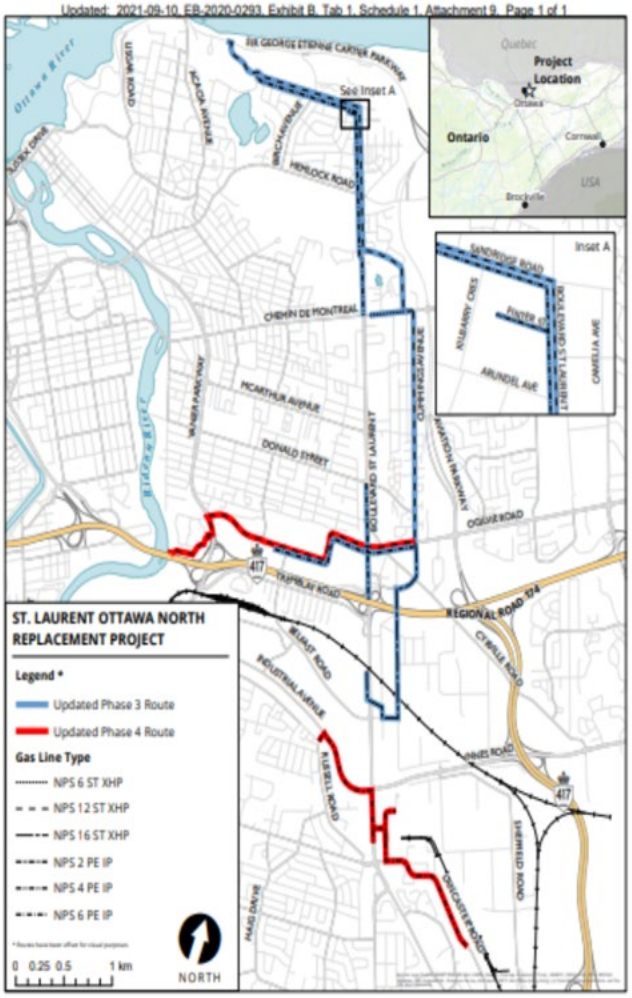
1 OVERVIEW

On March 2, 2021 Enbridge Gas Inc. (Enbridge Gas) filed an application under section 90 of the *Ontario Energy Board Act*, *1998*, S.O. 1998, c. 15, (Schedule B) (OEB Act) seeking an order granting leave to construct approximately 19.8 kilometres of natural gas pipeline and associated facilities in the City of Ottawa (Project). The application is for Phases 3 and 4 of a four-phase project to replace the St. Laurent Pipeline based on integrity issues identified by Enbridge Gas (St. Laurent Ottawa North Pipeline). Phases 1 and 2 have been completed and are in service. The general location of the Project is represented on the map below.



The proposed natural gas pipeline would replace portions of the existing St. Laurent Ottawa North Pipeline in the two final phases of the multi-year project. The OEB's determination on Phases 3 and 4 will not impact the functioning of Phases 1 and 2. Enbridge Gas has also applied under section 97 of the OEB Act for approval of the form of land-use agreements it has offered or will offer to landowners affected by the route of the Project.

Enbridge Gas's expected In Service Dates (ISD) are December 2022 and December 2023 for Phase 3 and Phase 4 respectively. Based on a request for leave to construct approval no later than February 2022, construction was planned to start in March 2022 and March 2023 for Phase 3 and Phase 4 respectively.

For the reasons provided in this Decision and Order, the OEB denies Enbridge Gas's leave to construct application. The OEB finds that the need for the Project and the alternatives to the Project have not been appropriately assessed. Enbridge Gas has not demonstrated that the pipeline integrity is compromised, and that pipeline replacement is required at this time. The OEB urges Enbridge Gas to thoroughly examine other alternatives such as the development and implementation of an in-line inspection and maintenance program using available modern technology, and propose appropriate action based on its findings as part of its next rebasing application.

2 PROCESS

The original Notice of Hearing for this application was issued by the OEB on March 19, 2021. Each of Energy Probe Research Foundation (Energy Probe), Environmental Defence Canada Inc. (Environmental Defence), Federation of Rental Housing Providers of Ontario (FRPO), Industrial Gas Users Association (IGUA), Pollution Probe and School Energy Coalition (SEC) applied and were granted intervenor status and cost eligibility.

On May 5, 2021, the OEB placed Enbridge Gas's application in abeyance to allow Enbridge Gas to adjust a segment of the proposed pipeline route. The route adjustment was required in response to issues raised by the Ministry of Transportation (Ministry). On August 11, 2021, Enbridge Gas filed a letter informing the OEB that after discussions with the Ministry and the Royal Canadian Mounted Police (RCMP), Enbridge Gas had arrived at mutually acceptable modified route to run within RCMP's property near Vanier Parkway. On September 10, 2021, Enbridge Gas filed an updated application with the OEB.

The OEB issued a Notice of Hearing of the updated application on September 30, 2021. By letter dated October 1, 2021, the City of Ottawa applied for and was granted intervenor status.

The status of the previously approved intervenors remained in effect.

The OEB issued six procedural orders. Procedural Order No. 1 set the timeline for OEB staff and intervenor interrogatories and responses by Enbridge Gas. In Procedural Order No. 2 the OEB granted a request by Enbridge Gas for an extension of the deadline for interrogatory responses to December 13, 2021. Enbridge Gas filed the interrogatory responses on December 13, 2021.

On December 17, 2021, the OEB issued Procedural Order No. 3 which set the schedule for a transcribed Technical Conference, undertakings, written submissions by intervenors and OEB staff and written reply submission by Enbridge Gas. On December 21, 2021 the OEB issued Procedural Order No. 4 approving Enbridge Gas's request to extend the final written submission deadline from February 22, 2022 to March 3, 2022.

On December 17, 2021, SEC, on its own behalf and in collaboration with the City of Ottawa and Pollution Probe (collectively, the Sponsors), requested that the OEB allow the Sponsors to submit documentary evidence (Sponsors' Evidence), and produce a witness panel, to speak to the need, cost-effectiveness, and timing of the Project. On

January 13, 2022, the OEB issued Procedural Order No. 5 approving the Sponsors' request to file the evidence and setting a new schedule for the proceeding including filing the Sponsors' Evidence; responding evidence from Enbridge Gas; a transcribed Technical Conference; undertakings from the Technical Conference; written final arguments by intervenors and OEB staff; and written final argument by Enbridge Gas. According to the procedural schedule, the record of the proceeding would be completed by April 4, 2022 with the filing of Enbridge Gas's reply argument.

The Sponsors' Evidence was presented by the City of Ottawa and the Ottawa Community Housing Corporation (OCHC). The Sponsors' Evidence covered the actions and plans of these organizations to reduce their natural gas demand within the area served by the St. Laurent system.

The Technical Conference, which was scheduled to be completed on March 4, 2022 was extended to March 7, 2022. To provide for sufficient time for the remainder of the procedural steps, the OEB issued Procedural Order No. 6 extending the procedural schedule set out in Procedural Order No. 5. Responses to undertakings from the Technical Conference were filed on March 14, 2022. Intervenors and OEB staff filed written submissions on March 24, 2022. The last procedural step was Enbridge Gas's final argument filed on April 7, 2022. That submission completed the record for the proceeding.

3 DECISION

This decision is structured consistent with the standard Issues List for natural gas leave to construct applications, to address the following issues:

1. Need for the Project
2. Project Alternatives
3. Project Cost and Economics
4. Environmental Impacts
5. Landowner Agreements
6. Indigenous Consultation
7. Conditions of Approval

No party, with the exception of Energy Probe, fully supported the OEB's approval of the Project. The discovery and submissions by OEB staff and intervenors were focused on issues of need for the Project and on the Project alternatives.[1] The cost and economics were discussed in the context of the comparison of alternatives, and of the consequences of stranded (under-utilized) assets for ratepayers due to potential reduction of natural gas demand resulting from decarbonization and net-zero targets and policies under development. Energy Probe supported the OEB's approval of the Project as filed and submitted that Enbridge Gas provided sufficient evidence on each of the issues in the proceeding.

Environmental Defence, FRPO, IGUA, City of Ottawa, Pollution Probe, SEC, and OEB staff all suggested that the OEB deny the application and that repair of the existing pipeline as needed, including monitoring of the declining integrity, would be a more appropriate alternative to the Project. Some these parties and the OEB staff supported retrofitting the pipeline to allow for in-line inspection to facilitate repairs on a proactive, rather than reactive, basis. Summaries of the positions of parties are included in the sections below.

[1] No major concerns were expressed with environmental impacts, landowner agreements or Indigenous consultation related to the Project.

3.1 Need for the Project

Enbridge Gas submitted that the need for the Project is underpinned by the ongoing integrity decline of vintage steel distribution mains. According to Enbridge Gas, the replacement of these portions of the St. Laurent Ottawa North Pipeline is needed to manage the risk to the safe and reliable natural gas service to approximately 165,000 customers in the City of Ottawa and Gatineau.

In its reply submission, Enbridge Gas emphasized that the need for the Project has been demonstrated and that the pipeline replacement as proposed is the best alternative to address the declining integrity of the St. Laurent Ottawa North Pipeline. Enbridge Gas asserted that the need for the replacement has been "…properly assessed through a comprehensive review with substantial documented evidence and review by pipeline integrity experts."

Enbridge Gas submitted that the need for replacement must take into account both the evidence of declining integrity and the potential consequences, should a failure occur. Enbridge Gas identified the key characteristics that give the St. Laurent system a high risk profile: i) single source supplied system; ii) extra high operating pressure; iii) supplies natural gas to approximately 165,000 customers in the City of Ottawa and Gatineau including Ottawa Health Sciences Centre, Parliament Hill, University of Ottawa; iv) feeds 10 district stations, two large control stations, and several private header stations; v) location in high consequence urban area, densely populated and transit routes; vi) pipeline failure could result in loss of service for a large number of residential and commercial customers and cause a public safety risk. Based on these critical characteristics, Enbridge Gas maintained that the St. Laurent system is a critical infrastructure and that the operational risk should be addressed by replacement.

In formulating the findings on the need for the Project, the OEB considered the following issues:

- Integrity of the Existing Pipeline
- Assessment of Risk of Declining Integrity
- Predicted Likelihood of Leaks
- Severity of Consequences of Pipeline Failure

Integrity of the Existing Pipeline

As required by Canadian Standards Association (CSA) Standard Z662 – Oil and Gas Pipeline System standards, Enbridge Gas has been monitoring the condition of its pipeline systems and associated risks and is responsible for implementing an Integrity Management Program. Enbridge Gas's Distribution Integrity Management Program

(DIMP) and Asset Health Review (AHR) determined that vintage steel distribution mains installed in the 1970s and before have demonstrated declining health. This assessment included the St. Laurent Ottawa North Pipeline which Enbridge Gas is proposing to replace through this application.

According to Enbridge Gas, the declining condition of the pipelines was determined based on the results of system surveys and inspections, conducted at various locations between 2006 and 2018. These surveys and inspections included a ground penetrating radar integrity project (2006); field work on leak repairs (2013); integrity dig (2014); bridge crossing inspection (2016); depth of cover surveys (2017); and indirect inspection to assess cathodic protection, coating, and depth of cover (2018). The results of these surveys and inspections identified corrosion, dents, compression couplings, reduced depth of cover, and past deficient cathodic protection as pipeline conditions that create a risk to the integrity of St. Laurent system. Enbridge Gas currently does not have the necessary infrastructure to conduct an in-line inspection of the St. Laurent Ottawa North Pipeline to further assess its condition.

Enbridge Gas noted that the area served by the existing St. Laurent system is a single-source natural gas network serving thousands of customers, and that the consequences of a failure, depending on the severity of the damage or defect, could be severe. In the extreme, Enbridge Gas asserted that it could be faced with the need to shut down the pipeline entirely, causing a loss of service for thousands of customers.

Assessment of Declining Integrity

An assessment of risk is determined by considering the probability or likelihood of a pipeline failure event and the severity of consequences should this event occur. Enbridge Gas provided evidence on the probability of pipeline failures and the severity of the consequences were a failure to occur.

Enbridge Gas provided a qualitative risk assessment, in the Standard Operational Risk Matrix, of service shutdown due to corrosion issues for two periods, including a winter and a summer scenario: i) 20 years average risk (2021-2041); and ii) 40 years average risk (2021-2061).[2]

[2] Enbridge Gas Inc. response to interrogatory I.STAFF.4

Table 1:
20 years Average Risk for Service Shutdown due to Corrosion Related Issues

Impact Category	Winter Scenario	Summer Scenario
Financial	Medium	Medium
Health and Safety	Medium	Medium
Customer Loss	High	Medium
Stakeholder Concerns	Medium	Medium

Table 2:
40 years Average Risk for Service Shutdown due to Corrosion Related Issues

Impact Category	Winter Scenario	Summer Scenario
Financial	Medium	Medium
Health and Safety	Medium	Medium
Customer Loss	Very High	High
Stakeholder Concerns	Medium	Medium

Enbridge Gas assessed the average risk of customer loss as "high" or "very high" in the winter scenarios for the next 20 year and the next 40 year timeframes. Customer loss is defined as the potential for emergency service shutdown to repair leaks due to corrosion related issues. This risk rating was based on the combination of severity of the consequences of leaks and the likelihood of the occurrence of leaks. Enbridge Gas stated that based on its "…Risk Evaluation criteria, risks rated at or above "High" require risk treatment." [3]

Predicted Likelihood of Leaks

Enbridge Gas used its Asset Health Index (AHI) methodology to predict how the condition of the existing St. Laurent Ottawa North Pipeline would change over a forty-year time frame (if not replaced), and to project the number of leaks that may occur. The analysis showed a decline in asset health over time, and the projected number of leaks rising over multiple decades.

Enbridge Gas provided five AHI Pipe Asset Classes based on the predicted time to first or next failure[4] and used these classes to show a graph representing a declining health of the pipeline between 2021 and 2061[5]. The predicted time of the first or next failure is greater than 40 years for the period between 2021 and 2043. The graph shows that,

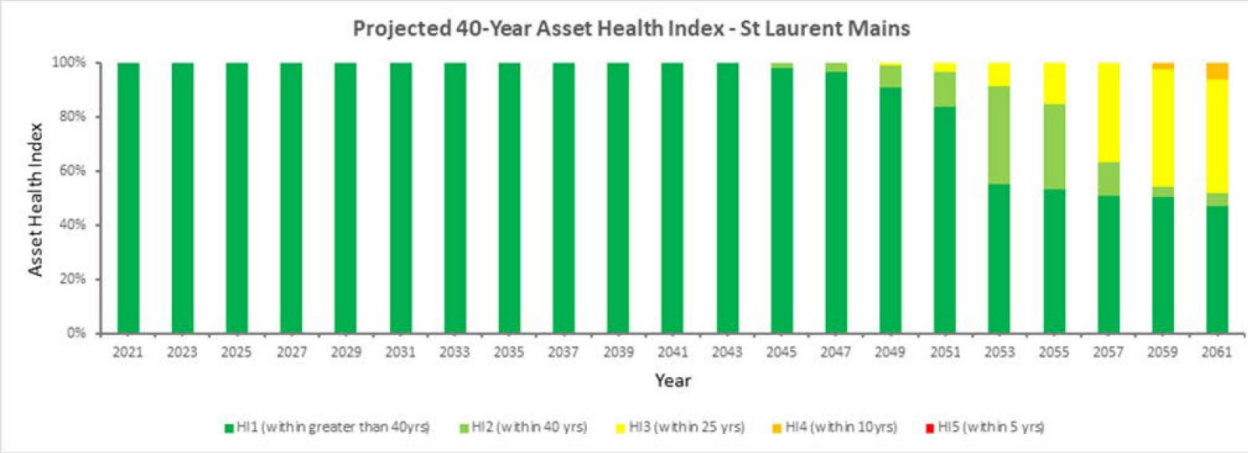
[3] Enbridge Gas Inc. response to interrogatory I.STAFF.4 c)
[4] Application, Tab 1, Schedule 1, page 41, Table 10 Asset Health Index (Pipe Asset Class)
[5] Application, Tab 1, Schedule 1, page 43, Figure 17:St. Laurent Pipeline Asset Health Index

starting in 2045, the projected time of the first or next failure become shorter and that the risk increases from 2045 to 2061.

Table 10: Asset Health Index (Pipe Asset Class)

HEALTH INDEX CATEGORY	TIME TO FIRST OR NEXT FAILURE
HI1	Greater than 40 years
HI2	Within 40 years
HI3	Within 25 years
HI4	Within 10 years
HI5	Within 5 years

Figure 17: St. Laurent Pipeline Asset Health Index



Regarding the prediction of the number of leaks, Enbridge Gas AHI model predicts 4.3 cumulative leaks by 2041. By 2051, it predicts 13 cumulative leaks, and by 2061, 36.8 cumulative leaks. Enbridge Gas's evidence showed that, by 2041, only an estimated 1% of these leaks (0.043 cumulative leaks) would potentially require pipeline isolation leading to customer disconnection. This is shown in table below. [6]

[6] Application, Exhibit B, Tab 1, Schedule 1, Table 11: Asset Health Index and Projected Cumulative Leaks, page 42

Table 11: Asset Health Index and Projected Cumulative Leaks

2041

Asset Health Index	Length (m)	Asset Count	Projected Leaks
HI1 (within greater than 40yrs)	13418.3	167	
Grand Total	**13418.3**	**167**	**4.3**

2051

Asset Health Index	Length (m)	Asset Count	Projected Leaks
HI1 (within greater than 40yrs)	8552.2	140	
HI2 (within 40 yrs)	3592.7	22	
HI3 (within 25 yrs)	1273.4	5	
Grand Total	**13418.3**	**167**	**13.0**

2061

Asset Health Index	Length (m)	Asset Count	Projected Leaks
HI1 (within greater than 40yrs)	4714.1	79	
HI2 (within 40 yrs)	112.8	8	
HI3 (within 25 yrs)	7258.9	70	
HI4 (within 10yrs)	1332.5	10	
Grand Total	**13418.3**	**167**	**36.8**

As for past occurrences, Enbridge Gas indicated that it had one corrosion-related leak in the St. Laurent system in the past 10 years. This leak was repaired by way of a cut-out of an 8 metre segment of the pipeline at a cost of $151,550.47. Enbridge Gas also indicated that in the past 10 years, there had been other repairs to the pipelines in the St. Laurent system due to corrosion that did not result in a leak (loss of containment).[7]

Enbridge Gas estimated that roughly 1% of the system leaks predicted by its AHI model could trigger a scenario where it would have no option but to isolate the pipeline and disconnect customers. Enbridge Gas noted that this was an order-of-magnitude estimate only, and the approach to repair a leak would be entirely dependent on the specific circumstances of any given leak.[8]

Enbridge Gas confirmed that it has not experienced any catastrophic failures (complete ruptures of the pipeline) on any pipelines similar in nature to the St. Laurent pipeline system.[9]

[7] Enbridge Gas Inc. response to interrogatory I.FRPO.14
[8] Tech Conference Day 1, pp. 209-212. Exhibit JT 1.26
[9] Exhibit JT 1.9

Enbridge Gas also indicated that the complete shutdown to repair a leak is assessed as a “rare event”, not a high probability event.

Severity of Consequences of Pipeline Failure

Enbridge Gas modelled two scenarios describing the consequences of pipeline failure which would trigger a complete service shutdown and an emergency response. The first scenario models the consequences of a service shutdown at 47 Degree Day (corresponding temperature of -29C). The second scenario presents the consequences of a shutdown at 1 Degree Day (corresponding temperature of 17C). The tables below from the Enbridge Gas evidence include projections of customer losses by customer type under the two scenarios.[10]

Table 1: Customer Loss at 47 Degree Days by Customer Type

Customer Type	Number of Customers Lost: Enbridge Gas	Number of Customers Lost: Gazifère	Total Customers Lost
Residential	28,226	28,285	56,511
Apartment*	35	248	283
Commercial*	3,345	2,037	5,382
Industrial	17	7	24
Total	**31,623**	**30,577**	**62,200**

*Commercial customers include some apartment customers due to building use.

Table 2: Customer Loss at 1 Degree Day by Customer Type

Customer Type	Number of Customers Lost: Enbridge Gas	Number of Customers Lost: Gazifère	Total Customers Lost
Residential	15,342	0	15,342
Apartment*	31	0	31
Commercial*	1,292	0	1,292
Industrial	11	0	11
Total	**16,676**	**0**	**16,676**

*Commercial customers include some apartment customers due to building use.

Under the 47 Degree Day scenario, customer loss would be 62,200 customers in Enbridge Gas’s and Gazifere’s franchise areas. Under the 1 Degree Day scenario, customer loss would be 16,676 customers in Enbridge Gas’s franchise area and no loss in Gazifere’s franchise area.

[10] Exhibit B, Tab 1, Schedule 1, pages 7-13, paragraphs 13-22: Consequences of Failure; page 10, Table 1: Customer Loss at 47 Degree Days by Customer Type; and page 12, Table 2: Customer Loss at 1 Degree Day by Customer Type

The estimated cost associated with such an event in the Enbridge Gas franchise area in the 47 Degree Day scenario is $54M (Enbridge Gas estimated the cost of repair in the Gazifere franchise area to be $37M). Under the 1 Degree Day scenario, Enbridge Gas estimated the cost of an event to be $22M in its franchise area. Most of the cost estimates provided by Enbridge Gas for the two scenarios would be attributable to projected customer claims due to loss of service.[11]

Positions of Parties

The City of Ottawa submitted that the evidence on the integrity of the existing pipeline is contradictory. The City of Ottawa recommended that "…provided that integrity issues are not an immediate significant concern" the OEB should consider not approving the Project. The City of Ottawa noted that its Energy Evolution Plan, which would contribute to lowering demand for natural gas, should be considered and that not approving the Project would have benefits such as reducing the impact on local businesses, allowing the transition to a lower natural gas demand, continuing to monitor the integrity of the St. Laurent Ottawa North Pipeline, and allowing for natural gas infrastructure planning integrated with the Energy Evolution Plan.

FRPO's view was that Enbridge Gas's evidence was lacking sufficient technical information (i.e. disclosure of the potential for robotic inspection) to demonstrate that the pipeline is in poor condition and that the replacement is urgently needed. FRPO stated that risk and consequences of failure and outage to the customers were exaggerated. FRPO urged the OEB to deny the application and "…order EGI to perform enhanced in-line inspection and maintenance and report findings as part of its rebasing application".[12]

IGUA submitted that the OEB should carefully consider whether Enbridge Gas has established that the integrity of the existing pipeline is "compromised and full replacement is required at this time".[13] IGUA highlighted the inelasticity of natural gas demand of large industrial customers (compared to residential and commercial), and barriers to their conversion from natural gas indicating that increasing access to natural gas may be part of decarbonization transition for the industrial customers. IGUA is concerned with "…exposure to stranded 'small pipe' assets" such as the potentially under-utilized St. Laurent Ottawa North Pipeline should the trends of reduced demand continue as part of wider decarbonization programs. IGUA noted a risk of higher natural

[11] Enbridge Gas Inc. in response to I.FRPO.25
[12] FRPO Written Submission, March 21, 2022, page 1
[13] IGUA Written Submission, March 24,2022

gas costs to its members who are, in IGUA's words, captive customers, because of the inelasticity of their demand for industrial processes and manufacturing.

Pollution Probe recommended that the OEB reject the Project, stating that the need for a replacement has not been supported by Enbridge Gas's evidence on declining integrity and safety risks.

SEC submitted that the OEB should deny the approval of the Project. SEC's position was that the need for replacement at this time was not supported by Enbridge Gas's evidence.

OEB Staff was not convinced that an immediate pipeline replacement was required. OEB staff noted that, based solely on the predicted likelihood of leaks, the urgency to address the integrity decline concerns did not appear high.

Findings

The OEB finds that Enbridge Gas has not demonstrated that the risk associated with the subject pipelines warrants complete replacement at this time. The issue of associated risk is addressed in this section. The issue of Project alternatives is addressed in the next section.

The risk of a catastrophic failure of the subject pipelines is a function of the probability of failure and the consequences of such failure. While Enbridge Gas may have demonstrated that a catastrophic failure of the pipelines could have severe consequences for its customers by virtue of their location in a densely populated urban area, the OEB finds that Enbridge Gas has not demonstrated that the likelihood of such failure warrants a replacement of these pipelines at this time.

This finding is based on Enbridge Gas's probabilistic analysis which predicted a small number of future leaks over the next 20 to 30 years and a very low likelihood of those leaks requiring pipeline isolation leading to customer disconnection. Enbridge Gas's predicted AHI shows that the subject pipelines would remain in the top (best health) category for at least 20 more years.

In its reply argument, Enbridge Gas downplayed the significance of its AHI statistical analysis stating that "the AHI analysis (and the resulting corrosion-related leak forecast) is derived not from known issues related to the St. Laurent Pipeline, but it is instead derived from a statistical analysis of a number of pipelines across Enbridge Gas's service territory and based upon a specific set of generalizing assumptions."[14] Enbridge Gas introduced and relied on the AHI analysis during the proceeding and did

[14] Enbridge Gas Reply Submission, page 21, para 41.

not describe these limitations in the original application. Given that Enbridge Gas only emphasized these limitations in its reply argument, the parties in this proceeding did not have an opportunity to challenge Enbridge Gas's claims about the AHI limitations and the weight that should be placed on the AHI results. The OEB also notes that the low actual historical incidence of corrosion-related leaks specific to the St. Laurent system (one such leak in the last 10 years) does not demonstrate that pipeline replacement is warranted at this time.

Enbridge Gas did indicate that the AHI information should be considered along with other information obtained from integrity digs and repairs on the St. Laurent Pipeline. Enbridge Gas stated that these other sources of information were excluded from the AHI as they could not be reliably translated into meaningful qualifiers at the time of assessments.

Enbridge Gas also indicated that the risk can be mitigated by increased leak survey frequency and regular monitoring of the pipelines.

The OEB suggests that Enbridge Gas take a proactive approach to inspecting and maintaining the subject pipeline until it can be demonstrated that pipeline replacement is necessary. This may include development and implementation of an in-line inspection and maintenance program using available modern technology as discussed in the next section. The evidence in this proceeding revealed that Enbridge Gas does not currently have the necessary infrastructure to carry out such in-line inspections in the St. Laurent Pipeline.

3.2 Alternatives to the Project

Enbridge Gas presented comparative assessments of alternatives to the Project including:

- Options to manage integrity decline risk: Retrofit Option and Repair Option
- Integrated Resource Planning Alternatives (IRPAs)
- Downsizing the pipeline in response to potential natural gas demand reduction in the future

Enbridge Gas did not accept the Retrofit Option or Repair Option as preferred alternatives to the Project because, in Enbridge Gas's view, these alternative options do not resolve the integrity issues and cause additional costs (the potential cost of ongoing repairs, and, for the Retrofit Option, the upfront cost of retrofit). Enbridge Gas

maintained that the proposed Project is the best alternative to meet the need to manage the declining integrity risks and ensure continuous safe and reliable service.

Enbridge Gas rejected IRPA as a viable alternative, as in its view, it does not address the integrity issue which is the underpinning need for the Project. Enbridge Gas also rejected the alternative of downsizing the pipeline in combination with demand reduction by IRPA or other programs and initiatives, on the basis that demand reduction sufficient to downsize the pipeline was not feasible within the short timeframe that the integrity concerns need to be addressed.

In reaching its conclusion regarding the evaluation of alternatives to the Project, the OEB considered the following options and issues:

- Retrofit Option
- Repair Option
- Sponsors' Evidence and City of Ottawa's Energy Evolution Plan
- Integrated Resource Planning Alternatives
- Downsizing the Pipeline due to Reduced Future Demand for Natural Gas

Retrofit Option

As an alternative to the Project, Enbridge Gas considered retrofitting the St. Laurent Ottawa North Pipeline to allow for in-line inspection. This would enable a more comprehensive assessment of the condition of the pipeline and potentially allow for a more proactive (rather than reactive) repair program. Enbridge Gas determined that the cost of retrofits and in-line filters needed to accommodate in-line inspection would be approximately $30.2 M.

Enbridge Gas rejected this alternative, noting that the retrofit would not resolve the integrity issues, with customers being exposed to the possibility of ongoing repair costs (in addition to the high capital cost of the retrofit), which could potentially culminate in a full pipeline replacement if the systemic nature of the integrity concerns was confirmed.[15] However, Enbridge Gas also noted that the retrofit could theoretically enable the pipeline to be inspected and repaired indefinitely.[16] In its reply submission, Enbridge Gas submitted that a retrofit would not guarantee that all future repairs would be solely proactive.[17]

[15] Enbridge Gas Inc. response to interrogatory I.Staff.5
[16] Enbridge Gas inc. response to interrogatory I.Staff.5
[17] Enbridge Gas Reply Submission, page 40.

Repair Option

The Repair Option involves Enbridge Gas reactively responding to identified leaks or concerns using Enbridge Gas's existing practices.[18]

Enbridge Gas compared the Repair Option to the proposed Project assuming the probability of pipeline failure over 40 years and beyond. Enbridge Gas used the AHI for this comparative assessment.

Enbridge Gas estimated the direct capital cost of the Repair Option to be $33.0 M compared to Project total costs of $73.5 M.[19] The table below indicates lower total cost and Net Present Value of the Repair Option vs. Project (i.e. Replace Option).[20] The costs in the table exclude contingency costs and costs associated with the intermediate pressure polyethylene portions of the Project. Including these costs brings the Project cost (Replace Option) to $123.7 M.

Table 13: Comparison of Repair Option & Replace Option (Project) Costs

($ millions)	Repair Option	Replace Option
Total Cost	$33.0	$73.5
Net Present Value	$(7.7)	$(58.9)

Enbridge Gas rejected the Repair Option, stating that continuing to manage the pipeline in a reactive manner exposes ratepayers and the general public to an unacceptable level of risk to reliable service and safety.

Enbridge Gas also provided an updated cost comparison of the Replace Option and Repair Option in the table below adding the in-line inspection costs which actually would be a Retrofit Option [21].

[18] See Exhibit I.ED.10c for a description of these practices
[19] Enbridge Gas Inc. response to interrogatory I.ED.17
[20] Exhibit B, Tab 1, Schedule 1, page 47
[21] Transcript Technical Conference, March 4, 2022, page 99 line 20 to page 100 line 27 and JT1.16

Table 13: Comparison of Repair Option and Replace Option (Project) Costs Including Abandonment

($ millions)	Repair Option	Replace Option
Total Cost	$63.8	$111.5
Net Present Value	($33.9)	($91.2)

Note:

Replace Option includes both the abandonment costs and the IP PE costs, etc.
The NPV impact for the abandonment cost is approx. ($6.9) million.
Total abandonment cost is approx. 10.3 million.

The comparison in the table above includes additional cost of abandonment and cost of intermediate pressure polyethylene pipelines in the Replace Option and costs of retrofit and in-line inspection costs in the Repair Option. The updated information shows that the Retrofit Option (in-line inspection plus repairs) is $57 M less expensive than the Project.

Sponsors' Evidence and City of Ottawa's Evolution Plan

The Sponsors' Evidence provided details on the City of Ottawa's Energy Evolution Plan, approved by City Council in October 2020, and the programs and plans initiated in support of this plan.

The Energy Evolution Plan aims to reduce the corporate City of Ottawa emissions to zero by 2040 and community-wide emissions from all entities within the City of Ottawa to zero by 2050. The City of Ottawa indicated that by 2050, renewable natural gas is expected to provide approximately 12% of the community's energy requirements, versus the 50% of the community's energy needs that is currently provided by conventional natural gas. The City of Ottawa indicated that it had not yet determined whether or for how long the existing natural gas distribution infrastructure would be needed to distribute renewable natural gas.[22] The corporate City of Ottawa accounts for only about 3-4% of the overall natural gas consumption by the community.[23]

Broadly speaking, this planned reduction in natural gas use (for both corporate City of Ottawa buildings and buildings in the community) would be achieved through a combination of fuel switching from natural gas to electric heat pumps and building retrofits to significantly reduce building energy demand. The City of Ottawa and OCHC both provided details on the initial projects they have undertaken or were in the process of undertaking under this emissions reduction strategy.

The Sponsors' Evidence also stated that the federal government's Energy Services Acquisition Program would materially reduce natural gas use in the St. Laurent Ottawa North Pipeline area, due to conversion of the Cliff Street heating and cooling plant from steam to hot water, with a projected greenhouse gas emissions reduction of 87% by 2025, with almost all of this reduction coming from reductions in natural gas use.[24] However, the City of Ottawa was unable to provide specific details from the federal government on the estimated reduction in natural gas demand from the Cliff Street plant.[25]

[22] Response to interrogatories on Sponsors' Evidence, 2.1-Staff-4
[23] Response to interrogatories on Sponsors' Evidence, EGI.2(b)
[24] Sponsors Evidence, page 4
[25] Response to Undertaking JT 2.8.

Integrated Resource Planning Alternatives

Enbridge Gas submitted that a detailed assessment of IRP alternatives was not required, because the Project is driven by integrity concerns that must be addressed within 3 years, and thus fails the "Timing" screening criterion in the IRP Framework.[26]

Enbridge Gas based its assessment against the Binary Screening Criteria set by the OEB in its Decision and Order on Enbridge Gas's Integrated Resource Planning Proposal issued on July 22, 2021 (IRP Decision)[27]. Enbridge Gas noted that it determined that "… the Project is driven by integrity concerns that must be addressed within three years and no demand or supply side solution can resolve integrity concerns". To support its decision not to include IRPAs in the assessment of alternatives to the Project, Enbridge Gas referred to the following excerpt from the IRP Decision:

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

Prior to the issuance of the IRP Framework, Enbridge Gas had already engaged a consultant to undertake a preliminary examination of the potential for Demand Side Management (DSM) to provide reductions in peak demand, as discussed in the next section. However, once the IRP Framework was in place, Enbridge Gas determined that it was not appropriate or necessary to conduct further IRP assessment due to the timing screening criterion.[28]

Downsizing due to Demand Reductions or IRP Alternatives

Enbridge Gas sized the proposed Project based on the peak design day demand that would need to be met based on its current customers and firm contractual customer commitments, using its existing demand forecasting methodology.[29] Enbridge Gas did not seek to add pipeline capacity for growth, relative to the existing pipeline.

[26] IRP Framework, section 5.2
[27] EB-2020-0091
[28] Application Exhibit B, Tab 1, Schedule 1, pages 12-13, paragraph 23
[29] Enbridge Gas Inc. response to interrogatory I.ED.6

Enbridge Gas retained a third-party consultant (Posterity Group) to evaluate the potential for targeted DSM or enhanced targeted energy efficiency to provide reductions in peak demand that might reduce the size of the Project, based on estimates of the achievable DSM potential in the 2019 Achievable Potential Study.[30] This analysis concluded that there was not enough DSM potential to reduce the size of the pipeline.[31]

Enbridge Gas indicated that it had not specifically taken into account the programs and plans described in the Sponsors' Evidence in its demand forecast, as these programs were aspirational in nature.[32] In responding evidence, Enbridge Gas estimated the potential peak demand reductions that could be achieved by City of Ottawa sites, OCHC sites, and the Cliff Street heating and cooling plant served by the St. Laurent Ottawa North Pipeline. Enbridge Gas concluded that, even if all of these sites reduced their peak natural gas demand to zero, the overall peak demand reduction would only be about 1/3 of that needed to downsize the proposed Project by one pipeline size.[33] Approximately 75% of the potential peak day demand reductions attributable to these sites is from the Cliff Street plant. Enbridge Gas indicated that despite the plans to reduce emissions and natural gas use at the Cliff Street plant, its understanding was that the facility would retain its current contract demand for natural gas.[34]

Positions of the Parties

The City of Ottawa did not propose a specific alternative to the Project. However, the City of Ottawa indicated that "approving another natural gas pipeline to supply the City of Ottawa for the next 40-100 years is in direct conflict with Energy Evolution in the City of Ottawa."[35] City staff indicated that its preference would be for an integrated energy planning approach that would require the main energy suppliers (gas, electricity and district energy) to work together to build an energy system which meets the Energy, Evolution climate goals while ensuring affordability and energy security.[36]

Environmental Defence requested that the OEB direct Enbridge Gas to implement the Repair Option stating that it is a safe option which also avoids the risk of under-

[30] Enbridge Gas Inc. response I.Staff.6(d), including attachment
[31] The Posterity memo indicates that a reduction of 63,900 m^3/hr in peak hour demand would be needed to reduce the pipeline size, while the maximum potential peak demand reduction from DSM was only 10,100 m^3/hr. {Elsewhere, in Exhibit I.ED.13 and responding evidence, Enbridge Gas indicates that only a 32,500 m^3/hr peak demand reduction would be needed for downsizing.}
[32] Interrogatory responses to Enbridge Gas's Evidence, Exhibit I.Ottawa,3
[33] Enbridge Gas Responding Evidence, pages 3-5 of 7
[34] Interrogatory response to Enbridge Gas's Evidence, Exhibit I.EP.2; Technical Conference Transcript, March 4, 2022 Day 1, page 209. Technical Conference Transcript, March 5, 2022 Day 2, pages 68-69
[35] Letter to the OEB, City of Ottawa, October 1, 2021
[36] Response to interrogatories on Sponsors' Evidence, 2.1-Staff-4

utilization of the Project's infrastructure. Environmental Defence observed that decarbonization plans by the City of Ottawa and federal 2050 fossil fuels net-zero target legislation [37] exposes the pipeline to becoming a stranded under-utilized asset at the risk of ratepayers.

IGUA recommended that the OEB carefully considers Enbridge Gas's evidence on the need for and alternatives to the Project and suggested that the OEB consider the monitor and repair alternative instead of approving the replacement as proposed in the Project.

Pollution Probe pointed to the higher cost of the Project as compared to the alternatives and noted the likelihood of stranded assets suggested that it would be more beneficial to extend the life of already depreciated existing pipeline assets. Pollution Probe observed that Enbridge Gas did not provide risk assessment of the Project becoming under-utilized over the next decades. Pollution Probe recommended "the more prudent and economic alternative of monitoring and maintaining the existing pipeline".

SEC summarized its submission by stating that there is no urgent need for the pipeline replacement, as major customers will be reducing reliance on fossil-based gas which is consistent with government policies and commitments by Canada and internationally.

In terms of the alternatives to the replacement, SEC proposed that Enbridge Gas should implement the Repair Option and report to the OEB at the time of its rebasing application.[38] SEC argued that a Repair Option has lower and known costs, avoids stranded asset risk and allows time for imminent potential reduction in natural gas demand due to the implementation of decarbonization and net-zero plans. SEC also noted that the Repair Option carries lower regulatory risk compared to the Project (Replacement Option). SEC offered views on future replacement saying that if Enbridge Gas applies in the future for St. Laurent Ottawa North Pipeline replacement, it must include in the evidence a forecast of average and peak demand for the full useful life of the pipeline and consider gas use reduction plans of its customers and complete assessment of all alternatives including IRP alternatives.

OEB staff recognized the need for integrity risk management but was not convinced that the Project would be the best alternative to address the need. OEB Staff suggested that the (reactive) repair option might not be appropriate because of increasing reliability risk of the declining integrity of the existing pipeline. OEB staff submitted that the Retrofit Option could be more appropriate than the pursuit of the Project. In OEB staff's view the

[37] Canadian Net-Zero Emissions Accountability Act, S.C. 2021, c.22
[38] SEC Final Argument, March 24,2022, page 7, paragraph 1.3.8

Retrofit Option would allow the pipeline life to be extended by several decades, and the retrofit would also likely be more economical than a full replacement at this time, due to, among other things, the time value of delaying the high capital cost of the replacement. OEB staff noted that this would also provide flexibility for a possible pipeline size reduction if a replacement would be required should demand reductions associated with Energy Evolution or through IRPA initiated by Enbridge Gas be realized. OEB staff suggested that a Retrofit Option may be the most appropriate alternative to address the declining conditions of the St. Laurent Ottawa North Pipeline.

OEB staff submitted that the IRP alternatives pursued by Enbridge Gas, including targeted DSM, in the near term would not feasibly reduce the peak demand served by the St. Laurent system on a scale sufficient to reduce the sizing of the proposed Project.

OEB staff supported the energy planning approach described by the City of Ottawa, and closer collaboration between Enbridge Gas and the City of Ottawa to proactively plan a course of action.

Findings

The OEB finds that Enbridge Gas has not provided sufficient evidence to demonstrate that the proposed Project (pipeline replacement) is the best available alternative. As an example, Enbridge Gas's comparison of the total cost and Net Present Value of the Project (pipeline replacement) versus the pipeline Retrofit Option which would allow for ongoing in-line inspection and repair, showed that the Retrofit Option is a less costly alternative even though Enbridge Gas presented a number of qualitative factors to demonstrate that the replacement option is preferrable.

Several parties argued the Retrofit Option, in addition to having a lower initial capital cost, would also have the potential advantage of providing flexibility for a possible pipeline size reduction should demand reductions be realized. In its reply argument, Enbridge Gas only provided a qualitative description of some of the disadvantages of the Retrofit Option.

The OEB urges Enbridge Gas to thoroughly examine other alternatives such as the development and implementation of an in-line inspection and maintenance program using available modern technology, and propose appropriate action based on its findings, as part of its next rebasing application.

The OEB suggests that Enbridge Gas should work collaboratively with the City of Ottawa and other stakeholders to proactively plan a course of action if and when pipeline replacement is required, including the pursuit of Integrated Resource Planning (IRP) alternatives. Enbridge Gas has not carried out a detailed assessment of the IRP

alternative citing that the pipeline integrity concerns must be addressed in less than three years which is the OEB threshold for carrying out an IRP assessment. As discussed earlier, Enbridge Gas has not provided strong evidence to support the claim that the integrity threat to the pipelines is imminent and that replacement in less than three years is necessary.

In more general terms and to the extent applicable for future leave to construct applications, the OEB encourages Enbridge Gas to undertake in-depth quantitative and qualitative analyses of alternatives that specifically include the impacts of IRP, DSM programs and de-carbonization efforts.

3.3 Project Cost and Economics

Enbridge Gas estimated the Project costs as shown in the table below to be approximately $33.9 M for the IP PE pipeline segments and $89.8 M for XHP ST pipelines, totalling approximately $123.7 M.

The abandonment costs are not included in the cost estimates for the Project.

Table 9: Estimated Project Costs

Item No.	Description	IP PE Costs	XHP ST Costs	Total Costs
1.0	Material Costs	$358,484	$1,268,313	$1,626,797
2.0	Labour Costs	$20,369,317	$48,953,572	$69,422,889
3.0	External Permitting & Land	$6,303	787,387	$793,690
4.0	Outside Services	$2,849,096	$4,523,814	$7,372,910
5.0	Direct Overheads	$531,062	$751,515	$1,282,577
6.0	Contingency Costs	$3,318,390	$16,405,401	$19,723,791
7.0	**Project Cost**	**$27,432,652**	**$72,690,002**	**$100,122,654**
8.0	Indirect Overheads	$6,203,171	$16,340,923	$22,544,094
9.0	Interest During Construction	$230,655	$782,119	$1,012,774
10.0	**Total Project Costs****	**$33,866,478**	**$89,813,044**	**$123,679,522**

*XHP ST costs are a Class 5 cost estimate
**Abandonment costs are not included in the cost estimates. Abandonment costs for IP PE are estimated to be $2,817,235 and XHP ST abandonment costs are estimated to be $7,518,548

Enbridge Gas provided the costs of comparable projects completed in the past and approved by the OEB including the cost of the completed Phase 1 and Phase 2 of the St. Laurent Replacement Project. The table below summarizes this information.[39]

Case #	Project Name	City	Year	Pipe Size (Diameter / Material)	Length (km)	Estimated Total Costs (millions)	Estimated $/meter*	Assumed Contingency	Actual Total Costs (millions)	Actual $/meter
EB-2015-0042	Sudbury NPS 10 Replacement Project	Sudbury	2015	NPS 12 Steel	0.7	$2.023	$2,890	10%	$1.023	$1,461
EB-2016-0122	2016 Sudbury Replacement Project	Sudbury	2016	NPS 12 Steel	0.85	$2.188	$2,574	13%	$3.360	$3,953
EB-2016-0222	Sudbury Maley Replacement Project	Sudbury	2016-2017	NPS 12 Steel	2.8	$6.304	$2,251	12%	$4.206	$1,502
EB-2017-0180 (1)	2018 Sudbury Replacement Project	Sudbury	2018	NPS 12 Steel	20	$74.000	$3,700	15%	$82.616	$4,131
EB-2019-0006 (2)	St Laurent Pipeline Project Phases 1/2	Ottawa	2018-2020	NPS 2, NPS 4, NPS 6, & NPS 8 PE	5.1	N/A	N/A	25%	$10.545	$2,077
EB-2019-0172 (3)	Windsor Line Replacement Project	South-western Ontario	2020	NPS 6 Steel	64	$92.744	$1,449	15%	TBD	TBD
EB-2020-0192 (4)	London Lines Replacement Project	South-western Ontario	2021	NPS 4 & NPS 6 Steel	90.5	$133.909	$1,480	14%	TBD	TBD
EB-2020-0293	St Laurent Ottawa North Replacement Project Phases 3/4	Ottawa	2022-2023	NPS 2, NPS 4, & NPS 6 PE NPS 6, NPS 12, & NPS 16 Steel	19.8	$100.123	$5,053	15% for PE 30% for Steel	TBD	TBD

*Variations in cost per metre are significantly influenced by specific project scope parameters.

Notes

(1) EB-2017-0180: The 2018 Sudbury Replacement Project had large proportions of rock excavation, wetland management, a specialized Cathodic Protection design and bypass installations, which are all costly activities that are not present to the same extent or not present at all in the previously approved OEB projects as indicated in the table. It is the influence of this construction scope that has increased the cost per metre for the 2018 Sudbury Replacement Project. Estimated Total Costs for this project were later increased to $83 million.

(2) EB-2019-0006: The actual costs listed are for all components of St. Laurent Phase 1/2. The estimated costs are listed as N/A because portions of Phase 1/2 were not included in the LTC submission EB-2019-0006. The estimated costs included in LTC submission EB-2019-0006 were $5.511 million for the installation of 1.7 km of NPS 6 PE IP main, resulting in a cost/meter of $3241/m.

(3) EB-2019-0172: For comparison purposes, Estimated Total Costs as indicated in the table for the Windsor Line Replacement Project represents "Estimated Incremental Project Capital Costs" (excludes Indirect Overheads of $14.061 million).

(4) EB-2020-0192: For comparison purposes, Estimated Total Costs as indicated in the table for the London Line Replacement Project represents "Estimated Incremental Project Capital Costs" (includes Stations, Services, Abandonment and IDC; excludes Indirect Overheads of $30.189 million).

Enbridge Gas stated that the contingency levels of 15% for polyethylene and 30% steel segments of the Project apply to all direct capital costs. The contingency levels are, according to Enbridge Gas, determined at the time of filing the application "…to correspond to the project/design maturity at the time of filing…". Enbridge Gas indicated that it would reduce contingency cost as the Project's risks are identified and mitigated and design is finalized [40]

The contingency levels for the projects included in the above comparison table are 15% and below except for the St. Laurent Project Phases 1 and 2 where it was 25%. The estimated cost for the Project is the highest in comparison to the costs of other completed projects.

Enbridge Gas has applied for Incremental Capital Module (ICM) Treatment to receive approval for the recovery of the costs for Phase 3 of the St. Laurent Project as part of the Company's 2022 Rates Phase 2 Application.[41] The OEB issued its decision on this

[39] Enbridge Gas Inc. response to I.STAFF.7 a)
[40] Enbridge Gas Inc. response to I.STAFF.8 a-b
[41] EB-2021-0148, Exhibit B, Tab 2, Schedule 1

ENHANCED DISTRIBUTION INTEGRITY MANAGEMENT PROGRAM (DIMP)

ANGELA SCOTT, MANAGER INTEGRITY MANAGEMENT

1. The purpose of this evidence is to outline Enbridge Gas's proposed Enhanced Distribution Integrity Management Program (DIMP), including the cost implications and benefits of the proposed program. The program will enable Enbridge Gas to assess the condition of a subset of distribution assets[1] that are approaching end of life, which allows for appropriate action to be taken, whether that is maintenance work or replacement of the pipe.

2. Enbridge Gas is proposing to introduce the Enhanced DIMP in response to the OEB's Decision in the St. Laurent Ottawa North Replacement Project Decision,[2] which stated the following, in regard to the distribution system:

> The OEB urges Enbridge Gas to thoroughly examine other alternatives such as the development and implementation of an in-line inspection and maintenance program using available modern technology, and to propose appropriate action based on its findings as part of its next Rebasing Application.

3. Enbridge Gas is also requesting approval of a new deferral account as part of this Application for the Enhanced DIMP, to record general administrative costs, as well as operating and maintenance and ongoing integrity inspection-related costs incurred to implement and execute the Enhanced DIMP. Details of the proposed new Enhanced DIMP Deferral Account are provided at Exhibit 9, Tab 1, Schedule 3.

[1] The distribution system takes gas from higher-pressure transmission systems and distributes it to residential, commercial and industrial customers. The distribution assets include a series of pipelines of various operating pressures, regulation points that safely manage the pressure of the gas, and delivery points where the gas is measured.
[2] EB-2020-0293.

4. The following sections of evidence are organized as follows:
    1. Current Integrity Management at Enbridge Gas
    2. Proposed Enhanced DIMP
    3. Cost Recovery

1. Current Integrity Management at Enbridge Gas

5. Integrity Management is a key component in the life cycle of an asset, by maintaining the integrity of assets, potentially extending the asset life and ensuring compliance with codes, standards and procedures. A description of the life cycle delivery is provided at Exhibit 2, Tab 6, Schedule 2, Section 4.1.3, starting at page 44 of Enbridge Gas's Asset Management Plan (AMP). The maintenance strategies currently employed for distribution assets, which are also referred to as DIMP pipelines[3], are provided at Exhibit 2, Tab 6, Schedule 2, Section 5.2.3.2, page 82, Pipe Condition and Strategy Overview. These strategies, listed below, meet or exceed both code requirements and industry standards.
    a) Leak Management Operating Standard including Survey Program conducted with defined frequency depending on material, age, cathodic protection (CP) and presence of wall-to-wall hard surface area;
    b) Corrosion Control Operating Standard including CP survey;
    c) Valve Maintenance Operating Standard including inspection;
    d) Bridge Crossing Survey Program;
    e) Watercourse Crossing Survey Program;
    f) Vital Main Damage Prevention Program (for vital main subset);
    g) Distribution Integrity Management Program (DIMP) Asset Health Review operating process; and

[3] Includes most pipelines operating below 30% Specified Minimum Yield Strength (SMYS).

h) Condition assessment programs including integrity assessments and Quality Material Equipment Reports (QMER) to identify and assess failure mechanisms of assets.

6. Enbridge Gas has a Transmission Integrity Management Program (TIMP) for transmissions assets that provide an additional maintenance strategy, which is referred to as the TIMP Condition Monitoring Operating Standard[4]. This enhanced maintenance strategy of condition monitoring is not applied to distribution assets at Enbridge Gas, or any other Canadian Gas Association Company. Enbridge Gas initiated a 2022 American Gas Association Survey and of the 28 respondents, only 2 identified they completed in-line inspection (ILI) for a sub-set of their distribution pipeline assets, while the remaining 26 did not.

2. Proposed Enhanced DIMP

7. Enbridge Gas is proposing to introduce an Enhanced DIMP to improve the understanding of the condition of distribution pipeline assets. This program would ensure that Enbridge Gas has the ability to thoroughly assess the condition of these assets to allow appropriate action to be taken, whether that is maintenance work or replacement of the pipeline.

8. The proposed Enhanced DIMP addresses the concerns raised by the OEB in Enbridge Gas's St. Laurent Ottawa North Replacement Project[5], which stated:

> The OEB suggests Enbridge Gas take a proactive approach to inspecting and maintaining the subject pipeline until it can be

[4] There is also a TIMP asset subclass that is a subset of steel mains that are part of a TIMP In-Line Inspection (ILI) Program or are subject to other periodic condition monitoring techniques such as external corrosion direct assessment, as provided in Section 5.2.3.3 of the AMP.
[5] EB-2020-0293, page 16, May 3rd, 2022

> demonstrated that pipeline replacement is necessary. This may include development and implementation of an in-line inspection and maintenance program using available modern technology as discussed in the next section. The evidence in this proceeding revealed that Enbridge Gas does not currently have the necessary infrastructure to carry out such in-line inspections in the St. Laurent Pipeline.

9. Based upon this direction from the OEB, Enbridge Gas has initiated a multi-pronged integrity plan to further establish the condition of St. Laurent Ottawa North Pipeline.

10. As part of the Enhanced DIMP, Enbridge Gas has identified a sub-set of the DIMP pipelines that could benefit from a more extensive condition monitoring program. Given available monitoring technique limitations as well as the cost/benefit assumptions, the recommendation is to include distribution pipeline assets in the Enhanced DIMP that are:
    a) Operating at pressures above 700 kPa;
    b) NPS 6[6] or greater;
    c) Over 1 km in length; and
    d) Greater than 50 years old.

11. Pipelines meeting these criteria, referred to as Enhanced DIMP pipelines in this evidence, would be prioritized based upon several factors including projects that are already in the AMP, pipeline operating pressure, and the relative risk of the assets as determined in the DIMP Risk Model[7]. Currently within the AMP, there are DIMP replacement projects for assets greater than NPS 6 with a forecast cost of over $500 million for the next 10 years.

[6] Normal pipe size of 6 inches.
[7] The DIMP Risk Model provides insight into the distribution pipe system risk, as described in Section 5.2.3.4.1.3.1 of the AMP.

12. Given that the Enhanced DIMP is not work currently carried out by Enbridge Gas, the initial task will be to create detailed desktop reviews of each of the priority Enhanced DIMP pipelines and to create an Integrity Plan document which summarizes the asset characteristics (e.g. age, materials, coatings, method of construction, operating pressure, known history of failures, etc.), the potential active threats on the asset (e.g. external corrosion, external interference, etc.), the recommended inspection methods, and confirmation of fitness for service.

13. Once the desktop assessments are complete, the inspection recommendations will be prioritized and initiated. These inspections will include leveraging opportunistic digs to gather direct examination data of the condition of the pipeline and consideration of Direct Current Voltage Gradient (DCVG) Surveys, Close Interval Surveys, Depth of Cover Surveys, and Integrity digs to further assess the pipe condition.

14. Distribution pipeline assets are not inspectable with the traditional free-swimming ILI, however robotic crawler tools can be leveraged. The outcomes of the St. Laurent Integrity review will provide further insight to determine whether ILI should be considered, and if so, on which assets and the portion of the pipeline to be inspected. Enbridge Gas anticipates the results of this review will be available in early to mid-2023.

15. The goal of the Enhanced DIMP will be to provide a substantive rigorous review of the condition of the Enhanced DIMP pipelines and to identify specific areas that could benefit from proactive mitigation projects which may extend the life of the asset. Such solutions may be implemented to delay or avoid costly and time-consuming pipeline replacement projects.

16. The benefits of the Enhanced DIMP include:
    a) Potentially extending the life of the assets, which may defer or delay pipeline replacements which typically will be more cost effective than replacing the pipeline, ensuring lower rates are provided to customers;
    b) Supporting energy transition and Integrated Resource Planning, by potentially deferring projects should a replacement not be required; and,
    c) Proactively identifying pipeline anomalies that can be mitigated to prevent failures from occurring and improve pipeline safety and reliability.

17. In the event that the review of the Enhanced DIMP pipelines validates that the asset condition is approaching end of life, the Enhanced DIMP will provide substantive justification to support the replacement project. These details will be included in the evidence for the leave to construct application at the time of filing.

3. Cost Recovery

18. The Enhanced DIMP responds to the OEB's Decision in the St. Laurent Ottawa North Replacement Project Decision,[8] and is above and beyond the requirements set out in code as well as industry best practices. As such, the costs for the Enhanced DIMP are all incremental to the amounts included in the revenue requirement for the 2024 Test Year Forecast.

19. Enbridge Gas anticipates the costs of the program are approximately $10 million annually, which includes the costs for inspections of the Enhanced DIMP pipelines plus additional resources to support the program.

20. As part of this Application, Enbridge Gas is requesting approval of a new deferral account to recover the costs of the Enhanced DIMP, which is provided at Exhibit 9,

[8] EB-2020-0293.

Tab 1, Schedule 3. Any costs incurred for the Enhanced DIMP would be subject to review and OEB approval prior to disposition as part of the annual earnings sharing and deferral and variance account disposition proceedings.

ENBRIDGE GAS INC.

Answer to Interrogatory from
Consumers Council of Canada (CCC)

Interrogatory

Reference:

Ex. 2/T6/S2/p. 47

Question(s):

The evidence indicates value measures are used to quantify an investment's value. Value measures are investment attributes that are evaluated objectively based on risk or opportunity to determine how the investment delivers value to Enbridge and the ratepayer. These value measures are placed on an economic scale to assist in optimization. An investment's net value is used to determine both its independent merit and its standing among other investments in a constrained optimization process:

a) Please provide project/program examples to illustrate how the value measures in Table 4.1-3 are used to quantify investment value;

b) Please provide the economic scale used in optimization;

c) Please provide the relative weightings of each value Measure in Table 4.1-3;

d) Please provide the total investment value of each project/program in 2024

Response:

a) For the overall process on assessing and comparing net values between investments, see the response at Exhibit I.2.6-CME-18.

   Value Measures

   Value measures set out in Exhibit 2, Tab 6, Schedule 2, Table 4.1-3 can be divided into the following categories:

   - Risk value measures – Used to capture the value of an investment in avoiding undesirable events. It is a positive contributor to an investment's net value.

- Benefits value measures – Use to capture the value of an investment in bringing in benefits such as cost saving to the company or customers. It is a positive contributor to an investment's net value.

As mentioned in response at Exhibit I.2.6-CME-18 part a), value measures are calculated using value models in the Copperleaf Value Framework. Quantitative data for frequencies, probabilities and consequence impacts are used in value models to determine value measures as streams of value which can be defined as fixed or varying over time.

Value measures can be financial or non-financial:

- Financial value measures are estimated based on potential financial losses or gain in cash flow, or avoided expenses.
- Non-financial value measures, which cannot be tied directly to financial gains or losses, are correlated with tangible qualities that can be converted into monetary values in either value units or CA$. This approach allows them to be combined with financial value measures and investment cost through the net present value (NPV) calculation to determine the total investment value as described in response at Exhibit I.2.6-CME-18 part a). As correlations between non-financial value measures and tangible qualities are not always fully recognized or may be difficult to quantify, such an approach may not reflect the full value of non-financial value measures.

It is also important to note that NPV calculation relies on accurate forecasting of future cash flow and constant discount rate, which could fluctuate due to various reasons, such as gas prices, weather patterns and regulatory policies. Hence, the Copperleaf value framework and optimization are not the only input to investment decision making by Enbridge Gas.

Value Models

Value models can be divided into the following types:

- **Risk matrix-based value model** – This value model incorporates the Enbridge risk matrix (see Exhibit 2, Tab 6, Schedule 2 Figure 4.2-4 and Exhibit I.2.6-SEC-121 for the risk matrix) and is used to quantify risk value measures. The value of each risk is evaluated based on the definitions provided for likelihood (defined as frequency) and consequence (per Y-axis and X-axis of the matrix).

  The values shown in the risk matrix are then computed by multiplying the representative value of the consequence level (see Table [OBJ]) by the representative value of the frequency level (See Table [OBJ]). For example, if a "4"

consequence has a representative value of 3200, and a “5” frequency event has a frequency of 0.01. The result is that a “4” consequence event with a “5” frequency of occurrence is valued at 32 Value Units. Please note that the specific values represent commercially sensitive information and therefore have been redacted in both tables as filed on the public record, as further explained in the confidentiality request accompanying the Company’s interrogatory responses.

Table 1
Consequence Scale (in value unit)

Consequence Level	**1**	**2**	**3**	**4**	**5**	**6**	**7**
Financial	[redacted]						
Public Health & Safety	[redacted]						
Employee and contractor Safety	[redacted]						
Environmental	[redacted]						
Operational	[redacted]						
Reputational	[redacted]						

Table 2
Frequency Levels - All Risk Types

Frequency Level	**Range (per yr.)**	**Representative Value (Per yr.)**
[redacted]		

- **Equation based value model** – This value model quantifies data for frequencies, probabilities, and impacts (whether positive or negative), which are then combined to calculate value measures.
- **External model** – Values are calculated outside Copperleaf in value units or CA$ which are then uploaded into Copperleaf.

Examples

The following examples illustrate how value measures are quantified for investments.

Distribution Pipe – Erin Mills and Leanne Vital (See Exhibit 2, Tab 6, Schedule 2, Appendix B, Page 22)

Issue and proposed solution: 12" HP vital main installed in the 1950's. The main has a 1" HP live stub that is around 20m that requires abandonment, and there may be contaminated soil along the pipeline. Corrosion has also affected the coating and may impact crews' ability to access pipe in case of emergency. The proposed solution is to relocate to the west side of Erin Mills, contingent on how widespread the contamination extends.

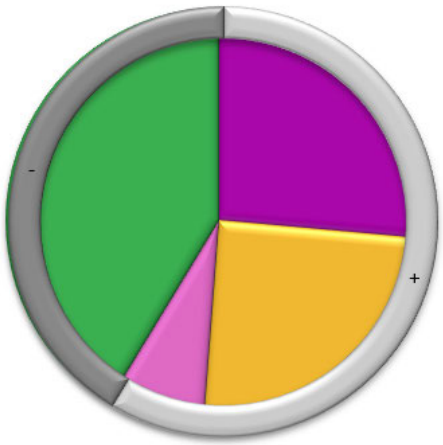
Based on inputs from relevant stakeholders, relocating the line could mitigate risks associated with accelerated corrosion degradation leading to leaks. Such corrosion and leaks could require complex repair due to the location of the pipe (off-ramp of a highway) and potential closure of a main road with significant disruption and customer outage as it is a single feed line.

By applying a risk matrix-based value model, the following key risks were identified which could be mitigated by the investment:

- Financial risk: Cost associated with emergency repair and to address contaminated soil in the area
- Operational risk: Interruption of customer services due to emergency repair
- Reputational risk: Disruption or inconvenience affecting nearby area due to repair

It was determined that there were no significant CAPEX and OPEX savings. Following the assessment, the risk matrix-based model was applied in Copperleaf to determine risk value measures, which were then incorporated with the investment cost (as negative value) by applying the NPV calculation. The net values and total net value of the investment are shown below.

Figure 1: Distribution Station – HAMI: Caledonia Transmission Station, Rebuild



Value Function Measure	Value
Financial Risk	564
Operational Risk	529
Reputational Risk	160
Avoided GHG Emissions (CA)	0
Budget Savings OPEX (CA)	0
Cost Avoidance CAPEX (CA)	0
Cost Avoidance OPEX (CA)	0
Employee And Contractor Safety Risk	0
Environmental Risk And Remediation	0
Public Safety Risk	0
Total Investment Cost (CA)	(882)
Total	**371**

This investment addresses a wide range of issues, as discussed in Exhibit 2, Tab 6, Schedule 2, Appendix B, page 70 (see Investment Code 735048). Based on stakeholder input, a station rebuild was proposed. Due to the maturity level of analytical techniques and available data at the time of the value assessment, not all issues could be fully assessed. The value assessment focused on cost saving and risks associated with corrosion and frost heave on piping leading to leaks and potential disruption to customers (it is a single feed station).

Similar to the distribution pipe example above, a risk matrix-based value model was used. The following key risks were identified for mitigation through the investment:

- Financial risk: Cost associated with emergency repair of the station
- Operational risk: Customer interruption due to emergency repair

In addition, the following key benefits were identified in relation to the investment:

- Avoided GHG (greenhouse gas) emissions: As there were historical leaks at the station, the proposed solution would minimize emissions
- Budget savings (OPEX): Reducing leaks at the station would lower OPEX spend

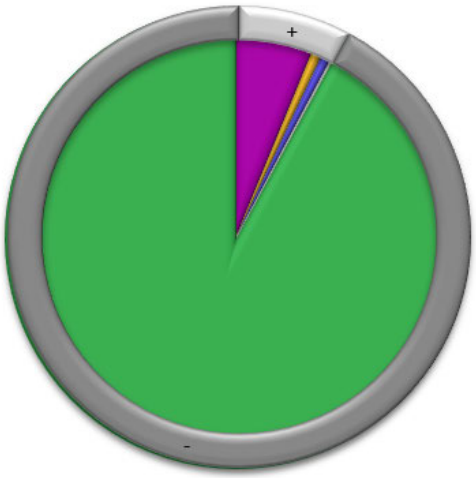
Following the assessment, the following risk models were applied in Copperleaf to estimate value measures:

- the risk matrix-based model to determine risk value measures; and

- equation-based value model to estimate the amount of GHG emissions which could be avoided based on historical leaks (with a monetary value tie-in to carbon pricing, as further described in part c below) and quantify potential OPEX saving based on experience.

All value measures were then incorporated with the investment cost (as negative value) by applying the NPV calculation. The net values and total net value of the investment are shown below.

Figure 2



Value Function Measure	Value
Financial Risk	285
Operational Risk	38
Avoided GHG Emissions (CA)	34
Budget Savings OPEX (CA)	8
Public Safety Risk	0
Reputational Risk	0
Employee And Contractor Safety Risk	0
Environmental Risk And Remediation	0
Cost Avoidance CAPEX (CA)	0
Cost Avoidance OPEX (CA)	0
Operational Disruption Risk (Gas) (CA)	0
Total Investment Cost (CA)	(4,258)
Total	**(3,893)**

b) See part a) and Exhibit I.2.6-CME-18 part a) for a discussion regarding the NPV calculation to combine value measures and investment cost into total net value for each investment. This approach allows all value measures to be placed on an economic scale (i.e., value unit) to assist in optimization.

c) As demonstrated in part a), relative weighting between value measures is not the approach taken to determine value measures. Value measures use quantitative data for frequencies, probabilities and consequence impacts directly, such that risks and benefits are calculated using value models in the Copperleaf Value Framework. In addition to the consequence scales shown in Table that are being used in the risk matrix-based value model, the following factors are used for equation-based value models.

GHG (greenhouse gas) value model – Captures the environmental benefit of the reduction of GHG emissions. A corresponding monetary value is derived with reference certain modeling assumptions around the price of carbon (per tonne of

CO2 equivalent, as shown in Table) and the estimated CO2 emissions per MWh of electricity (shown in Table). The main output of the model is an Avoided GHG value measure.

Table 3
CO2e Value (in CA$)

		Year				
Province	**Units**	**2019**	**2020**	**2021**	**2022**	**2023+**
Ontario	CA$	$20	$30	$40	$50	$50

Table 4
eGRID factors for gCO2e per MWh Value

Province	**g CO2e / MWh**
Ontario	36,000

Financial Benefits and Cost Value model – Measures the financial benefits or cost to the organization in the form of annual CAPEX and OPEX cost saving/increases, cost avoidances or revenue impacts. For gas carrying assets, these are usually estimations based on financial history and tacit knowledge.

For REWS and TIS investments, high level estimations on cost avoidance are determined by multiplying a cost avoidance factor (see Table) with total net capital (TNC) to represent the saving over the useful life of the investment. Cost avoidance factors are based on similar historic projects and allow a reasonable estimate of the potential benefit or cost avoidances resulting from an investment.

Table 5
REWS & TIS investment cost avoidance factors

Asset Class	**Project Type**	**Cost Avoidance Factor**
TIS	Financial Business Solutions	31%
	Gas Storage Business Solutions	25%
	Integrity Business Solutions	23%
	Operations Business Solutions	8%
	CIS Improvement Projects	12%
	Desktop Sustainment Projects	17%
REWS	Building Systems Projects	9%

Energy Efficiency value model – Evaluates investments that bring measurable financial benefits in the form of annual power savings and reduced CO2 emissions.

The GHG emission value model is utilized here. For energy savings, either gas or electricity savings per year are estimated and multiplied by the default unit cost saving in Copperleaf.

Employee Productivity value model – Calculates financial benefits from increasing employee efficiency measured by hours saved per employee. The model incorporates employee cost per hour and probability of repurposing to calculate employee the productivity value measure. Probability of repurposing captures the degree to which a person who no longer must perform certain tasks will be able to repurpose that time to perform other work that would otherwise have had to be staffed by someone else.

d) Please see Attachment 1.

Table 5.2.3-4: Distribution Pipe Capital Summary ($ Millions) – EGI[11]

Asset Class Strategy/Investment Name	Program/Project Name	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	10-Year Forecast
TIMP Retrofits and Digs	Integrity	21.2M	21.8M	22.4M	20.7M	22.1M	2.8M	2.7M	2.8M	2.8M	2.7M	**122.2M**
Inspection Program Integrity Retrofits and Digs		51.6M	51.4M	27.0M	42.0M	26.2M	21.9M	21.7M	22.5M	22.2M	21.6M	**308.0M**
Depth of Cover Program	Integrity	7.5M	5.1M	5.2M	4.2M	4.5M	3.0M	1.7M	0.7M	0.7M	0.7M	**33.2M**
	Main Replacement	-	-	0.0M	0.4M	0.5M	0.5M	0.2M	-	-	-	**1.6M**
Class Location Program	Class Location	3.5M	2.6M	2.6M	6.5M	6.9M	6.9M	6.8M	7.1M	7.0M	6.8M	**56.7M**
Corrosion Prevention Program	Corrosion	11.6M	11.5M	10.6M	10.2M	10.3M	10.4M	10.8M	10.9M	11.0M	11.1M	**108.6M**
Emergency Replacement Program	Main Replacement	3.7M	3.9M	4.0M	4.1M	4.5M	4.5M	4.6M	4.8M	4.8M	4.8M	**43.6M**
General Replacement Program		28.7M	5.4M	14.8M	14.2M	32.9M	34.5M	19.2M	19.9M	38.4M	17.4M	**225.4M**
Service Replacement Program	Service Relay	28.2M	29.6M	30.5M	31.4M	34.1M	34.5M	34.9M	36.7M	37.1M	36.7M	**333.7M**
Relocation Program	Relocations	48.6M	42.9M	43.7M	44.4M	48.6M	56.4M	46.2M	47.8M	47.3M	45.9M	**471.7M**
Bare and Unprotected Program	Main Replacement	16.1M	12.6M	0.1M	-	-	-	-	-	-	-	**28.7M**
Vintage Steel Replacement Program		19.0M	41.7M	33.8M	19.1M	54.4M	94.0M	146.6M	208.7M	270.7M	320.5M	**1208.4M**
St. Laurent Phase 3 - North/South (NPS12/16 Steel)		1.2M	56.1M	2.0M	-	-	-	-	-	-	-	**59.4M**

[11] Includes overhead allocation

Asset Class Strategy/Investment Name	Program/Project Name	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	10-Year Forecast
St. Laurent Phase 4 - East/West (NPS12 Steel)		-	-	23.5M	0.7M	-	-	-	-	-	-	**24.2M**
Port Stanley Line		0.6M	18.5M	-	-	-	-	-	-	-	-	**19.1M**
NPS 12 Martin Grove Rd		-	-	0.5M	22.6M	0.8M	-	-	-	-	-	**24.0M**
NPS 12 Wilson Ave		-	36.1M	53.8M	1.2M	0.0M	-	-	-	-	-	**91.2M**
Moulton Replacement Bare and Unprotected		-	0.8M	17.8M	-	-	-	-	-	-	-	**18.5M**
Erin Township		3.0M	3.0M	2.8M	2.9M	-	-	-	-	-	-	**11.7M**
NPS 10 Glenridge Avenue		-	0.4M	7.8M	7.1M	-	-	-	-	-	-	**15.3M**
Copper Services Replacement Program	Service Relay	2.3M	2.4M	0.9M	-	-	-	-	-	-	-	**5.7M**
AMP Fitting Replacement Program		15.2M	22.4M	29.5M	36.8M	46.6M	47.1M	47.7M	50.2M	50.6M	50.1M	**396.2M**
Total		**261.9M**	**368.3M**	**333.3M**	**268.7M**	**292.3M**	**316.4M**	**343.3M**	**412.1M**	**492.5M**	**518.2M**	**3606.9M**

Appendix A – Investments >$10M

ENBRIDGE

Investment Summary Report

Investment Code	Report Start Year	Number of Years
100901	**2023**	**10**

Investment Name

Dawn to Corunna

Investment Description

Issue/Concern/Opportunity:

EGI recognizes its obligation to meet the firm demands of its customers; and as a result, assets are continually evaluated to identify hazards and to assess risks in order to ensure that they remain reliable, suitable, and fit for continued service. To this end, an Asset Health Review (AHR) was performed in 2018 and updated in 2021 as part of EGI's comprehensive Reliability, Availability and Maintainability (RAM) Study for the Corunna Compressor Station (CCS), which was completed by a consultant. The results of this study indicate that the health and maintainability of certain compressor units at the CCS are in decline. Reasons for this decline include, but are not limited to performance, functional issues with custom components (i.e., spare parts) and wear. As a result of these assessments, EGI has identified increasing obsolescence and reliability risks associated with certain CCS compressor units and is experiencing a need for increased maintenance and repair work to keep the units operational going forward.

Further, as a result of the compressor units' obsolescence and reliability issues, EGI has experienced continued and increasing compressor unit downtime and long lead repair time. This has created a need for increased maintenance and repair work performed by EGI personnel at the CCS. EGI has also undertaken comprehensive studies, including a site-wide quantitative risk assessment (QRA) to determine the severity of the increasing safety risks, and has determined that the current configuration of compressor units (which includes multiple compressor units in close proximity within a single building) results in an excessive level of process safety risk.

Assets: Compressors K701, K702, K703, K705, K706, K707 and K708

Related Investments: 734634 - Dawn to Corunna (Dawn Tie-in)

Recommended Alternative Description

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

Resources:
-Consultant resources for design
-Contractor resources for abandonment, construction and commissioning

Solution Impact:
This alternative provides a one-to-one replacement in design day storage system withdrawal capacity compared to the existing compressor units at the CCS facility that are proposed to be retired and abandoned. The NPS 36 pipeline will also provide equivalent storage injection capacity via existing compression units located within Dawn. Further, the proposed pipeline simplifies EGI storage operations by reducing the amount of rotating assets and running equipment. This opportunity to replace compression with a pipeline alternative also reduces emissions through utilization of existing hp compression at Dawn which have a lower burn rate (at higher efficiency).

Project Timing & Execution Risks:
-2021: File environmental assessment (EA) with Ontario Pipeline Coordination Committee (OPCC).
-2022: File Leave to Construct (LTC) with Ontario Energy Board (OEB).
This project will need two years of design procurement and construction and requires EA and regulatory approval. In-service date is slated for 2023.

Investment Type	Project (EGI)	Planning Portfolio	EGD - Core - Compression Stations - Replacements
Investment Stage	Executing		

Investment Overview

1. Project Information	State/Province	Ontario
	Operating Area (EGI)	70 - Storage
	Asset Program (EGI)	CS - Replacements
	Asset Class (EGI)	Compression Stations
2. Compliance	Compliance Investment	No
	Compliance Justification & Code	
3. Must Do	Must Do Investment	No
	Intolerable Risk (EGI)	No
	Third Party Relocation (EGI)	No
	Program work with sufficient history and risk to warrant continuation (EGI)	No

Spend Profile

Name	Net Base Capex O (CA)
Dawn to Corunna	$ 147,778,280

Account Type	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Base CAPEX O	$ 127,260,523	$ 5,009,329	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Contributions	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Dismantlement	$ -	$ 5,069,400	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

	Investment Code	Report Start Year	Number of Years
ENBRIDGE	100901	2023	10
Investment Summary Report	Investment Name		
	Dawn to Corunna		

Report Generation Date: 5/30/2022

ENBRIDGE

Investment Summary Report

Investment Code	Report Start Year	Number of Years
48715	**2023**	**10**

Investment Name: Dawn C Compression Lifecycle

Investment Description

Issue/Concern:
Dawn C Plant is one of the nine centrifugal compressors located at the Dawn Compressor Station. It is primarily used to lift from lower storage pressure levels, experienced later in the operations season, to intermediate pressure levels. The intermediate pressure level is typically elevated further in pressure by another compressor to reach the desired Dawn outlet pressure. Dawn Plant C and Plant D have a suction pressure rating of 195 psig, the lowest rating of the compressor fleet at Dawn. Considering the other compressors at Dawn have a 225 psig minimum inlet rating, Dawn Plants C and D become very critical when pool storage levels fall below 225 psig, as they typically do late in the operational season. Overall, compression can pose a very large consequence of failure as compressors are integral assets required to achieve the Dawn to Parkway Transmission System deliverability requirements throughout the year. The consequence of compressor failure is dominated by gas cost impacts to customers. Transmission System consequences associated with failure of a single compressor are heavily influenced by the time of year, weather severity and time to mitigate the failure. Siemens, the original equipment manufacturer (OEM) of the Dawn C compressor, has indicated that 40 years is the typical timeframe for supporting the supply of engine parts required to recover from a critical engine failure or to complete recommended overhauls. Dawn Plant C was installed in 1984, which indicates that the RB211- 24A engine in Plant C is reaching end of life.

Justification:
By continuing to comply with OEM-recommended Preventive Maintenance (PM) schedules and overhauls, compressor reliability risk is controlled to moderate levels but risk increases gradually over the 25,000-hour recommended interval between overhauls. Availability of parts is essential to repair internal engine failures and complete overhauls. Notably, the RB211-24A in Plant C has non-standard dimensions and cannot be retrofitted with more modern editions of the RB211 without significant plant retrofits. Similar to the 40-year old Dawn Plant B, which was replaced and retired in 2017 due to the risks associated with discontinued OEM support of critical engine parts, it is expected that Dawn Plant C will be exposed to a similar level of risk at the age of 40.

Assets: Dawn Plant C

Related Programs: N/A

Recommended Alternative Description

Scope of Work:
Removal and abandonment of the plant, associated piping and electrical, and remediation of land back to level grade. A new compression facility and its associated infrastructure will be developed and installed at the Dawn Compressor Station.

Work includes full project gating cycle due to scale and complexity including: stakeholder consultations, planning, detailed design, permit applications, environmental assessment. procurement, retaining a construction contractor, isolate system, demolition of structures/equipment to be replaced, erect buildings if required, prefabricating piping, hydrotesting, install new piping and auxiliary systems, NDE as required, coating, inspection, train staff, energize system, remediating site, and records updates.

Resources:
Consultant resources for design
Contractor resources for abandonment, construction and commissioning
Regulatory approval

Solution Impact:
This project will ensure the safe removal of infrastructure and the replacement of 32,000 hp of obsolete compression to support the storage to transmission requirements at Dawn.

Project Timing & Execution Risk:
Regulatory approval and planning - 2 years, abandonment and remediation 18 months.

Investment Type	Project (EGI)	Planning Portfolio	UG - Core - Compression Stations - Replacements
Investment Stage	Executing		

Investment Overview

1. Project Information	State/Province	Ontario
	Operating Area (EGI)	Div_53 - Union South Storage
	Asset Program (EGI)	CS - Replacements
	Asset Class (EGI)	Compression Stations
2. Compliance	Compliance Investment	No
	Compliance Justification & Code	
3. Must Do	Must Do Investment	
	Intolerable Risk (EGI)	No
	Third Party Relocation (EGI)	No
	Program work with sufficient history and risk to warrant continuation (EGI)	No

Spend Profile

Name	Net Base Capex O (CA)
Dawn C Compression Lifecycle	$ 125,000,000

Account Type	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Base CAPEX O	$ 200,000	$ 12,480,000	$ 24,960,000	$ 74,880,000	$ 12,480,000	$ -	$ -	$ -	$ -	$ -
Contributions	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Dismantlement	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

ENBRIDGE

Investment Summary Report

Investment Code	Report Start Year	Number of Years
48715	**2023**	**10**

Investment Name

Dawn C Compression Lifecycle

Report Generation Date: 5/30/2022

ENBRIDGE

Investment Summary Report

Investment Code	Report Start Year	Number of Years
734634	**2023**	**10**

Investment Name

Dawn to Corunna (Dawn Tie-in)

Investment Description

Issue/Concern/Opportunity:
The Company recognizes its obligation to meet the firm demands of its customers; and as a result, assets are continually evaluated to identify hazards and to assess risks in order to ensure that they remain reliable, suitable, and fit for continued service. To this end, an Asset Health Review (AHR) was performed in 2018 and updated in 2021 as part of the Company's comprehensive Reliability, Availability and Maintainability (RAM) Study for the Corunna Compressor Station (CCS), which was completed by a consultant. The results of this study indicate that the health and maintainability of certain compressor units at the CCS are in decline. Reasons for this decline include, but are not limited to performance, functional issues with custom components (i.e., spare parts), and wear. As a result of these assessments, the Company has identified serious and increasing obsolescence and reliability risks associated with certain CCS compressor units and is experiencing a need for increased maintenance and repair work to keep the units operational going forward.
Further, as a result of the compressor units' obsolescence and reliability issues, the Company has experienced continued and increasing compressor unit downtime and long lead repair time. This has created a need for increased maintenance and repair work performed by EGI personnel at the CCS. EGI has also undertaken comprehensive studies, including a site-wide quantitative risk assessment (QRA) to determine the severity of the increasing safety risks, and has determined that the current configuration of compressor units (which includes multiple compressor units in close proximity within a single building), results in an excessive level of process safety risk.

Assets: Compressors K701, K702, K703, K705, K706, K707 and K708

Related Investments: 100901 - Dawn to Corunna

Recommended Alternative Description

Scope of Work:
This portion of the project is specific to the Union rate zone and the dismantlement of Tecumseh Measurement and tie-in to Dawn yard for the NPS 36 pipeline.

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

Resources:
•Consultant resources for design
•Contractor resources for abandonment, construction and commissioning

Solution Impact:
This alternative provides a one-to-one replacement in design day storage system withdrawal capacity compared to the existing compressor units at the CCS facility that are proposed to be retired and abandoned. The NPS 36 pipeline will also provide equivalent storage injection capacity via existing compression units located within Dawn. Further, the proposed pipeline simplifies EGI storage operations by reducing the amount of rotating assets and running equipment. This opportunity to replace compression with a pipeline alternative also reduces emissions through utilization of existing hp compression at Dawn which have a lower burn rate (at higher efficiency).

Project Timing & Execution Risks:
•2021: File environmental assessment (EA) with Ontario Pipeline Coordination Committee (OPCC).
•2022: File LTC with Ontario Energy Board (OEB).
This project requires two years of design procurement and construction and requires EA and regulatory approval. In-service date is slated for 2023.

Investment Type	Project (EGI)	Planning Portfolio	UG - Core - Compression Stations - Replacements
Investment Stage	Executing		

Investment Overview

1. Project Information	State/Province	Ontario
	Operating Area (EGI)	Div_53 - Union South Storage
	Asset Program (EGI)	CS - Replacements
	Asset Class (EGI)	Compression Stations
2. Compliance	Compliance Investment	No
	Compliance Justification & Code	
3. Must Do	Must Do Investment	No
	Intolerable Risk (EGI)	No
	Third Party Relocation (EGI)	No
	Program work with sufficient history and risk to warrant continuation (EGI)	No

Spend Profile

Name	Net Base Capex O (CA)
Dawn to Corunna (Dawn Tie-in)	$ 42,032,164

Account Type	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Base CAPEX O	$ 38,446,515	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Contributions	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Dismantlement	$ 9,414,600	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

	Investment Code	Report Start Year	Number of Years
ENBRIDGE	**734634**	**2023**	**10**
Investment Summary Report	Investment Name		
	Dawn to Corunna (Dawn Tie-in)		

Report Generation Date: 5/30/2022

ENBRIDGE

Investment Summary Report

Investment Code	Report Start Year	Number of Years
48732	2023	10

Investment Name: Waubuno Compression Lifecycle

Investment Description

Issue/Concern/Opportunity:
The Waubuno compressor elevates available pipeline pressure to the Waubuno Pool Maximum Operating Pressure (MOP). Compression increases the working inventory value of the pool by approximately 3.5 PJ on top of what the pipeline alone can achieve. The compressor is operated approximately 45 days per year in late summer to early fall to top off the pool. The consequence of compressor failure is dominated by customer impact. Risk associated with failure of the Waubuno compressor is heavily influenced by the level of the pool at which the failure occurs and time to mitigate the failure.
The Joy Compressor (manufactured in 1985) was a used compressor package and installed at Waubuno in 1988. The Joy Compressor Company changed ownership approximately 20 years ago, at that time original equipment manufacturer (OEM) support for the compressor was discontinued. Although normal wear components are still available in the marketplace, replacement major compressor items such as cylinders, crankshafts, and rods, etc., required to support a critical failure are no longer available. In the event of a critical failure, sourcing used parts (which are rare) or aftermarket custom machining services would be the only options for repair. This was the case in 2007 when a discharge valve seat failed, resulting in catastrophic damage to cylinder 611. An extensive search across the used parts dealers was required to secure a viable used cylinder head. Other internal damage was repaired through custom machining services.

Justification: In the event of a future failure, if usable parts or custom machining are not available, the two options would be custom-designed aftermarket castings (if possible) or replacement of the entire compressor. However, both options would render the compressor out of service for at least one operational season.

Assets: Waubuno Compressor

Related Programs: N/A

Recommended Alternative Description

Scope of Work:
In order to meet lifecycle needs for the Waubuno storage facility, EGI is proposing to construct a new NPS 20 pipeline from Waubuno to TR-7 (~1.6 km). This will eliminate the requirement for a remote compressor at Waubuno; and therefore, this project will also involve the abandonment of the Waubuno Remote Compressor Unit and related equipment.
Waubuno Station Modifications (common in all scenario alternatives)
-New Control and Measurement Building
-Upgrade meters, control valve, and filter/separator
-Launcher and associated piping
Pipeline Construction
-NPS 20 Pipeline from Waubuno to TR-7/TR-2/TR-1
-~1.5 km NPS 20 Line (1,440 psi MOP)
-Connection to TR-7 (for injection); to TR-2 (200# Storage Suction); to TR-1 (Flexibility/Optionality)
-Valving to connect new pipeline with TR-1, TR-2, and TR-7 with overpressure protection
-Receiver and associated piping at new TR-7 valve site
-New Control Building

-Waubuno Compressor Abandonment (common in all alternative scenarios)
-Removal of the compressor and any associated equipment in compressor building.
-Removal of all the NPS 8 compressor suction and discharge piping back to their take-off at the bypass control valve.
-Removal of the aftercooler, filter and silencer.
-Removal of all electrical wiring, control wiring and SCADA communication wiring and panels associated with the compressor.
-Removal of the compressor building and foundation. As the site has been in existence since the 1980s, there is a strong possibility of ground contamination that will need remediation.
Resources:
-Consultant resources for design
-Contractor resources for abandonment, construction and commissioning
Solution Impact:
Replace approximately 3.5 PJ of inventory provided by the current compressor that is obsolete and poses the risk of significant downtime in the event of a failure.
Project Timing & Execution Risks:
-Requires Ontario Energy Board Leave to Construct approval
-Pool out of service
-Pipeline route not finalized
-Landowners may want abandoned pipeline removed
-Dependent on TR-7 pipeline
-2025 in-service date

Investment Type	Project (EGI)	Planning Portfolio	UG - Core - Compression Stations - Replacements
Investment Stage	Executing		

Investment Overview

1. Project Information	State/Province	Ontario
	Operating Area (EGI)	Div_53 - Union South Storage
	Asset Program (EGI)	CS - Replacements
	Asset Class (EGI)	Compression Stations
2. Compliance	Compliance Investment	No
	Compliance Justification & Code	
3. Must Do	Must Do Investment	No
	Intolerable Risk (EGI)	No
	Third Party Relocation (EGI)	No
	Program work with sufficient history and risk to warrant continuation (EGI)	No

ENBRIDGE

Investment Summary Report

Investment Code	Report Start Year	Number of Years
48732	**2023**	**10**

Investment Name

Waubuno Compression Lifecycle

Spend Profile

Name	Net Base Capex O (CA)
Waubuno Compression Lifecycle	$ 15,592,500

Account Type	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Base CAPEX O	$ 252,000	$ 1,260,000	$ 14,017,500	$ 63,000	$ -	$ -	$ -	$ -	$ -	$ -
Contributions	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Dismantlement	$ -	$ -	$ 630,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Report Generation Date: 5/30/2022

ENBRIDGE

Investment Summary Report

Investment Code	Report Start Year	Number of Years
7660	**2023**	**10**

Investment Name

VPM - Erin Township

Investment Description

Issue/Concern:
It has been reported through a leak event that the vintage plastic pipe in Erin Township has experience cracking due to the stony soil in this area. The Gas Technology Institute (GTI) study on Aldyl A pipe has stated stress intensifier such as rock impingement could result in SCG in this type of plastic pipe.

Assets: Vintage plastic pipe in Erin Township

Related Programs: Pipe replacement vintage plastic

Recommended Alternative Description

Scope of Work:
Replace 2,700 metres of 4-inch PE main, 10,000 m of 2-inch PE main and 300 services.

Resources: Extended Alliance contractors

Solution Impact:
Mains Replacement Program will address leaks and condition issues as identified. The approach depends on the extent of the poor condition. Localized poor condition is managed through pipeline repairs whereas broader condition issues are managed through more extensive replacement.

Project Timing & Execution Risks: Cost estimates continue to be refined as project design progresses and approaches construction. The work might require temporary land rights acquisition and permitting ahead of execution, which could have an impact to the project schedule.

Investment Type	Project (EGI)	Planning Portfolio	EGD - Core - DP - Main Replacement - General Mains Replacement
Investment Stage	Executing		

Investment Overview

1. Project Information	State/Province	Ontario
	Operating Area (EGI)	20 - Mississauga
	Asset Program (EGI)	DP - Main Replacement
	Asset Class (EGI)	Distribution Pipe
2. Compliance	Compliance Investment	Yes
	Compliance Justification & Code	Risk Assessment for Aldyl A attached
3. Must Do	Must Do Investment	No
	Intolerable Risk (EGI)	No
	Third Party Relocation (EGI)	No
	Program work with sufficient history and risk to warrant continuation (EGI)	No

Spend Profile

Name	Net Base Capex O (CA)
VPM - Erin Township	$ 11,113,408

Account Type	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Base CAPEX O	$ 2,366,350	$ 2,366,350	$ 2,197,800	$ 2,197,800	$ -	$ -	$ -	$ -	$ -	$ -
Contributions	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Dismantlement	$ 709,905	$ 709,905	$ 709,905	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Report Generation Date: 5/30/2022

ENBRIDGE

Investment Summary Report

Investment Code	Report Start Year	Number of Years
100339	**2023**	**10**

Investment Name

A10: Wilson Avenue, Toronto, VSM Replacement

Investment Description

Issue/Concern/Opportunity:
Phased replacement of 12 gas main from Bathurst Ave. to Walsh Ave. Main is currently protected by Rectifier.
-The main on Wilson Ave. has numerous Pumpkins that have been installed on it. Starting from Wendell Ave. and going east towards Bathurst St.
-Corrosion on main has been an issue on Wilson Ave. due to stray current from Toronto Transit Commission (TTC) which continues to be an ongoing concern.
-The service connections have field-applied coatings which leaves a concern for future corrosion issues on this main.
-Regarding the main in the middle of the road on Wilson Ave., Curbside Valve Tee (CVT) repairs are problematic due to the location of the main.

Assets:
There is 8.5 km of NPS 12 HP Vintage Steel Main (VSM) installed between 1955 and 1964 on Wilson Ave. between Walsh Ave. and Bathurst St., Toronto.

Related Program: Not applicable.
Phased replacement of 12 Gas Main from Bathurst Ave. to Walsh Ave. Main is currently protected by Rectifier.
-The main on Wilson Ave. has numerous Pumpkins that have been installed on it. Starting from Wendell Ave. and going east towards Bathurst St.
-Corrosion on main has been an issue on Wilson Ave. due to stray current from Toronto Transit Commission (TTC) which continues to be an ongoing concern.
-The service connections have field-applied coatings which leaves a concern for future corrosion issues on this main.
-Regarding the main in the middle of the road on Wilson Ave. , Curbside Valve Tee (CVT) repairs are problematic due to the location of the main.

Assets:
There is 8.5 km of NPS 12 HP Vintage Steel Main (VSM) installed between 1955 and 1964 on Wilson Ave. between Walsh Ave. and Bathurst St., Toronto.

Related Program: N/A

Recommended Alternative Description

Scope: Replace approximately 8.5 km of 12-inch SC HP Vintage Steel Gas Main, like for like. There are approximately 384 services and 746 customers. In addition, install 2,000 m of NPS 2 PE IP and 400 m of NPS 4 PE IP, eliminating 136 HP services of the 384 existing HP services.

Resources: NPL to execute.

Solution Impact: Eliminate vintage steel main, reduce the number of HP services attached and reduce corrosion and coding deficiencies.

Project Timing & Execution Risks: 2024 to 2026
-Toronto and Region Conservation Authority (TRCA) permit is required.
-Moratorium - At Walsh Ave. W. past Matthews Gate, approximately 700 m expires December 31, 2024.
-Easement is required for the Humber River Crossing.
-Major Crossings - CP Rail, 400 Hwy, Humber River, Metrolinx – Barrie Line, the Allen, and 401 off ramp.

Investment Type	Project (EGI)	Planning Portfolio	EGD - Core - DP - Main Replacement - Vintage Steel Mains Replacement Program
Investment Stage	Executing		

Investment Overview

1. Project Information	State/Province	Ontario
	Operating Area (EGI)	10 - Toronto
	Asset Program (EGI)	DP - Main Replacement
	Asset Class (EGI)	Distribution Pipe
2. Compliance	Compliance Investment	No
	Compliance Justification & Code	
3. Must Do	Must Do Investment	No
	Intolerable Risk (EGI)	No
	Third Party Relocation (EGI)	No
	Program work with sufficient history and risk to warrant continuation (EGI)	No

Spend Profile

Name	Net Base Capex O (CA)
A10: Wilson Avenue, Toronto, VSM Replacement	$ 72,015,518

Account Type	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Base CAPEX O	$ -	$ 28,199,920	$ 41,647,950	$ 937,500	$ -	$ -	$ -	$ -	$ -	$ -
Contributions	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Dismantlement	$ -	$ -	$ 1,447,500	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Report Generation Date: 5/30/2022

ENBRIDGE

Investment Summary Report

Investment Code	Report Start Year	Number of Years
1938	**2023**	**10**

Investment Name: NPS 10 Glenridge Avenue, St. Catharines

Investment Description

Issue/Concern:
GENERAL CONCERNS: Vintage steel exhibit increased failures as they age as steel mains are susceptible to external corrosion when barriers of pipe coatings and cathodic protection are compromised. The current pipe replacement rate (mains and services) is inadequate to prevent the average age of the population from increasing and hence reaching the end of their useful life. EGI has determined that a long-term proactive replacement program targeting higher-risk steel pipes installed on or before 1970 (Vintage Steel) is required to manage the increasing number of expected leaks that create increasing risk for the organization.

SITE SPECIFIC CONCERNS:
This project looks to replace approximately 8.7 km of mostly 1954 to 1960s vintage NPS 10 intermediate pressure (IP) pipe with sections of NPS 12 and NPS 8 spliced in over the years as repairs.

A 2019 DOC survey found that 366 (33%) survey locations had less than 90 cm of cover, and 90 survey locations (8%) had DOC<60cm, with one location found having exposed pipe due to creek erosion. Poor depth of cover leads to increased third-party damages (as has been seen with blow-off valves). Other risk factors include black coal tar pipe coatings used on 1959/1960 vintage NPS 10 pipe which show evidence of degradation, yielding to corrosion.

There are many unusual fittings (Stop-and-Go) and unusual construction practices (such as using unrestrained compression couplings to tie in service connections) that can lead to difficult emergency responses. For example, a recent leak repair took 24 days to complete at a cost of almost $500K due to complications from DOC, components, and construction practices. Unrestrained compression couplings have been the source of leaks due to ground settlement and increase the risk of pull-out. The river crossing at Twelve Mile Creek is very difficult to access due to steep creek banks and heavy vegetation, making it difficult to perform cathodic protection and leak surveys. It will pose as a significant concern for any required emergency response. The numerous transitions from NPS 8 to NPS 10 to NPS 12 also creates concern and difficulties for operational work to be completed.

There are two main line valves that are suspected to be tied in with unrestrained compression couplings (CC) as per an Integrity Assessment for suspect CC locations. Cathodic protection for some of the NPS 10 segments has been historically poor, showing as much as 25% of historical readings over the last 20 years below minimum required levels.

Assets:
8.7 kilometers of mostly 1954 to 1960s vintage NPS 10 IP pipe with sections of NPS 12 and NPS 8 spliced in over the years as repairs that run along Glenridge Avenue from Russel Avenue south to Lockhart Drive, then along Lockhart Drive west to First Street Louth.

Related Programs: N/A

Recommended Alternative Description

Scope of Work: Asset Renewal and Improvement Main Replacement - Replace approximately 7,500 m of vintage main NPS 10-inch ST IP and approximately 110 service connections with NPS 8 PE.

Resources: External Alliance contractors.

Solution Impact:
Main replacement project identified by Operations as high priority. Replacement is required due to age, pipeline condition and risk assessment results.

Project Timing & Execution Risks:
The timing for execution of this replacement project is planned for 2025/26.
Execution Risks: Moratoriums, third-party developments, COVID-19 impacts, permitting and required easements.

Investment Type	Project (EGI)	Planning Portfolio	EGD - Core - DP - Main Replacement - Vintage Steel Mains Replacement Program
Investment Stage	Short Term Planning		

Investment Overview

1. Project Information	State/Province	Ontario
	Operating Area (EGI)	80 - Niagara
	Asset Program (EGI)	DP - Main Replacement
	Asset Class (EGI)	Distribution Pipe
2. Compliance	Compliance Investment	No
	Compliance Justification & Code	
3. Must Do	Must Do Investment	No
	Intolerable Risk (EGI)	No
	Third Party Relocation (EGI)	No
	Program work with sufficient history and risk to warrant continuation (EGI)	No

Spend Profile

Name	Net Base Capex O (CA)
NPS 10 Glenridge Avenue, St. Catharines	$ 11,804,455

Account Type	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Base CAPEX O	$ -	$ 300,000	$ 6,047,929	$ 5,456,526	$ -	$ -	$ -	$ -	$ -	$ -
Contributions	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Dismantlement	$ -	$ -	$ 3,565,604	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Report Generation Date: 5/30/2022

ENBRIDGE

Investment Summary Report

Investment Code	Report Start Year	Number of Years
11443	**2023**	**10**

Investment Name
NPS 12 Martin Grove Rd Main Replacement: Lavington to St. Albans Rd.

Investment Description

Issue/Concern/Opportunity:

General Concerns:
Vintage steel exhibit increased failures as they age as steel mains are susceptible to external corrosion when barriers of pipe coatings and cathodic protection are compromised. The current pipe replacement rate (mains and services) is inadequate to prevent the average age of the population from increasing and hence reaching the end of their useful life. EGI has determined that a long-term proactive replacement program targeting higher-risk steel pipes installed on or before 1970 (Vintage Steel) is required to manage the increasing number of expected leaks that create increasing risk for the organization.

Site-Specific Concerns:
Martin Grove to St. Albans Road: Address NPS 12 pipe from Lavington Drive South to Burnhamthorpe Road, then west to Ashbourne Drive, then following Auckland Road south to St. Albans Road.

There are over 360 service connections that will be removed from the HP steel main and an intermediate pressure (IP) polyethylene (PE) subsystem installed to reconnect these customers. Depth of cover (DOC) has been identified as a significant concern for these main segments as identified by 2018 and 2019 DOC surveys that found over 52% of the survey locations had DOC less than 90 cm, with 77 survey locations measuring less than 60 cm of cover. Poor DOC can lead to increased third-party damages. Additional risk factors include two unrestrained compression couplings (CCs), nine restrained CCs, and three suspect valves where, due to their installation dates, may have been tied in using unrestrained CCs (as discovered by an Integrity Assessment showing significant correlation between valves of this vintage with unrestrained CC tie-ins).

Cathodic protection history for the past 20 years shows that over 15% of the readings taken each year were below the minimum requirements. Poor cathodic protection levels can lead to corrosion.

Assets: NPS 12 pipe from Lavington Drive south to Burnhamthorpe Road, then west to Ashbourne Drive, then following Auckland Rd South to St. Albans Road.

Related Programs: 10086.

Recommended Alternative Description

Scope of Work: Replacement of approximately 6.4 km of NPS 12 steel main from Martin Grove Road and Lavington Drive South to Burnhmthorpe Rd, then west to Ashbourne Drive, then south to Auckland Road and St. Albans Road. Approximately 360 services are to be reconnected to a new IP PE sub-system.

Resources: 2026 Out to Construction Phase 2 and resources are to be determined.

Solution Impact: Main replacement project identified as high priority. Replacement is required due to age, pipeline condition and risk assessment results.

Project Timing & Execution Risks: Moratoriums and easements.

Investment Type	Project (EGI)	Planning Portfolio	EGD - Core - DP - Main Replacement - Vintage Steel Mains Replacement Program
Investment Stage	Short Term Planning		

Investment Overview

1. Project Information	State/Province	Ontario
	Operating Area (EGI)	10 - Toronto
	Asset Program (EGI)	DP - Main Replacement
	Asset Class (EGI)	Distribution Pipe
2. Compliance	Compliance Investment	No
	Compliance Justification & Code	
3. Must Do	Must Do Investment	No
	Intolerable Risk (EGI)	No
	Third Party Relocation (EGI)	No
	Program work with sufficient history and risk to warrant continuation (EGI)	No

Spend Profile

Name	Net Base Capex O (CA)
NPS 12 Martin Grove Rd Main Replacement: Lavington to St. Albans Rd.	$ 18,292,755

Account Type	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Base CAPEX O	$ -	$ -	$ 400,000	$ 17,292,755	$ 600,000	$ -	$ -	$ -	$ -	$ -
Contributions	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Dismantlement	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Report Generation Date: 5/30/2022

ENBRIDGE

Investment Summary Report

Investment Code	Report Start Year	Number of Years
10293	**2023**	**10**

Investment Name

St. Laurent Phase 3 - North/South (NPS12/16 Steel)

Investment Description

Issue/Concern/Opportunity:

General Concerns: Vintage steel exhibit increased failures as they age as steel mains are susceptible to external corrosion when barriers of pipe coatings and cathodic protection are compromised. The current pipe replacement rate (mains and services) is inadequate to prevent the average age of the population from increasing and hence reaching the end of their useful life. EGI has determined that a long-term proactive replacement program targeting higher-risk steel pipes installed on or before 1970 (Vintage Steel) is required to manage the increasing number of expected leaks that create increasing risk for the organization.

Site-specific Concerns:
Unable to determine leaks due to the close proximity of the NPS 12 470 psi system. Cathodic protection was not installed until the early 1970s. Approximately 429 services are off this network.

This project is to install 8,543 m of NPS 16/12 on Aviation Pkwy tying into the Network 6580 (Ottawa Gate) and running to Rockcliffe Station and abandon 12 km of NPS 12. Scheduled to be replaced 2024.

Full replacement of main comprising Network 6584 - The NPS 12 St. Laurent Ottawa North line is 13.3 km and operates at 275 psi as Network 6584. It runs from south of St. Laurent Control Station (6584:653:1969) to Rockcliffe Control Station (Station #6B558A). It does not include the main south from St. Laurent Control Station to Industrial Ave. as well as the NPS 12 lateral main to Trans Alta (6584:1234:1235) but does include the NPS 12 lateral main along Tremblay Rd. (but does not include the crossing at the Rideau River to Station #61171A).

Assets: Approximately 2.4 km of NPS 16 ST and 6.9 km of NPS 12 ST to be installed and rebuild 3 stations (Rockcliffe, Birch and St. Laurent Control)

Related Programs: 10089, 10288, 10290, 10291, 10292, 10289, 10294.

Recommended Alternative Description

Scope of Work: Install 6.5 km NPS 12 Steel Gas Main; Install 2.4 km NPS 16 Steel Gas Main; Install 5.1 km Plastic Gas Main and relay all XHP services to the new plastic gas main.

In 2024, for the Plastic Gas Main scope, approximately 3 km will be installed on St Laurent Blvd and Sandridge Road and 2.1 km on Coventry Rd. / Ogilvie Rd. and St. Laurent Blvd. Also, for the Steel Gas Main, approximately 6.5 km of NPS 12 will be installed on Cummings Ave., Brittany Drive., St. Laurent Blvd and Sandridge Road, and 2.4 km of NPS 16 on Michael Street.

Resources: TBD

Solution Impact: Replacing the main will ensure the continued operation of EGI's gas distribution system, and will mitigate safety risks to employees, contractors, and general public.

Timing & Execution Risks: Phase 3 is to executed in 2024, but the NPS 16/12 cannot be abandoned until this main is installed and all the services have been transferred onto the new plastic gas main.

Investment Type	Project (EGI)	Planning Portfolio	EGD - Core - DP - Main Replacement - Vintage Steel Mains Replacement Program
Investment Stage	Executing		

Investment Overview

1. Project Information	State/Province	Ontario
	Operating Area (EGI)	60 - Ottawa
	Asset Program (EGI)	DP - Main Replacement
	Asset Class (EGI)	Distribution Pipe
2. Compliance	Compliance Investment	No
	Compliance Justification & Code	
3. Must Do	Must Do Investment	No
	Intolerable Risk (EGI)	No
	Third Party Relocation (EGI)	No
	Program work with sufficient history and risk to warrant continuation (EGI)	No

Spend Profile

Name	Net Base Capex O (CA)
St. Laurent Phase 3 - North/South (NPS12/16 Steel)	$ 54,437,118

Account Type	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Base CAPEX O	$ 1,000,000	$ 43,799,598	$ 1,550,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Contributions	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Dismantlement	$ -	$ 5,000,000	$ 1,000,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Report Generation Date: 5/30/2022

ENBRIDGE

Investment Summary Report

Investment Code	Report Start Year	Number of Years
10294	**2023**	**10**

Investment Name: St. Laurent Phase 4 - East/West (NPS12 Steel)

Investment Description

Issue/Concern/Opportunity:

General Concerns:
Vintage steel exhibit increased failures as they age as steel mains are susceptible to external corrosion when barriers of pipe coatings and cathodic protection are compromised. The current pipe replacement rate (mains and services) is inadequate to prevent the average age of the population from increasing and hence reaching the end of their useful life. EGI has determined that a long-term proactive replacement program targeting higher-risk steel pipes installed on or before 1970 (Vintage Steel) is required to manage the increasing number of expected leaks that create increasing risk for the organization

Site-Specific Concerns:
Unable to determine leaks due to the close proximity of the NPS 12 470 psi system. Cathodic protection was not installed until the early 1970s. Approximately 429 services are off this network.

Full replacement of main comprising Network 6584 - The NPS 12 St. Laurent Ottawa North line is 13.3 km and operates at 275 psi as Network 6584. It runs from south of St. Laurent Control Station (6584:653:1969) to Rockcliffe Control Station (Station #6B558A). It does not include the main south from St. Laurent Control Station to Industrial Ave., as well as the NPS 12 lateral main to Trans Alta (6584:1234:1235) but does include the NPS 12 lateral main along Tremblay Rd. (but does not include the crossing at the Rideau River to Station #61171A).

In 2018, pressure increased to Avenue O.

In 2019, approximately 3.1 km of plastic will be installed on Tremblay and the Avenues, and the services transferred over to intermediate pressure (IP). Also, due to a road moratorium, 2 km of 6-inch PE IP main on St. Laurent between Donald St., and Montreal needs to be brought forward from 2021 to 2019 and approximately 80 services.

Assets: Phase 4 - This project is to install 3,685 m of NPS 12 in 2022 and relay 1 service.

Related Programs: 10089, 10288, 10290, 10291, 10292, 10293, and 10289.

Recommended Alternative Description

Scope of Work: Install 3.1 km NPS 12 Steel Gas Main; Install 3.2 km Plastic Gas Main and relay all XHP services to the new plastic gas main.

In 2025, approximately 3.2 km of plastic will be installed on Industrial Ave., St. Laurent Blvd and Lancaster Road and all the XHP services will be transferred over to intermediate pressure (IP). Also, approximately 3.1 km of steel will be installed on Ogilvie Road & Coventry Road and all existing vintage steel pipeline will be abandoned once the new pipeline is energized.

Resources: To be determined

Solution Impact: Replacing the main will ensure the continued operation of EGI's gas distribution system, and will mitigate safety risks to employees, contractors, and general public.

Timing & Execution Risks: Phase 4 is to be executed in 2025 but the NPS 16/12 vintage steel pipeline cannot be abandoned until this main is installed and all the services have been transferred onto the new intermediate pressure system.

Investment Type	Project (EGI)	Planning Portfolio	EGD - Core - DP - Main Replacement - Vintage Steel Mains Replacement Program
Investment Stage	Executing		

Investment Overview

1. Project Information	State/Province	Ontario
	Operating Area (EGI)	60 - Ottawa
	Asset Program (EGI)	DP - Main Replacement
	Asset Class (EGI)	Distribution Pipe
2. Compliance	Compliance Investment	No
	Compliance Justification & Code	
3. Must Do	Must Do Investment	No
	Intolerable Risk (EGI)	No
	Third Party Relocation (EGI)	No
	Program work with sufficient history and risk to warrant continuation (EGI)	No

Spend Profile

Name	Net Base Capex O (CA)
St. Laurent Phase 4 - East/West (NPS12 Steel)	$ 19,141,532

Account Type	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Base CAPEX O	$ -	$ -	$ 18,224,123	$ 530,000	$ -	$ -	$ -	$ -	$ -	$ -
Contributions	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Dismantlement	$ -	$ -	$ 638,911	$ 879,637	$ -	$ -	$ -	$ -	$ -	$ -

Report Generation Date: 5/30/2022

ENBRIDGE

Investment Summary Report

Investment Code	Report Start Year	Number of Years
503350	**2023**	**10**

Investment Name

Moulton Replacement BU

Investment Description

Issue/Concern/Opportunity:
There is 5.6 km of NPS 8 Intermediate Pressure (IP) bare steel main to be replaced with NPS 8 IP YJ steel main between #1472 Hwy 3 to #2199 Hwy 3. The in-service date is 2025.
Justification: Replacement of NPS 8 IP bare steel with size-on-size NPS 8 IP YJ steel main for the 5.6 km segment.

Assets: NPS 8 IP gas main between #1472 Hwy 3 to #2199 Hwy 3.

Related Program: N/A

Recommended Alternative Description

Scope of Work: Due to the existing NPS 8 IP steel gas main being bare pipe, the project scope includes replacement of this line with NPS 8 YJ steel gas main.

Resources: Extended Alliance Partners.

Solution Impact: Replacement with NPS 8 YJ steel gas main will remove the unprotected NPS 8 bare steel pipe for 5.6 km.

Project Timing & Execution Risk: Construction planned for 2025.

Investment Type	Project (EGI)	Planning Portfolio	UG - Core - DP - Main Replacement - Bare & Unprotected Steel Replacement Program
Investment Stage	Executing		

Investment Overview

1. Project Information	State/Province	Ontario
	Operating Area (EGI)	Div_16 - Hamilton
	Asset Program (EGI)	DP - Main Replacement
	Asset Class (EGI)	Distribution Pipe
2. Compliance	Compliance Investment	No
	Compliance Justification & Code	
3. Must Do	Must Do Investment	No
	Intolerable Risk (EGI)	No
	Third Party Relocation (EGI)	No
	Program work with sufficient history and risk to warrant continuation (EGI)	No

Spend Profile

Name	Net Base Capex O (CA)
Moulton Replacement BU	$ 14,452,000

Account Type	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Base CAPEX O	$ -	$ 600,000	$ 13,752,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Contributions	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Dismantlement	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Report Generation Date: 5/30/2022

ENBRIDGE

Investment Summary Report

Investment Code	Report Start Year	Number of Years
100295	**2023**	**10**

Investment Name

Div_04: NPS 8 Port Stanley, London, Replacement

Investment Description

Issue/Concern/Opportunity:
The NPS 8 Port Stanley line is approximately 20 km of NPS 8 built in 1959, with unknown grade and wall thickness, bare and protected, and Dresser construction (some gas welded – such welds are usually susceptible to lack of fusion imperfections). There has been a history of a significant number of leaks due to corrosion on this single-feed system that provides natural gas to Port Stanley and St. Thomas, with about 13,000 customers including the St. Thomas hospital, a psychiatric hospital in St. Thomas and a retirement home in Port Stanley.

External corrosion has created difficulties with repairs due to the inability to weld. In one repair case, it took Operations three weeks to locate a suitable weld location for a repair. Repairs often require the use of split sleeves ($8K/ea). Depth of cover is a significant risk factor, with two exposed pipe sections being reported over creek crossings in December 2019. There are significant accessibility issues with locations of the pipe, making it difficult for emergency response and condition surveys. Some sections of pipe are heavily over-grown while other locations can be over 500 m from the nearest road. There are three below-grade stations that are considered confined spaces and which often flood, and must be evacuated before inspections and maintenance can occur. Gas supply from Lake Erie (New Dundee Comp) was known to have high moisture content and may contribute to internal corrosion.

No isolation is built into the single feed system, so if supply needs to be shut down, all downstream customers would be affected. In 2000, 6.8 km of main were replaced due to corrosion and exposed pipe. In 2003, 230 m were replaced due to a Class B leak under a river crossing. Three casings on the system are known to be shorted. An attempted pressure increase in 1970 resulted in numerous leaks from compression couplings and pipe; therefore, the pipe cannot be pressure-elevated.

Assets: Port Stanley line is approximately 20 km of NPS 8 built in 1959.

Related Programs: N/A

Recommended Alternative Description

Scope of Work: The 6.8km of existing NPS 8 section which was recently replaced in year 2000 is not in scope. Approximately 14km of existing NPS 8 steel main will be replaced. Starting from both ends of the year 2000 installed NPS 8 section, 2.1km of NPS 6 (resized down from NPS 8) steel main will be installed headed north to Middlemarch and 2.8km of NPS 6 (resized down from NPS 8) will be installed headed south to the Port Stanley gate station. Furthermore, 4.5km of NPS 8 will be installed from Middlemarch North to the existing NPS 10 tie-in on Talbot line and 4.5km of NPS 8 will be installed from Middlemarch headed east to the St. Thomas South Station.

Solution impact: Replacing the main will ensure the continued operation of EGI's gas distribution system, and will mitigate safety risks to employees, contractors, and general public.

Resources: TBD

Projects Timing and Risks: 2024 Execution

Investment Type	Project (EGI)	Planning Portfolio	UG - Core - DP - Main Replacement - Vintage Steel Mains Replacement Program
Investment Stage	Executing		

Investment Overview

1. Project Information	State/Province	Ontario
	Operating Area (EGI)	Div_04 - London
	Asset Program (EGI)	DP - Main Replacement
	Asset Class (EGI)	Distribution Pipe
2. Compliance	Compliance Investment	No
	Compliance Justification & Code	
3. Must Do	Must Do Investment	No
	Intolerable Risk (EGI)	No
	Third Party Relocation (EGI)	No
	Program work with sufficient history and risk to warrant continuation (EGI)	No

Spend Profile

Name	Net Base Capex O (CA)
Div_04: NPS 8 Port Stanley, London, Replacement	$ 15,221,497

Account Type	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Base CAPEX O	$ 489,630	$ 14,401,776	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Contributions	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Dismantlement	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Report Generation Date: 5/30/2022

ENBRIDGE

Investment Summary Report

Investment Code	Report Start Year	Number of Years
736530	**2023**	**10**

Investment Name

Sudbury Lateral Integrity Digs 2023

Investment Description

Issue/Concern/Opportunity:

General: The Integrity Digs portion of the Integrity Management Program is to specifically capture integrity dig work to respond to inspections. The Integrity Management Program is a mandated regulatory requirement which has been designed to comply with all applicable codes and standards. The program consists of the regular assessment and maintenance of the integrity of the pipeline systems to ensure their continued safety and reliability. Most of the expenditure included in this category is for pipelines that operate above 30% SMYS. It includes installation costs for permanent inline inspection (ILI) tool launcher and receiver facilities, retrofits to existing lines to remove restrictive fittings or pipe configurations so they can be inspected with ILI tools, and replacement of pipeline segments with integrity issues that are identified through the inspections.

Project-Specific: The pipeline section was in-line-inspected in 2021 with several Phase 2 features (corrosion with metal loss, and dents, etc.) reported. In compliance with the TIMP condition monitoring standard, all Phase 2 features are required to be investigated and repaired within 12 months of discovery. Consequently, 67 digs have been planned for the 2023 integrity dig works to effect repair or replacement of affected sections.

Assets: NPS 10 x 121 km Sudbury Lateral Section 1

Related Programs: 48268, 734703, 48244, and 736531.

Recommended Alternative Description

Scope of Work: Phase 1 (immediate response) anomalies detected from the 2021 in-line inspection (ILI) report will be mitigated through integrity verification digs and subsequent repair or replacement of affected sections.
Project-Specific: 67 digs to be executed on the NPS10 Sudbury Lateral Section 1.

Resources: TBD

Solution Impact: By mitigating all (immediate response) anomalies, the Integrity Management Program reduces the probability of pipeline failures, consequently reducing the overall risk to the public and ensuring reliable gas supply.

Project Timing & Execution Risks: 67 Integrity digs are to be executed in 2023. Dig permit constraints may limit the total number of digs executable in 2023.

Investment Type	Project (EGI)	Planning Portfolio	UG - Core - DP - Integrity - Integrity Digs
Investment Stage	Long Term Planning		

Investment Overview

1. Project Information	State/Province	Ontario
	Operating Area (EGI)	Div_43 - Sudbury & S.S. Marie
	Asset Program (EGI)	DP - Integrity
	Asset Class (EGI)	Distribution Pipe
2. Compliance	Compliance Investment	Yes
	Compliance Justification & Code	The Integrity Digs portion of the Integrity Management Program is to specifically capture integrity dig work to respond to inspections. The Integrity Management Program is a mandated regulatory requirement which has been designed to comply with all applicable codes and standards.
3. Must Do	Must Do Investment	Yes
	Intolerable Risk (EGI)	No
	Third Party Relocation (EGI)	No
	Program work with sufficient history and risk to warrant continuation (EGI)	No

Spend Profile

Name	Net Base Capex O (CA)
Sudbury Lateral Integrity Digs 2023	$ 10,000,000

Account Type	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Base CAPEX O	$ 10,000,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Contributions	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Dismantlement	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Report Generation Date: 5/30/2022

ENBRIDGE

Investment Summary Report

Investment Code	Report Start Year	Number of Years
3610	2023	10

Investment Name: CROWLAND STORAGE TRANSFER

Investment Description

Issue/Concern/Opportunity:
Crowland Storage Transfer Station is located on EGI-owned property of approximately 7,300 m2 fenced compound in the Port Colborne, Ontario, approximately 7 km southeast of Welland, Ontario, within a rural area, in close proximity to a railway corridor. This station accepts natural gas from EGI Crowland Gas Storage facilities and provides supply to and from XHP networks, through components within the measurement system, pressure control system , heating system, odourant system, and telemetry system. This station delivers and withdraws natural gas from Storage Operations Wells in the Niagara Region. The following issues have been identified at this station:

Odourization: The odourant system was installed in 2000. The current configuration of the odourant system does not ensure adequate containment of the odourant product in the event of a leak and does not meet the current engineering standards and approvals.
Telemetry & Electrical: The existing electrical system does not meet current EGI electrical installation standards. This poses a potential electrical hazard and faulty wiring may result in lost communications.
Compliance: The Canadian Electrical Code Section 22.1 indicates that all electrical and instrumentation equipment located in a hazardous area must be rated for that area classification. The Remoter Terminal Unit (RTU) building has been identified as being located in an area classification and its equipment is not rated to operate in this environment. This is a risk of ignition and fire in the event of a gas leak.

Phase Cost Estimate Includes:
1) Install annubars on inlet and outlet.
-Install actuator on each operator regulator and on valves 8, 9 and 10.
Required electrical work:
-Relocate RTU building out of classified area (including new building and foundation).
-Install generator and automatic transfer switch.
-Upgrade tower to improve signal quality.
-Upgrade lighting.
2) Install filter separator and receiver on inlet.
-Install moisture analyzer and gas chromatograph.
-Install new YZ odourant system (including new building and foundation).
-Include station bypass equipment and setup (assume bypass of the whole station is needed to complete the work). Includes retrofits to station piping for temporary station connection.
-Includes all planning/design costs including drafting, surveys and permits, and geotechnical study.

Assets: Crowland Station

Related Programs: Major work is scheduled to take place to upgrade the EGI Storage facilities at Crowland. This project would be linked and completed in conjunction with that Storage upgrade #6377

Recommended Alternative Description

Scope Work:
Filtration: Add filter/separator on station inlet
Pipes & Valves: Replace station inlet and outlet valves and associated piping. Existing bypass valve will be upgraded to a 2 valve configuration (plug and ball).
Heating System: Design team will determine if required.
Pressure Control: Sizing will be confirmed during design.
Odourant System: Will be upgraded with secondary containment for the odourant injection pumps to meet current design standards.
Telemetry & Electrical: Upgrade electrical and add pressure transmitters as required. Add remote actuation to valves to allow for efficient use of the STO/Distribution Stations facilities. Add gas chromatograph and moister analyzer.
Measurement: Ultrasonic meter on outlet of the Port Colborne line
Compliance & Others: The existing RTU building will be relocated to an area outside of any hazardous areas.

Solution Impact: TBD

Resources: Company Crews, Contractor Labour and 3rd Party vendor suppliers

Project Timing & Execution Risk: Planning in Year 1, Execution in Year 2 / Execution Risk - Weather impacts, Resource availability, Procurement, etc.

Investment Type	Project (EGI)	Planning Portfolio	EGD - Core - Distribution Stations - Gate, Feeder & A Stations
Investment Stage	Executing		

Investment Overview

1. Project Information	State/Province	Ontario
	Operating Area (EGI)	80 - Niagara
	Asset Program (EGI)	DS - Gate, Feeder & A Stations
	Asset Class (EGI)	Distribution Stations
2. Compliance	Compliance Investment	Yes
	Compliance Justification & Code	RTU building location contravenes Canadian Electrical Code Section 22.1 for unrated equipment operating in a hazardous area classification.
3. Must Do	Must Do Investment	Yes
	Intolerable Risk (EGI)	No
	Third Party Relocation (EGI)	No
	Program work with sufficient history and risk to warrant continuation (EGI)	No

Spend Profile

Name	Net Base Capex O (CA)
CROWLAND STORAGE TRANSFER	$ 19,335,824

Account Type	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Base CAPEX O	$ 18,905,824	$ 430,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Contributions	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Dismantlement	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

	Investment Code	Report Start Year	Number of Years
ENBRIDGE	3610	2023	10
Investment Summary Report	Investment Name		
	CROWLAND STORAGE TRANSFER		

Report Generation Date: 5/30/2022

ENBRIDGE

Investment Summary Report

Investment Code	Report Start Year	Number of Years
735335	2023	10

Investment Name: GTAW Parkway Gate Station Rebuild Phase 2

Investment Description

Project: Parkway East Phase 2. Phase 1 commenced in 2021.

Issue/Concern/Opportunity: The following sub-assets will be rebuilt due to the issues described below:

Regulators: Two existing Becker control valves, i.e., NPS-8 and NPS-6 downstream operators – PRV-0502 and PRV-0504, Runs 9 and 10 on TC Energy feed (quantity is two) are defective and will not lock up; therefore, replacement is required. Currently, the inlet valve from the TC Energy feed is used to completely shut off the TC Energy feed; otherwise, the control valves will bleed by and affect nominations in the summer, automated TC Energy inlet valve for emergency shutoff from TC Energy, as well as to ensure inlet valve is closed to avoid bleed by of Becker control valves in summer conditions (CLOSE ONLY VALVE). Flow control valves on the TC Energy feed are Fairchild's (will replace with DNGPs – RUNS 9/10) not a computer-controlled regulator and do not sense downstream pressure. Isolation valves for each run are operational. DNGP should also replace Fairchild for 12-inch Union East – CV replacement (12-inch closest to Boiler building - RUN 1); 4th Fairchild is on the MSL – not required – disconnect and replace with VRP pilot (pressure control only due to downstream system operation). The station can be down to facilitate work as system can be fed from Parkway West. An additional five Jordan motors that are obsolete are to be replaced with Rotork motors (quantity is five). Due to capacity constraints and designing for future flow provided by Distribution Optimization Engineering (DOE) / TSP, Run 1 T4 Becker is to be replaced with T1 Becker (NPS 12). Run 3 has undersized isolation valves (currently NPS 8) and will need upsizing to NPS 16.

Civil: There is no urethane layer between the pipe support cradle and the bottom of the pipe. A single new Odourant building is required. The wall between the Pressure Transmitter and Remote Terminal Unit (RTU) room is to be opened up for entire building to be RTU room. Demolition of existing Generator building is required. The Storage building is to be removed due to end of life.

Piping & Valves: An increase in pipe size near heaters to NPS 30 along with inlet/outlet HX valves to ensure flow requirements can be achieved. Upsizing downstream header and inlet pipe to regulators to NPS 30 is required to ensure it can handle capacity requirements.

Odourant: The Odourant system is a metallic odourant building without adequate containment with a rusted containment pan. The fill connection is outdoors. Supports are not fire-rated and no Fire Suppression system is installed. Grating within the building is not safe for accessing valves and equipment. A new Odourant building is required. Two 5,000 GAL odourant tanks complete with electric pumps are to be installed. Low-flow and high-flow pumps with full redundancy on winter pumps on each outlet are required. Switchover between pumps should be automated.

Telemetry & Electrical: Existing obsolete Bristol 3330 is to be replaced with Control Wave Micro. Additional electrical wiring and cabling (including power distribution) and programming are to be included in scope.

Assets: Station components are to be replaced as described above in Phase 2.

Related Program: Not applicable.

Recommended Alternative Description

Scope of Work:
Phase 2 of the station rebuild to address the issues described below related to pressure control issues, odourant compliance issues, Remote Terminal Unit (RTU) / Telemetry upgrades from obsolete equipment.

Resources:
This work will be performed by internal and contractor construction crews.

Solution Impact:
Rebuilding the station components will mitigate the safety risks to employees, contractors, and the general public.

Project Timing & Execution Risks:
This is Phase 2 that will commence in 2022 and will continue through 2023 with some assets being planned to be in service in 2022 and the balance in 2023.

Investment Type	Project (EGI)	Planning Portfolio	EGD - Core - Distribution Stations - Gate, Feeder & A Stations
Investment Stage	Executing		

Investment Overview

1. Project Information	State/Province	Ontario
	Operating Area (EGI)	20 - Mississauga
	Asset Program (EGI)	DS - Gate, Feeder & A Stations
	Asset Class (EGI)	Distribution Stations
2. Compliance	Compliance Investment	Yes
	Compliance Justification & Code	New odorant system including odorant tanks required to meet code.
3. Must Do	Must Do Investment	No
	Intolerable Risk (EGI)	No
	Third Party Relocation (EGI)	No
	Program work with sufficient history and risk to warrant continuation (EGI)	Yes

Spend Profile

Name	Net Base Capex O (CA)
GTAW Parkway Gate Station Rebuild Phase 2	$ 12,300,000

Account Type	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Base CAPEX O	$ 8,500,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Contributions	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Dismantlement	$ 400,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Report Generation Date: 5/30/2022

ENBRIDGE

Investment Summary Report

Investment Code	Report Start Year	Number of Years
503369	**2023**	**10**

Investment Name

Lisgar Station

Investment Description

Issue/Concern/Opportunity:
The Lisgar Gate Station is located at a highly populated area in the City of Mississauga. The station is situated in an urban setting and is surrounded by residential buildings, a commercial plaza, and a church. The station has multiple feeds (two transmission lines and one XHP CER line) and various outlets to the local distribution networks. In the event of a major incident, the consequence would be significant given the close proximity of the houses and buildings.

Justification: The following issues and deficiencies have been identified:
- Pipes & Valves have been deemed unreliable at this site and requires removal and installation of new pipes, fittings, and valves.
- Heating system has been deemed unreliable as it has reached its end-of-life cycle usage. The placement of the heat exchangers in the basement of the boiler building has caused maintenance roadblocks along with flooding concerns.
- Pressure regulation: 20002A regulation has been deemed unreliable, regulation will be rebuilt because of inconsistent flows through them. 20002D has suffered from frost heaving issues as well and requires a rebuild.
- Odorant system current configuration does not ensure adequate containment of the odorant product in the event of a leak and does not meet the current engineering standards and approvals. The pumps need automation along with redundancy for better operational efficiency.
- Regulator building that houses 20002B & 20002C needs a noise evaluation study to determine a better noise attenuation solution.
- Existing Measurement is not reliable and accurate. A more robust and accurate measurement needs to be installed for custody transfer purposes

Assets: Distribution Station Assets at the Lisgar Gate Station

Related Program: AFF - 219 - NPS 24 Lisgar to Pine Valley - permanent launcher support (23192)

Recommended Alternative Description

Scope of Work: Rebuild the station with the following scope:
- Pipes & Valves: Replace station isolation valves with new ball valves. All station piping and valves will be examined to ensure that material specifications and their current condition are acceptable for continued use. Projected future station capacity requirements will also be considered.
- Heating System: Replace the boilers and heat exchanger. Boiler piping will also have to be replaced to match up with the new boilers and heat exchanger. Heat exchangers will need to be replaced and installed outside of the building.
- Pressure Control: There are three different stations at Lisgar. Each will be evaluated for current flow requirements through the design stage.
- Odorant System: The new odorant building will be installed that will include sufficient secondary containment which is not part of the current design. A new odorant tank will also be required, along with a second backup pump injection system to serve as redundancy.
- Telemetry & Electrical: The existing RTU cabinet and panel will be replaced with a new Control Wave unit. The telemetry and electrical systems will be brought up to current standards and will include methane and CO sensors and monitoring, station wiring upgrades, electrical service upgrades, station grounding, telemetry
tower upgrades, UPS installation, generator upgrades, modem and firewall upgrades, station lighting upgrades, weather station installation/replacement.
- Measurement: Four new measurement ultrasonic flowmeters will be installed on the inlet NPS 30 from the new Union Gas takeoff. Another measurement will be installed at the outlet on the NPS 24 CER line. Piping will be designed to ensure gas measurement when operationally flowing from the NPS 24CER line to the NPS 20 and reverse. The flow meters will be programmed to have automatic run switching depending on the demand. The NPS 30,20 and 16 outlets will also be equipped with annubar flow meters to capture individual flowrates leaving the station.
- Compliance & Others: Sump pumps will be replaced/relocated to remove them from the confined space.

Resources: Capital Development and Delivery

Solution Impact: Risk reduction to the existing Lisgar Station site by replacing obsolete equipment.

Project Timing & Execution Risks: 2023/2024 Execution

Investment Type	Project (EGI)	Planning Portfolio	EGD - Core - Distribution Stations - Gate, Feeder & A Stations
Investment Stage	Executing		

Investment Overview

1. Project Information	State/Province	Ontario
	Operating Area (EGI)	20 - Mississauga
	Asset Program (EGI)	DS - Gate, Feeder & A Stations
	Asset Class (EGI)	Distribution Stations
2. Compliance	Compliance Investment	No
	Compliance Justification & Code	
3. Must Do	Must Do Investment	
	Intolerable Risk (EGI)	No
	Third Party Relocation (EGI)	No
	Program work with sufficient history and risk to warrant continuation (EGI)	No

Spend Profile

Name	Net Base Capex O (CA)
Lisgar Station	$ 18,414,114

Account Type	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Base CAPEX O	$ 15,390,204	$ 1,823,940	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Contributions	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Dismantlement	$ 1,273,400	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Report Generation Date: 5/30/2022

ENBRIDGE

Investment Summary Report

Investment Code	Report Start Year	Number of Years
1024	**2023**	**10**

Investment Name: NW 6581 Ottawa Reinforcement Phase 2 SRP

Investment Description

Issue/Concern/Opportunity: Reinforcement projects broadly involve the installation of new or modification of existing gas distribution assets to maintain minimum required system pressure, maintain capacity, and meet customer demand. These projects are primarily driven by customer growth and system reliability considerations. Failure to implement reinforcement projects in a timely manner could lead to a potential inability to support increasing demands of existing customers and the addition of future customers.

This network in Ottawa is predominantly made up of residential and commercial customers. In the current configuration, a high pressure network is exclusively fed by both the Ottawa and Richmond Gate Stations. Network Analysis has identified an upstream flow constraint at the Ottawa Gate Station, along with a bottleneck constraint for gas fed from Richmond Gate Station. The South outlet of Ottawa Gate can be set to as low as 400 psig (normally 470 psig) while Richmond Gate is kept at 470 psig, thus flowing more gas from the west to the east.

The current configuration, an existing NPS 12 high pressure pipeline along Fallowfield Road is a bottleneck for gas flowing from the west to Richmond Gate Station, and to eastern areas. The previously constructed Ottawa Reinforcement Plan (ORP) Phase 1 as well as the Strandherd River crossing has helped move gas from Richmond Gate eastward to areas of concentrated and growing gas demand.

This reinforcement will assist in moving additional gas from Richmond Gate toward the areas that would be serviced by Ottawa Gate, and remove the bottleneck constraint. There were approximately 193,553 customers on the associated networks as of 2016.

Assets: Existing NPS 12 HP Pipe

Related Program: Not applicable

Recommended Alternative Description

Scope of Work: The proposed scope includes the installation of 7 km of NPS 12 high pressure main from Greenbank Rd. and W Hunt Club Rd. to Princess of Wales Dr. and W Hunt Club Rd. along W Hunt Club Rd.

Resources: Company crews, contractor labour and third-party vendor suppliers.

Solution Impact: This reinforcement project will ensure the system has adequate flow capacity in anticipation of projected customer growth.

Project Timing & Execution Risks: The Project is proposed to start in 2030 and be completed by 2032.

Risks: Weather impacts, resource availability, and procurement issues, etc.

Investment Type	Project (EGI)	Planning Portfolio	EGD - Core - Growth - System Reinforcement
Investment Stage	Long Term Planning		

Investment Overview

1. Project Information	State/Province	Ontario
	Operating Area (EGI)	60 - Ottawa
	Asset Program (EGI)	GTH - System Reinforcement
	Asset Class (EGI)	Growth
2. Compliance	Compliance Investment	
	Compliance Justification & Code	
3. Must Do	Must Do Investment	Yes
	Intolerable Risk (EGI)	No
	Third Party Relocation (EGI)	No
	Program work with sufficient history and risk to warrant continuation (EGI)	No

Spend Profile

Name	Net Base Capex O (CA)
NW 6581 Ottawa Reinforcement Phase 2 SRP	$ 52,686,000

Account Type	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Base CAPEX O	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 268,000	$ 5,348,000	$ 47,070,000
Contributions	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Dismantlement	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Report Generation Date: 5/30/2022

ENBRIDGE

Investment Summary Report

Investment Code	Report Start Year	Number of Years
736259	**2023**	**10**

Investment Name: Hamilton Industrial Reinforcement

Investment Description

Issue/Concern/Opportunity:
Reinforcement required to support changes to industrial demand in the area.

Assets: Distribution Reinforcement

Related Program: N/A

Recommended Alternative Description

Scope of Work: Route options are currently being assessed for constructability. Routes range from NPS 10 to NPS 30.

Resources: Capital Development, Business Development, Engineering Construction

Solution Impact: In May 2021, the customer initiated a significant growth project with Enbridge for an increased demand of 96,000 m3/hr.

Project Timing & Execution Risk: November 2025 as required by the customer.

Investment Type	Project (EGI)	Planning Portfolio	UG - Core - Growth - System Reinforcement
Investment Stage	Long Term Planning		

Investment Overview

1. Project Information	State/Province	Ontario
	Operating Area (EGI)	Div_16 - Hamilton
	Asset Program (EGI)	GTH - System Reinforcement
	Asset Class (EGI)	Growth
2. Compliance	Compliance Investment	
	Compliance Justification & Code	
3. Must Do	Must Do Investment	Yes
	Intolerable Risk (EGI)	No
	Third Party Relocation (EGI)	No
	Program work with sufficient history and risk to warrant continuation (EGI)	No

Spend Profile

Name	Net Base Capex O (CA)
Hamilton Industrial Reinforcement	$ 103,000,000

Account Type	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Base CAPEX O	$ 2,000,000	$ 8,000,000	$ 88,000,000	$ 5,000,000	$ -	$ -	$ -	$ -	$ -	$ -
Contributions	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Dismantlement	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Report Generation Date: 5/30/2022

ENBRIDGE

Investment Summary Report

Investment Code	Report Start Year	Number of Years
100703	**2023**	**10**

Investment Name

SRP_LUG East_Kingston_Creekford Rd_Reinforcement_NPS8_6200m_6895kPa

Investment Description

Issue/Concern/Opportunity: Kingston lateral replacement to be completed from Westbrook CMS to Woodbine TBS to account for forecasted growth, and to address Class Location and depth of cover issues which exist on the current Kingston lateral.

Assets: Kingston Lateral Replacement

Related Program: N/A

Recommended Alternative Description

Scope of Work: The project will replace the existing NPS 6 ST 6895 kPa distribution pipeline from the Westbrook TCPL takeoff to the Woodbine Town Border Station with an NPS 8 ST 6895 kPa pipeline. This project supports all pressures downstream to Kingston. The project is required to support growth and address additional other depth of cover, station and class location issues.

Resources: Company crews, 3rd party contractor crews and 3rd party vendors.

Solution Impact: Organic growth on the Kingston system wide. This reinforcement supports the entire system and downstream networks.

Project Timing & Execution Risks: System reinforcement is required in 2024 as per current plan and significant growth on systems. Risks include weather, resource availability, procurement of materials, etc.

Investment Type	Project (EGI)	Planning Portfolio	UG - Core - Growth - System Reinforcement
Investment Stage	Executing		

Investment Overview

1. Project Information	State/Province	Ontario
	Operating Area (EGI)	Div_22 - Kingston
	Asset Program (EGI)	GTH - System Reinforcement
	Asset Class (EGI)	Growth
2. Compliance	Compliance Investment	
	Compliance Justification & Code	
3. Must Do	Must Do Investment	Yes
	Intolerable Risk (EGI)	No
	Third Party Relocation (EGI)	No
	Program work with sufficient history and risk to warrant continuation (EGI)	No

Spend Profile

Name	Net Base Capex O (CA)
SRP_LUG East_Kingston_Creekford Rd_Reinforcement_NPS8_6200m_6895kPa	$ 24,321,527

Account Type	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Base CAPEX O	$ 3,700,000	$ 18,800,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Contributions	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Dismantlement	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Alternative Value - Recommended

Report Generation Date: 5/30/2022

ENBRIDGE

Investment Summary Report

Investment Code	Report Start Year	Number of Years
30523	**2023**	**10**

Investment Name

SRP_North_Parry Sound_Seguin Trail_Reinforcement_NPS6_8500m_4960kPa

Investment Description

Risk/Concern/Opportunity: This project was generated as part of Distribution Optimization Engineering's 2021 System Reinforcement Plan (SRP). 8.5 km of NPS 6 steel looping is required on the existing Parry Sound Lateral (4960 kPa) to maintain the minimum inlet into the Parry Sound TBS station (44801002) and support the forecasted growth in Parry Sound. Without this project, the forecasted growth on the system would increase the likelihood that inlet pressures at Parry Sound TBS would drop below minimum operating limits.

Assets: The existing NPS 4 (4960 kPa) Parry Sound Lateral will be impacted by this investment.

Related Program: N/A

Recommended Alternative Description

Scope of Work: Loop the existing NPS 4 (4960kPa MOP) pipe with NPS 6 for 8.5 km.

Resources: This work will be performed by internal and contractor operations crews.

Solution Impact: The 8.5 km of NPS 6 steel main will ensure forecasted demands (based on the econometric forecast) for the Parry Sound distribution system are met (out to 2042).

Project Timing & Execution Risks: The expected in-service date for the proposed looping is 2032.

Investment Type	Project (EGI)	Planning Portfolio	UG - Core - Growth - System Reinforcement
Investment Stage	Short Term Planning		

Investment Overview

1. Project Information	State/Province	Ontario
	Operating Area (EGI)	Div_43 - Sudbury & S.S. Marie
	Asset Program (EGI)	GTH - System Reinforcement
	Asset Class (EGI)	Growth
2. Compliance	Compliance Investment	
	Compliance Justification & Code	
3. Must Do	Must Do Investment	Yes
	Intolerable Risk (EGI)	No
	Third Party Relocation (EGI)	No
	Program work with sufficient history and risk to warrant continuation (EGI)	No

Spend Profile

Name	Net Base Capex O (CA)
SRP_North_Parry Sound_Seguin Trail_Reinforcement_NPS6_8500m_4960kPa	$ 17,500,000

Account Type	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Base CAPEX O	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 17,500,000
Contributions	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Dismantlement	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Report Generation Date: 5/30/2022

ENBRIDGE

Investment Summary Report

Investment Code	Report Start Year	Number of Years
30542	**2023**	**10**

Investment Name

SRP_Southeast_Owen Sound_County Rd 40_Reinforcement_NPS12_11800m_4670kPa

Investment Description

Risk/Concern/Opportunity: The Owen Sound system north of St. Jacob's historically adds about 1300 customers per year and growth has been strong along the lakeshore (Port Elgin, Southampton, Owen Sound & towards Collingwood).

Assets: Distribution Reinforcement

Related Programs: N/A

Recommended Alternative Description

Scope of Work: The project will loop the existing NPS10 ST 4,670 kPa main from existing PH4 reinforcement to Squire, Ontario with NPS12 ST main, as well as install a valve site and 12-inch receiver facilities. Alternative running lines and pipe sizes can be determined closer to the project design stages in 2023 and 2024. This project supports all pressures downstream to Owen Sound, Port Elgin, Southampton, Wiarton, Sauble Beach and east of Owen Sound. Actual growth rates and loads will need to be confirmed closer to the project planning stages.

Resources: Company crews, third-party contractor crews and third-party vendors.

Solution Impact: Organic growth on the Owen Sound system wide north of St. Jacobs Transmission Station. This reinforcement supports the entire system and downstream networks.

Project Timing & Execution Risks: System reinforcement is required in 2025 as per current plan and significant growth on systems. Risks include weather, resource availability, and procurement of materials, etc.

Investment Type	Project (EGI)	Planning Portfolio	UG - Core - Growth - System Reinforcement
Investment Stage	Short Term Planning		

Investment Overview

1. Project Information	State/Province	Ontario
	Operating Area (EGI)	Div_07 - Waterloo
	Asset Program (EGI)	GTH - System Reinforcement
	Asset Class (EGI)	Growth
2. Compliance	Compliance Investment	
	Compliance Justification & Code	
3. Must Do	Must Do Investment	Yes
	Intolerable Risk (EGI)	No
	Third Party Relocation (EGI)	No
	Program work with sufficient history and risk to warrant continuation (EGI)	No

Spend Profile

Name	Net Base Capex O (CA)
SRP_Southeast_Owen Sound_County Rd 40_Reinforcement_NPS12_11800m_4670kPa	$ 26,400,000

Account Type	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Base CAPEX O	$ -	$ -	$ 26,400,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Contributions	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Dismantlement	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Report Generation Date: 5/30/2022

ENBRIDGE

Investment Summary Report

Investment Code	Report Start Year	Number of Years
736075	**2023**	**10**

Investment Name

WIND: Wheatley-1B - Panhandle Distribution Reinforcement - Wheatley Lateral Replacement and Reinforcement

Investment Description

Risk/Concern/Opportunity:
Greenhouse growth in the Windsor area continues. The Panhandle distribution network needs to be reinforced to allow for the continued industrial customer expansion. A Panhandle transmission reinforcement is also required to meet the demand of the region.

Assets: Distribution Reinforcement

Related Programs: N/A

Recommended Alternative Description

Scope of Work: Wheatley-1B is a distribution system looping project which requires a new station at Wheatley Rd. and Goodreau Line: 5,300 m of NPS 8 and 10,800 m of NPS 8.

Resources: This work will be performed by internal and contractor construction crews.

Solution Impact: New facilities in this area will provide the reinforcement required to support the greenhouse industry growth.

Project Timing & Execution Risks: Project timing will have to align with the ability to justify natural gas expansion (commercial certainty of the new customers). Depending on the geographical spread of industrial customer expansion, the scope of the project will need to be adjusted to support the forecasted need.

Investment Type	Project (EGI)	Planning Portfolio	UG - Core - Growth - System Reinforcement
Investment Stage	Executing		

Investment Overview

1. Project Information	State/Province	Ontario
	Operating Area (EGI)	Div_01 - Windsor
	Asset Program (EGI)	GTH - System Reinforcement
	Asset Class (EGI)	Growth
2. Compliance	Compliance Investment	
	Compliance Justification & Code	
3. Must Do	Must Do Investment	Yes
	Intolerable Risk (EGI)	No
	Third Party Relocation (EGI)	No
	Program work with sufficient history and risk to warrant continuation (EGI)	No

Spend Profile

Name	Net Base Capex O (CA)
WIND: Wheatley-1B - Panhandle Distribution Reinforcement - Wheatley Lateral Replacement and Reinforcement	$ 16,500,000

Account Type	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Base CAPEX O	$ 935,000	$ 15,560,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Contributions	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Dismantlement	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Report Generation Date: 5/30/2022

ENBRIDGE

Investment Summary Report

Investment Code	Report Start Year	Number of Years
736975	2023	10

Investment Name: Enbridge Gas Distribution System Hydrogen Feasibility Study

Investment Description

Risk/Concern/Opportunity:
Comprehensive techno-economic feasibility study of blending hydrogen into Enbridge Gas Inc.'s (EGI) existing natural gas distribution and transmission network across Ontario.

Assets: Hydrogen Study

Related Programs: N/A

Recommended Alternative Description

Scope of Work:
Evaluate the technical feasibility and maximum limits of blended hydrogen gas in existing networks, identify necessary retrofits or upgrades for varying concentrations of hydrogen, and develop a staged roadmap for transitioning Ontario's gas network to a low-carbon future in line with technical and economic barriers and opportunities. The assessment comprises the entirety of EGI's gas pipeline network in Ontario:
- 78 214 km of gas distribution main lines
- 66 787 km of gas distribution service lines
- 5 471 km of gas transmission lines

Resources: 3rd party contractor

Solution Impact: By blending hydrogen at strategic locations across EGI's existing gas network, EGI aims to reduce the carbon intensity of its 3.8 million residential, commercial, institutional and industrial customers across over 500 communities in Ontario.

Project Timing & Execution Risks:
Study to be completed in 2026

Investment Type	Project (EGI)	Planning Portfolio	EGD - Core - Growth - Hydrogen Blending
Investment Stage	Initial		

Investment Overview

1. Project Information	State/Province	Ontario
	Operating Area (EGI)	30 - Richmond Hill
	Asset Program (EGI)	GTH - Hydrogen Blending
	Asset Class (EGI)	Growth
2. Compliance	Compliance Investment	No
	Compliance Justification & Code	
3. Must Do	Must Do Investment	No
	Intolerable Risk (EGI)	No
	Third Party Relocation (EGI)	No
	Program work with sufficient history and risk to warrant continuation (EGI)	No

Spend Profile

Name	Net Base Capex O (CA)
Enbridge Gas Distribution System Hydrogen Feasibility Study	$ 12,000,000

Account Type	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Base CAPEX O	$ -	$ 4,000,000	$ 4,000,000	$ 4,000,000	$ -	$ -	$ -	$ -	$ -	$ -
Contributions	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Dismantlement	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Report Generation Date: 5/30/2022

ENBRIDGE

Investment Summary Report

Investment Code	Report Start Year	Number of Years
48714	**2023**	**10**

Investment Name

Hagar Cold Box

Investment Description

Issue/Concern/Opportunity: The Cold Box is several heat exchangers in series used to cool the natural gas feedstock to -160 degrees Celsius at which point the natural gas turns into a liquid. The Cold Box is the core of the Liquefied Natural Gas (LNG) station and is necessary to produce LNG. The consequence of a Cold Box failure is dominated by customer impact. Risk of associated failure is heavily influenced by thermal cycling and operational hours. Over its 50 years of operation, the Cold Box has amassed 140,000 operational hours. Significant failure modes include leakage of natural gas or refrigerants out of the piping into the interior of the Cold Box shell reaching potentially explosive levels or heat exchanger cross leaks that reduce the effectiveness of the refrigeration process. Both of these failure modes impair LNG production to the extent the plant cannot meet its annual production requirements. As the Cold Box internals are encased in very densely packed insulation and clad in an outer steel jacket, troubleshooting and repair of either of these failure modes is extremely difficult and time consuming.

Assets: Cold Box

Related Programs: N/A

Recommended Alternative Description

Scope of Work: This project involves replacement of the Cold Box.

Solution Impact: Considering the complex nature of internal repair or replacement of the Cold Box, a reactive response to internal leakage would render the liquefaction process out of production and unable to meet its regulated requirements for at least an operational season. Due to the age of the plant, the replacement of an individual component such as the Boil Off Gas (BOG) Compressor introduces a risk of the compatibility of new equipment with the existing balance of the plant. This could result in a change in project scope or an approach that favours broader plant renewal.

Resources: Projects will work with a third-party engineering firm to complete the design and a contractor to complete the field work. Operations will support Major Projects as required.

Project Timing & Execution Risks: The proposed timing to complete the on-site work is during the second and third quarters of the year. Design and ordering of long-lead items will need to occur a year in advance.

Investment Type	Project (EGI)	Planning Portfolio	UG - Core - LNG - Integrity
Investment Stage	Long Term Planning		

Investment Overview

1. Project Information	State/Province	Ontario
	Operating Area (EGI)	Div_53 - Union South Storage
	Asset Program (EGI)	LNG - Integrity
	Asset Class (EGI)	LNG
2. Compliance	Compliance Investment	No
	Compliance Justification & Code	
3. Must Do	Must Do Investment	No
	Intolerable Risk (EGI)	No
	Third Party Relocation (EGI)	No
	Program work with sufficient history and risk to warrant continuation (EGI)	No

Spend Profile

Name	Net Base Capex O (CA)
Hagar Cold Box	$ 11,000,000

Account Type	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Base CAPEX O	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 2,500,000	$ 8,500,000
Contributions	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Dismantlement	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Report Generation Date: 5/30/2022

ENBRIDGE

Investment Summary Report

Investment Code	Report Start Year	Number of Years
49955	2023	10

Investment Name: Hagar JVG Compressor Upgrade

Investment Description

Issue/Concern/Opportunity: The Boil Off Gas (BOG) Compressor is one of the two compressors used to power the refrigerant process which cools the natural gas feedstock to -160 degrees Celsius at which point the natural gas turns into a liquid. The BOG Compressor was also used to recover BOG (i.e., natural gas vapours) from the Liquefied Natural Gas (LNG) storage tank which occurs on a continuous basis due to the ambient warming of the tank exterior. In 2012, a separate compressor was installed to manage the LNG storage tank boil off gas.

The BOG Compressor is necessary to produce LNG. The consequence of compressor failure is dominated by customer impact. Risk associated with failure of the BOG compressor is heavily influenced by the time of year, weather severity and time to mitigate the failure. Over its 50 years of operation, the 240 horsepower Ingersoll Rand BOG Compressor has amassed 325,000 operational hours. The compressor is obsolete; and, although normal wear components are still available in the marketplace, core compressor replacement parts such as cylinders, crankshafts, and pistons, etc., required to support a critical failure are no longer manufactured by the original equipment manufacturer (OEM). In the event of a critical failure, securing used parts (which are rare) or aftermarket custom machining services are the only options for a timely repair. This was the case in 2017 when an aftermarket service was solicited to develop a weld and machine repair of a compressor cylinder which had failed. The aftermarket service was able to design a custom repair which took three months to complete. In the event that the cylinder is not repairable, a custom-designed aftermarket casting or a complete replacement of the compressor may be options. These options would take the plant out of service for at least one operational season, rendering the plant unable to perform its regulated requirements.

Assets: BOG Compressor

Related Programs: N/A

Recommended Alternative Description

Scope of Work: Replacement of the 240 horsepower Boil Off Gas (BOG) Compressor (JVG)

Solution Impact: Mitigate the risk of a critical part failure that is non-repairable due to obsolescence.

Resources: Projects will work with a third-party engineering firm to complete the design and a contractor to complete the field work. Operations will support Major Projects as required.

Project Timing & Execution Risks: The proposed timing is to complete the on-site work during the second and third quarters. Design and ordering of long-lead items will need to occur a year in advance.
Due to the age of the plant, the replacement of an individual component such as the BOG compressor introduces a risk of the compatibility of new equipment with the existing balance of the plant. This could result in a change in project scope or an approach that favours broader plant renewal.

Investment Type	Project (EGI)	Planning Portfolio	UG - Core - LNG - Replacements
Investment Stage	Long Term Planning		

Investment Overview

1. Project Information	State/Province	Ontario
	Operating Area (EGI)	Div_92 - Union North Storage
	Asset Program (EGI)	LNG - Replacements
	Asset Class (EGI)	LNG
2. Compliance	Compliance Investment	No
	Compliance Justification & Code	
3. Must Do	Must Do Investment	No
	Intolerable Risk (EGI)	No
	Third Party Relocation (EGI)	No
	Program work with sufficient history and risk to warrant continuation (EGI)	No

Spend Profile

Name	Net Base Capex O (CA)
Hagar JVG Compressor Upgrade	$ 26,820,000

Account Type	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Base CAPEX O	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,500,000	$ 14,592,000
Contributions	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Dismantlement	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Report Generation Date: 5/30/2022

ENBRIDGE

Investment Summary Report

Investment Code	Report Start Year	Number of Years
48709	**2023**	**10**

Investment Name

Hagar KVGR and Cycle Mix Cooler

Investment Description

Issue/Concern: The Hagar Liquefied Natural Gas (LNG) Plant was installed in 1968 to provide security of supply to the Sudbury industrial and distribution markets. The KVGR Compressor is one of the two compressors used to power the refrigerant process which cools the natural gas feedstock to -160 degrees Celsius at which point the natural gas turns into a liquid. The KVGR Compressor is necessary to produce LNG. The consequence of compressor failure is dominated by customer impact. Risk associated with failure of the KVGR Compressor is heavily influenced by the time of year, weather severity and time to mitigate the failure. Over its 50 years of operation, the 1,500 horsepower Ingersoll Rand KVGR Compressor has amassed 140,000 operational hours. The compressor is obsolete; and, although normal wear components are still available in the marketplace, core compressor replacement items such as cylinders, crankshafts, and pistons, etc., required to support a critical failure are no longer manufactured by the original equipment manufacturer (OEM). In the event of a critical failure, aftermarket, custom machining services are the only option for repair. In the event custom machining services are not able to make a repair, a custom designed aftermarket casting option or complete replacement of the compressor would he required rendering the LNG plant out of service for at least one operational season and rendering the plant unable to perform its regulated requirements.

Assets: Compressor and Cycle Mix Cooler

Related Programs: N/A

Recommended Alternative Description

Scope of Work: Replacement of the 1,500 horsepower KVGR Compressor

Solution Impact: Mitigate the risk of a critical part failure that is non-repairable due to obsolescence.

Resources: Projects will work with a third-party engineering firm to complete the design and a contractor to complete the field work. Operations will support Major Projects as required.

Project Timing & Execution Risks: The proposed timing to complete the on-site work is during the second and third quarters of the year. Design and ordering of long-lead items will need to occur a year in advance. Due to the age of the plant, the replacement of an individual component such as the compressor introduces a risk of the compatibility of new equipment with the existing balance of the plant. This could result in a change in project scope or an approach that favours broader plant renewal.

Investment Type	Project (EGI)	Planning Portfolio	UG - Core - LNG - Replacements
Investment Stage	Long Term Planning		

Investment Overview

1. Project Information	State/Province	Ontario
	Operating Area (EGI)	Div_92 - Union North Storage
	Asset Program (EGI)	LNG - Replacements
	Asset Class (EGI)	LNG
2. Compliance	Compliance Investment	No
	Compliance Justification & Code	
3. Must Do	Must Do Investment	No
	Intolerable Risk (EGI)	No
	Third Party Relocation (EGI)	No
	Program work with sufficient history and risk to warrant continuation (EGI)	No

Spend Profile

Name	Net Base Capex O (CA)
Hagar KVGR and Cycle Mix Cooler	$ 31,820,000

Account Type	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Base CAPEX O	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,500,000	$ 17,592,000
Contributions	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Dismantlement	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Report Generation Date: 5/30/2022

ENBRIDGE

Investment Summary Report

Investment Code	Report Start Year	Number of Years
8701	**2023**	**10**

Investment Name

Kelfield Operations Centre - Land Purchase

Investment Description

Issue/Concern: The Kelfield office, owned by Enbridge Gas Inc. (EGI), is in poor physical condition and is considered obsolete in its functionality and utilization. It is an old facility with an approximate age of 56 years.

Physical Obsolescence: The acceptable EGI standard for the physical condition is a Facility Condition Index (FCI) of 0 to 5%. The current FCI of the facility based on this study is 10.47%. Therefore, the physical condition of the facility does not meet EGI acceptable standards.

Functional Obsolescence – Building: The acceptable EGI standard for the functional condition is 0. A functional condition between 0 and 49% is considered correctable at the current location. The current facility Adequacy Index (AI) is 71%. Based on the FCI/AI graph, the current recommendation for the existing facility is to increase the site area by purchasing the abutting property, demolish existing building, and rebuild the facility on the combined sites to accommodate current EGI standards.

Functional Obsolescence – Site: The site does not meet operational requirements for size and vehicular circulation. The yard has only one point of access. The yard size is smaller than EGI standard yard size requirements. The current yard size is 0.3 acres. EGI standard yard size is 2.5 acres. The existing building requires expansion by approximately 7,200 square feet to meet the need for current staff and EGI functional requirements. Building addition on the property entails further reduction in the yard and parking areas. Both the building and site area are too small to meet current EGI standards. The current building is approximately 7,724 square feet and the ideal building size, based on EGI design standards, is estimated to be 14,924 square feet, with a site area of approximately five acres. There is no opportunity for building expansion at the current location. It is understood that the location of the facility works well for EGI operations.

Assets: 40 Kelfield St., Etobicoke, ON.

Related Program: N/A

Recommended Alternative Description

Scope of Work:
The assets in scope are located at 40 Kelfield St., Etobicoke, ON. The nature of work is to purchase adjacent property.

Solution Impact:
Purchasing the extra land will ensure adequate yard area for current activities.

Timing & Execution Risks:
The project duration is 3 months (i.e., 0 – 3 months for site acquisition).

Expenditures:
The total cost for the project is $47M net capital. The project costs are based on a Class 5 estimate.

Investment Type	Project (EGI)	Planning Portfolio	EGD - Core - Real Estate & Workplace Services - Furniture/Structures & Improvements
Investment Stage	Short Term Planning		

Investment Overview

1. Project Information	State/Province	Ontario
	Operating Area (EGI)	10 - Toronto
	Asset Program (EGI)	REWS - Furniture/Structures & Improvements
	Asset Class (EGI)	Real Estate & Workplace Services
2. Compliance	Compliance Investment	No
	Compliance Justification & Code	
3. Must Do	Must Do Investment	No
	Intolerable Risk (EGI)	No
	Third Party Relocation (EGI)	No
	Program work with sufficient history and risk to warrant continuation (EGI)	No

Spend Profile

Name	Net Base Capex O (CA)
Kelfield Operations Centre - Land Purchase	$ 25,000,000

Account Type	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Base CAPEX O	$ -	$ -	$ -	$ 25,000,000	$ -	$ -	$ -	$ -	$ -	$ -
Contributions	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Dismantlement	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Report Generation Date: 5/30/2022

ENBRIDGE

Investment Summary Report

Investment Code	Report Start Year	Number of Years
737226	**2023**	**10**

Investment Name

Kelfield Operations Centre - New Building

Investment Description

Issue/Concern: The Kelfield office, owned by EGI, is in poor physical condition and is considered obsolete in its functionality and utilization. It is an old facility with an approximate age of 56 years.

Physical Obsolescence: The acceptable EGI standard for the physical condition is a Facility Condition Index (FCI) of 0 to 5%. The current FCI of the facility based on this study is 10.47%. Therefore, the physical condition of the facility does not meet EGI acceptable standards.

Functional Obsolescence – Building: The acceptable EGI standard for the functional condition is 0. A functional condition between 0 and 49% is considered correctable at the current location. The current facility Adequacy Index (AI) is 71%. Based on the FCI/AI graph, the current recommendation for the existing facility is to increase the site area by purchasing the abutting property, demolish existing building, and re-build the facility on the combined sites to accommodate current EGI standards.

Functional Obsolescence – Site: The site does not meet operational requirements for size and vehicular circulation. The yard has only one point of access. The yard size is smaller than EGI standard yard size requirements. The current yard size is 0.3 acres. EGI standard yard size is 2.5 acres. The existing building requires expansion by approximately 7,200 square feet to meet the need for current staff and EGI functional requirements. Building addition on the property entails further reduction in the yard and parking areas. Both the building and site area are too small to meet current EGI standards. The current building is approximately 7,724 square feet and the ideal building size, based on EGI design standards, is estimated to be 14,924 square feet, with a site area of approximately five acres. There is no opportunity for building expansion at the current location. It is understood that the location of the facility works well for EGI operations.

Asset: 40 Kelfield St, Etobicoke, ON.

Related Program: N/A

Recommended Alternative Description

Scope of Work:
The assets in scope are located at 40 Kelfield St, Etobicoke, ON. The nature of work is sell the existing property, development of adjacent property, construction and fit-up of a new building.

Solution Impact: Purchasing the extra land will ensure adequate yard area for current activities and a new building will correct the identified operational deficiencies, using less energy and emitting less greenhouse gases. Once the new facility is occupied the old facility will be demolished. The service life of the new facility will be 25-40 years.

Timing & Execution Risks:
The Project duration is 33 months as described below:
0 – 3 months: Programming, design development
3 – 9 months: Site plan agreement, permit & tender documents, permit and tender process
9 – 11 months: Contract award and winter contingency as required
11 – 25 months: Construction
25 – 27 months: Fit-up and occupancy
27 – 33 months: Disposition of the old property and remaining site activity

Risks include contractor delays and material delivery delays or defects.

Expenditures :
The total cost for the project is $22M net capital which includes a working construction cost contingency of 15%. Construction costs are determined based on historical EGI project costs and land values are determined using marketplace comparisons. The project also leverages national pricing agreements with furniture, walls, and flooring manufacturers. The project costs are based on a Class 5 estimate.

Resources:
Professional resources for design and engineering will be contracted from the marketplace. EGI has historically retained architectural and engineering consulting services for the execution of similar projects.

Investment Type	Project (EGI)	Planning Portfolio	EGD - Core - Real Estate & Workplace Services - Furniture/Structures & Improvements
Investment Stage	Initial		

Investment Overview

1. Project Information	State/Province	Ontario
	Operating Area (EGI)	10 - Toronto
	Asset Program (EGI)	REWS - Furniture/Structures & Improvements
	Asset Class (EGI)	Real Estate & Workplace Services
2. Compliance	Compliance Investment	No
	Compliance Justification & Code	
3. Must Do	Must Do Investment	No
	Intolerable Risk (EGI)	No
	Third Party Relocation (EGI)	No
	Program work with sufficient history and risk to warrant continuation (EGI)	No

Spend Profile

Name	Net Base Capex O (CA)
Kelfield Operations Centre - New Building	$ 22,000,000

Account Type	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Base CAPEX O	$ -	$ -	$ -	$ 12,000,000	$ 10,000,000	$ -	$ -	$ -	$ -	$ -
Contributions	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Dismantlement	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Report Generation Date: 6/6/2022

Investment Summary Report	Investment Code	Report Start Year	Number of Years
	501813	2023	10
	Investment Name		
	Kennedy Road Expansion		

Investment Description

Issue/Concern/Opportunity:
Overall, the existing building at the Kennedy Road facility is too small to meet current Enbridge Gas Inc. (EGI) standards. The separation of offices and warehouse into two separate buildings is not convenient for staff and causes operational and workplace difficulties and inefficiencies. The configuration of site functions and circulation is inefficient. The yard area is too small to meet current EGI standards. Building expansion on the same property will further reduce the size of the yard area and will cause additional pressure on parking and circulation. Based on the site deficiencies and space limitations, relocation to another property is recommended. This option may no longer be possible so further analysis is required depending on the ability to procure adjacent property or appropriately-sized property nearby. The analysis will look at the possible vertical industrial solution to meet the needs of the business.

Physical Obsolescence: The acceptable EGI standard for the physical condition is a Facility Condition Index (FCI) of 0 to 5%. The current FCI of the facility based on this study is 6.51%. Therefore, the physical condition of the facility does not meet EGI acceptable standards.

Functional Obsolescence – Building: The acceptable EGI standard for the functional condition is 0. A functional condition between 0 and 49% is considered correctable at the current location. The current facility Adequacy Index (AI) is 95%. Based on the FCI/AI graph, the current recommendation for the existing facility is to increase the site area by purchasing the adjacent property, demolish existing building, and rebuild the facility on the combined sites to accommodate current EGI standards.

Functional Obsolescence – Site: The site does not meet operational requirements for size and vehicular circulation. Access and exit from Kennedy is difficult and poses operational inefficiencies. The yard size is smaller than EGI standard yard size requirements. The current yard size is 1.3 acres. EGI standard yard size is 2.5 acres. The existing building requires expansion by approximately 11,000 square feet to meet the need for current staff and EGI functional requirements. Building additions on the property entail further reduction in the yard and parking areas.

Assets: 3157 Kennedy Road, Scarborough, ON.

Related Program: N/A

Recommended Alternative Description

Scope of Work: Sell the existing property, purchase a property suitable in size to accommodate the required program. Required size of new property is approximately 5 acres.

The project will correct operational and workplace inefficiencies, using less energy and emit less greenhouse gases on the combined site. This strategy will leverage current site improvements and keep land acquisition costs to a minimum by joining the currently vacant neighbouring property.

The assets in scope are located at 3157 Kennedy Road, Scarborough, ON. The nature of work includes development of the adjacent property and construction and fit-up of a new building.

Resources:
External professional resources for design and engineering along with a construction company will be contracted for the project. Historically, EGI has retained architectural and engineering consulting services and general construction contractors for the execution of similar projects.

Solution Impact: The service life of the new facility will be 25 – 40 years.

Timing and Execution Risks:
The project duration is 36 months:
0 – 3 months: Programming, design development
3 – 6 months: Site acquisition
6 – 12 months: Site plan agreement, permit and tender documents, permit and tender process
12 – 14 months: Contract award and winter contingency as required
14 – 28 months: Construction
28 – 30 months: Fit-up and occupancy
30 – 36 months: Disposition of old property

Risks include contractor delays and material delivery delays or defects.

Expenditures:
The total cost for the project is $38.0M net capital which includes a working construction cost contingency of 15%. Construction costs are determined based on historical EGI project costs and estimated land values are based on marketplace comparisons. The project also leverages national pricing agreements with furniture, walls, and flooring manufacturers. The project costs are based on a Class 5 estimate.

Investment Type	Project (EGI)	Planning Portfolio	EGD - Core - Real Estate & Workplace Services - Furniture/Structures & Improvements
Investment Stage	Executing		

Investment Overview

1. Project Information	State/Province	Ontario
	Operating Area (EGI)	10 - Toronto
	Asset Program (EGI)	REWS - Furniture/Structures & Improvements
	Asset Class (EGI)	Real Estate & Workplace Services
2. Compliance	Compliance Investment	No
	Compliance Justification & Code	
3. Must Do	Must Do Investment	No
	Intolerable Risk (EGI)	No
	Third Party Relocation (EGI)	No
	Program work with sufficient history and risk to warrant continuation (EGI)	No

ENBRIDGE

Investment Summary Report

Investment Code	Report Start Year	Number of Years
501813	**2023**	**10**

Investment Name

Kennedy Road Expansion

Spend Profile

Name	Net Base Capex O (CA)
Kennedy Road Expansion	$ 46,595,406

Account Type	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Base CAPEX O	$ 250,000	$ 19,750,000	$ 18,000,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Contributions	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Dismantlement	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Report Generation Date: 5/30/2022

ENBRIDGE

Investment Summary Report

Investment Code	Report Start Year	Number of Years
3642	**2023**	**10**

Investment Name

SMOC/Coventry Facility Consolidation

Investment Description

Issue/Concern/Opportunity:
Coventry Road
The office building in Ottawa is an owned facility that is in physically fair condition. The facility's functionality is sound but there is excess space. In addition, the furniture and finishings do not meet functional standards. The office is in a good location to serve the respective area but there is duplication in coverage between the SMOC and Coventry Road facilities.

Functional Obsolescence – Building: The acceptable Enbridge Gas Inc. (EGI) standard for the functional condition is 0, anything between 0 and 49% is considered correctable at the current location. The current facility Adequacy Index is 43%, considered marginally correctable at current location without consideration of other factors including adequacy of land size and the Functional Condition Index.

Functional Obsolescence – Site: The site does not meet operational requirements for size and vehicular circulation within the site. The yard size is smaller than EGI standard yard size requirements. The current yard size is 1.42 acres. EGI standard yard size is 2.5 acres. Building is in average condition and functionally sound (building has excess area). The site does not meet non-functional standards (furniture standards, and finishes, etc.). The site is in a good location but is no longer optimized for best use. There is potential for consolidation with the SMOC facility on 90 Bill Leatham Drive, Nepean, ON.

SMOC
SMOC is an owned facility in physically fair condition. The facility's functionality is sound; however, there is unused/excess space. In addition, the furniture and finishings do not meet non-functional standards (furniture standards, and finishes, etc.). The office is in a good location to serve its respective area but there is duplication in coverage between this office and the office at Coventry Road.

Functional Obsolescence – Building: The acceptable EGI standard for the functional condition is 0. Anything between 0 and 49% is considered correctable at the current location. The current facility Adequacy Index is 24% which is considered correctable at the current location, without consideration of other factors including adequacy of land size and the Functional Condition Index.

Functional Obsolescence – Site: The configuration of site functions and circulation is inefficient and poses a safety hazard. The yard area is too small to meet current EGI standards. The building is in average condition and is functionally sound (building has excess area). The building does not meet non-functional standards (furniture standards, and finishes, etc.). It is in a good location but there is potential for consolidation with the Coventry Road facility.

Assets: 400 Coventry Road, Ottawa, ON, and 90 Bill Leatham Drive, Nepean, ON (SMOC)

Related Program: N/A

Recommended Alternative Description

Scope of Work: Eastern Region Consolidated Facility Project
This project requires selling both the SMOC and Coventry Road properties, purchasing a property suitable in size (approximately 7 acres) and building a new 70,000 square-foot building that will consist of administration, warehouse, welding, and fabrication facilities. The assets in scope are located at 400 Coventry Road, Ottawa, ON, and 90 Bill Leatham Drive, Nepean, ON (SMOC). The nature of work is development of a new property and the construction and fit-up of a new building.

Resources: External professional resources for design and engineering along with a construction company will be contracted for the project. Historically, Enbridge Gas Inc. (EGI) has retained architectural and engineering consulting services and general construction contractors for the execution of similar projects.

Solution Impact: This option corrects operational and workplace inefficiencies by consolidating SMOC and Coventry redundancies. The new facility will use less energy and emit less greenhouse gases. The service life for the new facility will be 25 – 40 years.

Project Timing & Execution Risks:
The total project duration is 30 months:
0 – 3 months: Programming, design development, location analysis
3 – 6 months: Site acquisition
6 – 12 months: Site plan agreement, permit and tender documents, permit and tender process
12 – 14 months: Contract award and winter contingency as required
14 – 28 months: Construction
28 – 30 months: Fit-up and occupancy
Post-occupancy disposition of property

Risks include contractor delays and material delivery delays or defects.

Expenditures: The total cost for the project is $36M net capital which includes a working construction cost contingency of 15%. Construction costs are determined based on historical EGI project costs and land values using marketplace comparisons. The project also leverages national pricing agreements with furniture, walls, and flooring manufacturers. The project costs are based on a Class 5 estimate.

Investment Type	Project (EGI)	Planning Portfolio	EGD - Core - Real Estate & Workplace Services - Furniture/Structures & Improvements
Investment Stage	Executing		

Investment Overview

1. Project Information	State/Province	Ontario
	Operating Area (EGI)	60 - Ottawa
	Asset Program (EGI)	REWS - Furniture/Structures & Improvements
	Asset Class (EGI)	Real Estate & Workplace Services
2. Compliance	Compliance Investment	No
	Compliance Justification & Code	
3. Must Do	Must Do Investment	No
	Intolerable Risk (EGI)	No
	Third Party Relocation (EGI)	No
	Program work with sufficient history and risk to warrant continuation (EGI)	No

ENBRIDGE

Investment Summary Report

Investment Code	Report Start Year	Number of Years
3642	**2023**	**10**

Investment Name

SMOC/Coventry Facility Consolidation

Spend Profile

Name										Net Base Capex O (CA)
SMOC/Coventry Facility Consolidation										$ 36,040,000
Account Type	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**
Base CAPEX O	$ 11,000,000	$ 5,000,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Contributions	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Dismantlement	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Report Generation Date: 5/30/2022

ENBRIDGE

Investment Summary Report

Investment Code	Report Start Year	Number of Years
3640	**2023**	**10**

Investment Name

Station B New Building

Investment Description

Issue/Concern/Opportunity:
The Station B office on Eastern Avenue is an owned property in a good location but does not meet current building standards or operational requirements. The physical condition is considered good but the utilization and functionality is challenged. The office space no longer meets the needs of the staff currently working out of the facility. The new building will be able to provide the needed functionality and safety for the staff to carry out their tasks.

Physical Obsolescence: The acceptable EGI standard for the physical condition is a Facility Condition Index (FCI) of 0 to 5%. The current FCI of the facility based on this study is 12.28%. Therefore, the physical condition of the facility does not meet EGI acceptable standards.

Functional Obsolescence – Building: The acceptable EGI standard for the functional condition is 0. A functional condition between 0 and 49% is considered correctable at the current location. The current facility Adequacy Index (AI) is 49%.

Functional Obsolescence – Site: The property is divided into two separate parts. The first part consists of approximately 0.7 acres completely fenced off including a secure gate station located adjacent to the site on the northwest corner. The reminder of the site consists of 3.2 acres and is used as an operations depot. The site does not meet operational requirements for size and vehicular circulation. One point of access is provided to the site which poses circulation difficulties and poses operational inefficiencies. The yard size is marginally smaller than EGI standard yard size requirements. The current yard size is 2.25 acres. The EGI standard yard size is 2.5 acres. It was noted by EGI staff that the existing yard size is adequate for current operations. The existing building requires expansion by approximately 8,000 square feet to meet the need for current staff and EGI functional requirements.

Assets: 405 Eastern Avenue, Toronto, ON.

Related Program: N/A

Recommended Alternative Description

Scope of Work:
The project entails demolishing the existing facility and building a new single-storey building with underground parking to ensure much needed yard requirements for core operational needs such as fleet and equipment parking, aggregate bunkers, and yard. Underground parking will ensure the site is maximized for operations yard needs as land in Toronto's downtown is limited and requires efficient use of property. This will expand the usable existing yard. The new building footprint of approximately 20,000 square feet will ensure adequate interior storage/warehouse and fabrication space for operations, an operations muster/meeting space, washroom/locker facilities appropriately sized for the operation, and a larger office environment for site staff. The program will include currently missing elements such as a lunch room and meeting rooms. This new facility will correct operational and workplace inefficiencies, using less energy and emitting less greenhouse gases.

The assets in scope are located at 405 Eastern Avenue, Toronto, ON. The nature of work is site improvements and construction and fit-up of a new building.

Resources:
Professional resources for design and engineering along with a contractor will be retained from the marketplace. Historically, EGI has engaged architectural and engineering consulting services and general construction contractors for the execution of similar projects.

Solution Impact: The service life of the new facility would be 25 – 40 years, with the old building being demolished.

Project Timing:
The project duration is 36 months.
0 – 3 months: Programming and design development
3 – 9 months: Site plan agreement, permit and tender documents
9 – 12 months: Permit and tender process
12 – 14 months: Contract award and winter contingency as required
14 – 28 months: Construction
28 – 30 months: Fit-up and occupancy
30 – 36 months: Old building demolition and remaining site improvements

Risks include contractor delays and material delivery delays or defects.

Expenditures:
The total cost for the project is $45.6 M net capital which includes a working construction cost contingency of 15%. Construction costs are determined based on historical EGI projects. The project also leverages national pricing agreements with furniture, walls, and flooring manufacturers. Project costs are based on a Class 5 estimate.

Investment Type	Project (EGI)	Planning Portfolio	EGD - Core - Real Estate & Workplace Services - Furniture/Structures & Improvements
Investment Stage	Executing		

Investment Overview

1. Project Information	State/Province	Ontario
	Operating Area (EGI)	10 - Toronto
	Asset Program (EGI)	REWS - Furniture/Structures & Improvements
	Asset Class (EGI)	Real Estate & Workplace Services
2. Compliance	Compliance Investment	No
	Compliance Justification & Code	
3. Must Do	Must Do Investment	No
	Intolerable Risk (EGI)	No
	Third Party Relocation (EGI)	No
	Program work with sufficient history and risk to warrant continuation (EGI)	No

ENBRIDGE

Investment Summary Report

Investment Code	Report Start Year	Number of Years
3640	**2023**	**10**

Investment Name

Station B New Building

Spend Profile

Name										Net Base Capex O (CA)
Station B New Building										$ 43,666,884
Account Type	**2023**	**2024**	**2025**	**2026**	**2027**	**2028**	**2029**	**2030**	**2031**	**2032**
Base CAPEX O	$ 20,000,000	$ 9,000,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Contributions	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Dismantlement	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Report Generation Date: 5/30/2022

ENBRIDGE

Investment Summary Report

Investment Code	Report Start Year	Number of Years
8681	**2023**	**10**

Investment Name

Thorold Regional Office - Building & Site

Investment Description

Issue/Concern/Opportunity: The administrative office in Thorold is an owned property that is in physically good condition, but operating at full occupancy offering minimal room for growth. This office was last renovated 18 years ago and the environment is in need of a refresh. Since this renovation, EGI office standards have evolved and include a focus on natural light and views to the outdoors. The facility does not meet current EGI office standards. In addition, the parking lot at the Thorold administrative facility does not meet current standards or growth demands. The parking lot currently accommodates 127 vehicles and does not accommodate the growth requirements for both operations and administrative staff parking. During peak periods, such as training sessions, department meetings, and special events, staff is required to park off site due to the limited space. In the winter after heavy snow, up to 10 parking spaces are lost until the snow is hauled away off-site.

Physical Obsolescence: The acceptable Enbridge standard for the physical condition is an FCI of 0 to 5%. The current FCI of the facility based on this study is 3.09%; therefore, the physical condition of the facility meets Enbridge acceptable standards.

Functional Obsolescence:
-Building: The acceptable EGI standard for the functional condition is 0. A functional condition between 0 and 49% is considered correctable at the current location. The current facility Adequacy Index (AI) is 59% which is marginally considered correctable at the current location, without consideration of other factors, including adequacy of land size and the FCI.
-Site: The site does not meet operational requirements for vehicular circulation. The yard size is smaller than EGI standard yard size requirements. The current usable yard size is 1.7 acres. EGI standard yard size is 2.5 acres, however there is at least one acre of landscaped area that could be reconfigured to accommodate site deficiencies.

Asset: 3401 Schmon Parkway, Thorold, Ontario.

Related Program: N/A

Recommended Alternative Description

Scope of Work:
The assets in scope are located at 3401 Schmon Parkway, Thorold, Ontario. The nature of work is interior renovation and furnishings and expanding the employee parking lot. This project will correct physical and functional deficiencies by renovating the current office space and expanding the parking lot. Physical and functional standards can be met more cost-effectively by renovating the current office space and site. The renovated facility will use less energy and emit less greenhouse gases.

Expenditures: Total capital expenditure for this Project is estimated to be $16.5M which includes a working construction cost contingency of 15%. Construction costs are determined based on historical EGI project costs. The project also leverages national pricing agreements with furniture, walls, and flooring manufacturers. The project costs are based on a Class 5 estimate.

Resources: Professional resources for design and engineering will be contracted from the marketplace. Historically, EGI has retained architectural and engineering consulting services for the execution of similar projects.

Solution Impact: The renovation will extend the asset useful life by 15 years.

Project Timing & Execution Risks: The project duration is 12 months as described below:
0 to 2 months: Programming and design development
2 to 5 months: Permit and tender documents
5 to 7 months: Award, tender and permit process
7 to 11 months: Construction
11 to 12 months: Fit-up and occupancy

Investment Type	Project (EGI)	Planning Portfolio	EGD - Core - Real Estate & Workplace Services - Furniture/Structures & Improvements
Investment Stage	Short Term Planning		

Investment Overview

1. Project Information	State/Province	Ontario
	Operating Area (EGI)	80 - Niagara
	Asset Program (EGI)	REWS - Furniture/Structures & Improvements
	Asset Class (EGI)	Real Estate & Workplace Services
2. Compliance	Compliance Investment	No
	Compliance Justification & Code	
3. Must Do	Must Do Investment	No
	Intolerable Risk (EGI)	
	Third Party Relocation (EGI)	
	Program work with sufficient history and risk to warrant continuation (EGI)	

Spend Profile

Name	Net Base Capex O (CA)
Thorold Regional Office - Building & Site	$ 16,500,000

Account Type	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Base CAPEX O	$ 250,000	$ 250,000	$ 5,000,000	$ 8,000,000	$ 3,000,000	$ -	$ -	$ -	$ -	$ -
Contributions	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Dismantlement	$ -	$ 600,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Report Generation Date: 5/30/2022

ENBRIDGE

Investment Summary Report

Investment Code	Report Start Year	Number of Years
8782	**2023**	**10**

Investment Name: VPC Core and Shell

Investment Description

Issue/Concern: The building shell and core for the VPC facility is over 50 years old. The tower building was constructed in or around 1968 as a two-storey building with an addition in 1978 that included floors 3 to 5. The VPC facility houses over 1,200 employees. It is an owned facility that is currently undergoing renovations.

Physical Condition: Currently safe, ongoing periodic structural review required.

Functional Condition: Failed performance as an insulator and barrier to the outdoors, water and vapour intrusion, and comfort and energy efficiency is compromised.

Proposed Activity: Envelope replacement - high performance curtain wall, new shell with very high levels of glazing allowing increased daylight and views; change from 30% today to 60 – 80% penetration of light.

Assets: 500 Consumers Rd., North York, ON

Related Program: N/A

Recommended Alternative Description

Scope of Work: The assets in scope are located at 500 Consumers Rd., North York, ON. The nature of work is the removal and replacement of the 50-year-old exterior envelope on the tower and the replacement of core mechanical and electrical systems. This project calls for correcting physical and functional deficiencies by renovating and renewing the existing facility. This is the preferred strategy since the Facility Condition Index (FCI) and Adequacy Index (AI) show the building and site deficiencies are correctable by the following activities:
- Renewing the building's main mechanical system
- Adding two elevators
- Renovating the three main staircases
- Replacing the building envelope

Resources: External professional resources for design and engineering as well as a construction company will be contracted for the project. Historically, Enbridge Gas Inc. (EGI) has retained architectural and engineering consulting services and general construction contractors for the execution of similar projects.

Solution Impact: The renovation will correct operational and workplace inefficiencies by using less energy and emitting less greenhouse gases on the existing property. The service life of the renewed facility would be 40 years.

Timing: The project duration is 24 months:
0 – 3 months: Programming and design development
3 – 9 months: Permit and tender documents
9 – 12 months: Permit and tender process
12 – 14 months: Contract award and winter contingency as required
14 – 24 months: Construction

Risks include contractor delays and material delivery delays or defects.

Expenditures: The total cost for the project is $26M net capital. Construction costs are determined from facility assessment reports and architectural consultant budget forecasts and using marketplace comparisons. Project costs are based on a Class 5 estimate.

Investment Type	Project (EGI)	Planning Portfolio	EGD - Core - Real Estate & Workplace Services - Furniture/Structures & Improvements
Investment Stage	Short Term Planning		

Investment Overview

1. Project Information	State/Province	Ontario
	Operating Area (EGI)	00 - Head Office
	Asset Program (EGI)	REWS - Furniture/Structures & Improvements
	Asset Class (EGI)	Real Estate & Workplace Services
2. Compliance	Compliance Investment	No
	Compliance Justification & Code	
3. Must Do	Must Do Investment	No
	Intolerable Risk (EGI)	No
	Third Party Relocation (EGI)	No
	Program work with sufficient history and risk to warrant continuation (EGI)	No

Spend Profile

Name	Net Base Capex O (CA)
VPC Core and Shell	$ 26,000,000

Account Type	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Base CAPEX O	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 10,000,000	$ 10,000,000	$ 6,000,000
Contributions	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Dismantlement	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,000,000	$ 1,000,000

Report Generation Date: 5/30/2022

ENBRIDGE

Investment Summary Report

Investment Code	Report Start Year	Number of Years
100621	**2023**	**10**

Investment Name

Dawn Administrative Centre

Investment Description

Issue/Concern/Opportunity: The Dawn admin centre on Bentpath Line is an owned property in a good location but does not meet current building standards or operational requirements. The physical condition is considered poor and the utilization and functionality is challenged. The office space no longer sufficiently accommodates current and future staffing needs of the facility.

Physical Obsolescence: The acceptable Enbridge Gas Inc. (EGI) standard for the physical condition is a Facility Condition Index (FCI) of 0 to 5%. The current FCI of the facility based on this study is 16.95%. Therefore, the physical condition of the facility does not meet EGI acceptable standards.

Functional Obsolescence – Building: The acceptable EGI standard for the functional condition is 0. A functional condition between 0 and 49% is considered correctable at the current location. The current facility Adequacy Index (AI) is 28%.

Functional Obsolescence – Site: The area occupied by the building is separated from the adjacent functions with metal fence complete with barb wire. The building occupies approximately 7.5% of 233,541 SF fenced site area. The two driveways to the south and east of the building act as main entry and exit only servicing visitors and employees. There are four access points from the south and east driveway that lead to the front parking lot. The parking area consists of 68 parking spaces and is considered adequate to accommodate staff and visitors. There is no yard associated with the building due to its unique function as an office building with no industrial components. The building is located in the underground gas storage zone. It was reported by staff the proximity of the building to the underground gas storage is of concern to staff and relocation to an area outside the storage zone is desirable.

Assets: 3332 Bentpath Line, Tupperville, ON.

Related Program: N/A

Recommended Alternative Description

Scope of Work: Build new facility elsewhere on the Dawn campus. The current Asset Management Plan has allocated funds in 2021 and 2022 to fulfill the strategy. This presents the safest, most cost-effective solution for maintaining a Category 1 facility.

Resources:
External professional resources for design and engineering along with a construction company will be contracted for the project. Historically, EGI has retained architectural and engineering consulting services and general construction contractors for the execution of similar projects.

Solution Impact: The service life of the new facility will be 25-40 years.

Timing and Execution Risks:
The Project duration is 36 months:
0 – 3 months: Programming and design development
3 – 9 months: Site plan agreement, permit and tender documents
9 – 12 months: Permit and tender process
12 – 14 months: Contract award and winter contingency as required
14 – 28 months: Construction
28 – 30 months: Fit-up and occupancy
30 – 36 months: Old building demolition and remaining site improvements

Risks include contractor delays and material delivery delays or defects.

Expenditures:
The total cost for the project is $13M net capital which includes a working construction cost contingency of 15%. Construction costs are determined based on historical EGI project costs and estimated land values are based on marketplace comparisons. The project also leverages national pricing agreements with furniture, walls, and flooring manufacturers. The project costs are based on a Class 5 estimate.

Investment Type	Project (EGI)	Planning Portfolio	UG - Core - Real Estate & Workplace Services - Furniture/Structures & Improvements
Investment Stage	Short Term Planning		

Investment Overview

1. Project Information	State/Province	Ontario
	Operating Area (EGI)	Div_02 - Chatham
	Asset Program (EGI)	REWS - Furniture/Structures & Improvements
	Asset Class (EGI)	Real Estate & Workplace Services
2. Compliance	Compliance Investment	No
	Compliance Justification & Code	
3. Must Do	Must Do Investment	No
	Intolerable Risk (EGI)	No
	Third Party Relocation (EGI)	No
	Program work with sufficient history and risk to warrant continuation (EGI)	No

Spend Profile

Name	Net Base Capex O (CA)
Dawn Administrative Centre	$ 13,000,000

Account Type	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Base CAPEX O	$ -	$ -	$ -	$ -	$ 1,000,000	$ 12,000,000	$ -	$ -	$ -	$ -
Contributions	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Dismantlement	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Report Generation Date: 5/30/2022

ENBRIDGE

Investment Summary Report

Investment Code	Report Start Year	Number of Years
101136	**2023**	**10**

Investment Name

New London Site

Investment Description

Issue/Concern/Opportunity: This project will allow for potential consolidation currently under review of four operational sites in the Union rate zones into a single facility.
Boundary analysis still ongoing and investment details will continually be updated as strategy progresses.

Functional Obsolescence – Building: N/A
Functional Obsolescence – Site: N/A

Assets: N/A

Related Program: N/A

Recommended Alternative Description

Scope of Work:This project requires selling existing assets, purchasing a property suitable in size (approximately 7 to 10 acres) and building a new 44,000 sq. ft. building that will consist of administration, warehouse, welding and fabrication facilities. The preferred strategy is to correct physical and functional deficiencies by purchasing a new site and build a new facility on the new site.

Resources: External professional resources for design and engineering along with a construction company will be contracted for the project. Historically, Enbridge Gas Inc. (EGI), has retained architectural and engineering consulting services and general construction contractors for the execution of similar projects.

Solution Impact: This option corrects operational and workplace inefficiencies by consolidating existing facilities. The new facility will use less energy and emit less greenhouse gases. The service life for the new facility will be 25 to 40 years.

Project Timing & Execution Risks

Timing: The total project duration is 30 months:
0 – 3 months: Programming, design development, and location analysis
3 – 6 months: Site acquisition
6 – 12 months: Site plan agreement, permit and tender documents, permit and tender process
12 – 14 months: Contract award and winter contingency as required
14 – 28 months: Construction
28 – 30 months: Fit-up and occupancy
Post-occupancy disposition of property

Risks include contractor delays and material delivery delays or defects.

Expenditures:
The total cost for the project is $42.6M net capital which includes a working construction cost contingency of 15%. Construction costs are determined based on historical EGI project costs and land values using marketplace comparisons. The project also leverages national pricing agreements with furniture, walls, and flooring manufacturers. The project costs are based on a Class 5 estimate.

Investment Type	Project (EGI)	Planning Portfolio	UG - Core - Real Estate & Workplace Services - Furniture/Structures & Improvements
Investment Stage	Executing		

Investment Overview

1. Project Information	State/Province	Ontario
	Operating Area (EGI)	Div_04 - London
	Asset Program (EGI)	REWS - Furniture/Structures & Improvements
	Asset Class (EGI)	Real Estate & Workplace Services
2. Compliance	Compliance Investment	No
	Compliance Justification & Code	
3. Must Do	Must Do Investment	No
	Intolerable Risk (EGI)	No
	Third Party Relocation (EGI)	No
	Program work with sufficient history and risk to warrant continuation (EGI)	No

Spend Profile

Name	Net Base Capex O (CA)
New London Site	$ 42,650,000

Account Type	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Base CAPEX O	$ -	$ 1,500,000	$ 18,500,000	$ 20,000,000	$ -	$ -	$ -	$ -	$ -	$ -
Contributions	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Dismantlement	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Report Generation Date: 5/30/2022

ENBRIDGE

Investment Summary Report

Investment Code	Report Start Year	Number of Years
100709	**2023**	**10**

Investment Name

Sudbury Regional Operations Centre

Investment Description

Issue/Concern: The Sudbury depot on Falconbridge Road is an owned property in a good location, but does not meet current building standards or operational requirements. The physical condition is considered poor and the utilization and functionality is challenged. The office space no longer sufficiently accommodates current and future staffing needs of the facility.

Physical Obsolescence: The acceptable EGI standard for the physical condition is a Facility Condition Index (FCI) of 0 to 5%. The current FCI of the facility based on this study is 8.49%. Therefore, the physical condition of the facility does not meet EGI acceptable standards.

Functional Obsolescence – Building: The acceptable EGI standard for the functional condition is 0. A functional condition between 0 and 49% is considered correctable at the current location. The current facility Adequacy Index (AI) is 13%.

Functional Obsolescence – Site: The site is 1.9 acres and is serviced by two driveways off of Westbourne Street. The northern driveway is a two way driveway that provides access to the front parking lot for both employees and staff. The southern driveway is equipped with card access into the yard servicing only employees. The site consists of a main office and warehouse building. The parking and yard are arranged such that the main employee and staff parking is located to the north east of the building with additional staff parking and yard to the south of the building.

Asset: 828 Falconbridge Road, Sudbury, ON.

Related Program: N/A

Recommended Alternative Description

Scope of Work: Correct physical and functional deficiencies by renovating the existing facility. This Project will correct physical and functional deficiencies by renovating the current office space. Physical and functional standards can be met more cost-effectively by renovating the current office space and site. The renovated facility will use less energy and emit less greenhouse gases.

Resources: Professional resources for design and engineering will be contracted from the marketplace. Historically, EGI has retained architectural and engineering consulting services for the execution of similar projects.

Solution Impact: The renovation will extend the asset useful life by 15 years.

Timing: The Project duration is 12 months as described below:
0 – 2 months: Programming and design development
2 – 5 months: Permit and tender documents
5 – 7 months: Award, tender and permit process
7 – 11 months: Construction
11 – 12 months: Fit-up and occupancy

Expenditures: Total capital expenditure for this Project is estimated to be $11.6M which includes a working construction cost contingency of 15%. Construction costs are determined based on historical EGI project costs. The Project also leverages national pricing agreements with furniture, walls, and flooring manufacturers. The Project costs are based on a Class 5 estimate.

Investment Type	Project (EGI)	Planning Portfolio	UG - Core - Real Estate & Workplace Services - Furniture/Structures & Improvements
Investment Stage	Short Term Planning		

Investment Overview

1. Project Information	State/Province	Ontario
	Operating Area (EGI)	Div_43 - Sudbury & S.S. Marie
	Asset Program (EGI)	REWS - Furniture/Structures & Improvements
	Asset Class (EGI)	Real Estate & Workplace Services
2. Compliance	Compliance Investment	No
	Compliance Justification & Code	
3. Must Do	Must Do Investment	No
	Intolerable Risk (EGI)	
	Third Party Relocation (EGI)	
	Program work with sufficient history and risk to warrant continuation (EGI)	

Spend Profile

Name	Net Base Capex O (CA)
Sudbury Regional Operations Centre	$ 11,600,000

Account Type	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Base CAPEX O	$ -	$ -	$ 1,600,000	$ 10,000,000	$ -	$ -	$ -	$ -	$ -	$ -
Contributions	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Dismantlement	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Report Generation Date: 5/30/2022

ENBRIDGE

Investment Summary Report

Investment Code	Report Start Year	Number of Years
102291	**2023**	**10**

Investment Name

Contract Market Harmonization

Investment Description

Issue/Concern/Opportunity: The OEB MAADs decision specified that EGI shall file a proposal for rate harmonization in its next rebasing application. In order to harmonize contract market rates, services must also be harmonized. Enbridge believes that harmonizing and aligning services for the contract market will improve the customer experience for contract customers by reducing the number of systems they must transact in, aligning policies across rate zones, and simplifying processes. If the proposal filed as part of 2024 Rebasing is approved, this project will be required to implement the approved rates and services in the systems listed below. By implementing this project coincident with the Contract Market Systems – Technology Obsolescence project, the investment of capital is optimized.

Assets: TIS Business Solutions. EnTRAC, URICA, Enerline, CARE, ConTrax, GDAR, SAP- CIS, SAP-ERP, Oracle Financials, Data Marts are examples of the systems impacted

Related Program: Contract Market Systems - Technology Obsolescence #736942, Rates and Service Harmonization Project #76081

Recommended Alternative Description

Scope of Work: Currently, Enbridge Gas Inc (EGI) has 3 different rate zones (EGD, Union North, Union South), 11 separate service designs and 43 rate classes. This results in complex business and accounting processes. This project will implement changes to several EGI business applications to implement harmonized services, rate zones, and rate classes.

This project, in conjunction with the Contract Market - Technology Obsolescence Project, is required to provide consistent services with common design elements for customers in all areas of the franchise. The simplified, consistent services will enhance the customer experience, provide more flexibility for customers, and reduce the complex variations in the existing services and rates. Contract market harmonization will facilitate harmonized business processes, reduced system complexity, and will reduce the level of effort associated with ongoing business and TIS support. Detailed information regarding the service and rate harmonization and the associated benefits will be filed with EGI's 2024 rebasing application.

Several business applications are impacted based upon the changes proposed:
-ConTrax/CARE/GDAR/Enerline - The Union rate zone business applications that perform contracting, billing and gas management/nominations functions, including customer facing portals.
-EnTRAC/Urica/GDAR – The EGD rate zone business applications that perform contracting and gas management/nominations functions, including customer facing portals.

This functionality will be enabled in conjunction with the Contract Market Systems - Technology Obsolescence project, which will coincidentally integrate the above legacy company applications and replace aging technologies. These business applications must be integrated to allow for the harmonization of rate zones, rate classes and services as well as a single customer portal. If the applications are not integrated, EGI will need to make changes to multiple applications to align them with the harmonized services and business processes. A single customer portal would remain a requirement regardless of the underlying business applications. In addition, some of the proposals for service harmonization may not be able to be implemented. For example, the scenario where customers or contracts cross between the existing rate zones. In addition to the primary business applications, there will also be changes required to downstream processes and applications such as gas accounting, QRAM, and financial reporting to align with the harmonized rates and services.

This project will follow TIS project methodologies as developed and governed by the Project Management Office.

Resources: Project Manager, Business Analysts, Business Systems Support Team, Customer Care SMEs, Regulatory SMEs, Finance SMEs, TIS SMEs, Energy Services SMEs, Enterprise Architecture, Solutions Architecture, Data & Analytics, Report Developers, AMS provider, Solutions Integrator, Audit, Testing, Organizational Change Management (OCM)

Solution Impact: EGI currently has 3 Rate Zones, 11 Separate Service Designs and 43 Rate Classes. This project will implement the required changes to enable service and rate harmonization.

Project Timing & Execution Risks:
-Project expected to start late 2023, and will continue into 2024 pending the approval of Rate and Service Design by the OEB as part of the 2024 Rebasing Application. A key dependency is the Contract Market - Technology Obsolescence Project. In order to harmonize services, EGI must consolidate and modernize the contract rate billing, contracting, GDAR and gas management/nominations applications. Target implementation date is Q2 2026. Project milestones for design, build, test and delivery to be developed once project approved, team established, and project initiated.
-Risks include resource constraints, competing priorities, OEB approval of service and rate harmonization as submitted by EGI.

Investment Type	Project (EGI)	Planning Portfolio	EGD - Core - TIS - TIS Business Solutions
Investment Stage	Long Term Planning		

Investment Overview

1. Project Information	State/Province	Ontario
	Operating Area (EGI)	00 - Head Office
	Asset Program (EGI)	TIS Business Solutions
	Asset Class (EGI)	TIS
2. Compliance	Compliance Investment	No
	Compliance Justification & Code	
3. Must Do	Must Do Investment	No
	Intolerable Risk (EGI)	No
	Third Party Relocation (EGI)	No
	Program work with sufficient history and risk to warrant continuation (EGI)	No

Spend Profile

Name	Net Base Capex O (CA)
Contract Market Harmonization	$ 14,760,000

Account Type	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Base CAPEX O	$ 2,000,000	$ 5,000,000	$ 5,000,000	$ 2,760,000	$ -	$ -	$ -	$ -	$ -	$ -
Contributions	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Dismantlement	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Report Generation Date: 6/2/2022

ENBRIDGE

Investment Summary Report

Investment Code	Report Start Year	Number of Years
736942	**2023**	**10**

Investment Name

Contract Market Systems - Technology Obsolescence

Investment Description

Issue/Concern/Opportunity:
This project will consolidate the contracting, gas management/nominations and billing applications at EGI. The Contract to Cash processes are currently using aging and disparate systems for groups such as Large Volume Contracting, Gas Supply and Storage and Transmission Sales. This new platform and integrated systems will then enable Rate and Service Harmonization (if approved) and further enhance the customer experience, and reduce total cost of ownership.

Justification: Many of these systems are 20-30 years old and are built using technology that is or will become unsupported in the near future and requires upgrading. Failure to refresh aging systems and applications puts our business at risk with an increased chance of service outages, degraded performance, business and customer interruptions, increased costs, difficulty in acquiring support and ability to address cybersecurity risks.

Assets: Legacy (EGD&Union) Contract Management and Billing (EnTrac, URICA, ConTrax) and associated Legacy (LEGD&LUG) Gas Management systems (CARE, Enerline) will be replaced and/or modified by SAP modules and decommissioned (EGI may still retain this system name/brand for the customer facing portal, even if the underlying technology is replaced). New system integrations with CIS/SAP/Oracle/Cost of Gas, reporting, and data warehouse are examples of additional changes and systems impacted.

Related Investments: Contract Market Harmonization Project #102291

Recommended Alternative Description

Scope of Work:
Legacy (LEGD&LUG) Contract Management and Billing (EnTrac, URICA, ConTrax) and associated Legacy (LEGD&LUG) Gas Management systems (CARE, Enerline) will be replaced and/or modified by SAP modules and decommissioned. New system integrations with CIS/SAP/Oracle, reporting, and data warehouse are examples of additional changes and systems impacted.

TIS benefits:
-Improved support and sustainment and cyber security.
- Decommissioning of servers and legacy applications.
- Reduced complexity and total cost of ownership for Contract and Gas Management systems and support

Business Benefits:
- Alignment, simplification and automation of business processes
- Easier to train staff, one set of unified processes and procedures
- Reduction in testing efforts, eliminating multiple systems and applications
- Improved customer experience and ease of use when transacting with Enbridge systems
- Reduced chance of service outages and degraded system performance

Resources: Customer Care Large Volume SME's, Energy Services Gas Management SME's, Finance, TIS SME's, Enterprise Architect, Data and Analytics Arch, Network and Security, Change Management, Project Manager, System Integrator, (Legal, Finance, Regulatory SME's as required)

Solution Impact: This project is required to align disparate and aging systems which must be replaced in order to ensure that contract market customers can continue to transact. Without this project, transactions such as contracting, gas management, and billing are at risk of service outage, degraded performance, cyber security risk, and increased cost of sustainment. This project also delivers a modernized technology platform that will enable the Contract Market Harmonization project which implements the proposed harmonized rates and services for the contract market. The implementation of this project and the Contract Market Harmonization project will deliver improved customer experience, simplified processes and aligned services on a modernized and reliable technology platform.

Project Timing & Execution Risks:
Timing- Project activities are expected to start in 2023, with the teams proving out the technology, and process mining tools, and reviewing business processes for standardization. An Request For Proposal (RFP) will be developed and selection the System Integrator (SI) for a project implementation date in 2026.

Risks- Competing priorities and resource constraints, continuity of resources on the project team to help mitigate schedule impacts for knowledge gaps (current state/future state, design/testing) and any potential rework as a result.

Investment Type	Project (EGI)	Planning Portfolio	EGD - Core - TIS - TIS Business Solutions
Investment Stage	Initial		

Investment Overview

1. Project Information	State/Province	Ontario
	Operating Area (EGI)	00 - Head Office
	Asset Program (EGI)	TIS Business Solutions
	Asset Class (EGI)	TIS
2. Compliance	Compliance Investment	No
	Compliance Justification & Code	
3. Must Do	Must Do Investment	Yes
	Intolerable Risk (EGI)	No
	Third Party Relocation (EGI)	No
	Program work with sufficient history and risk to warrant continuation (EGI)	No

ENBRIDGE

Investment Summary Report

Investment Code	Report Start Year	Number of Years
736942	**2023**	**10**

Investment Name

Contract Market Systems - Technology Obsolescence

Spend Profile

Name	Net Base Capex O (CA)
Contract Market Systems - Technology Obsolescence	$ 53,240,000

Account Type	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Base CAPEX O	$ 7,450,000	$ 17,830,000	$ 17,830,000	$ 10,130,000	$ -	$ -	$ -	$ -	$ -	$ -
Contributions	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Dismantlement	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Report Generation Date: 6/2/2022

ENBRIDGE

Investment Summary Report

Investment Code	Report Start Year	Number of Years
736081	**2023**	**10**

Investment Name

General Service Rebasing Changes

Investment Description

Issue/Concern/Opportunity: The OEB MAADs decision specified that EGI shall file a proposal for rate harmonization in its next rebasing application. EGI believes that harmonizing rates will improve the customer experience for general service customers by simplifying rates, processes, and improved cost transparency. If the proposal filed as part of 2024 Rebasing is approved, this project will be required to implement the proposal in the EGI systems listed below.

Assets: TIS Business Solutions. CIS-SAP, Kubra, SAP-ERP, Oracle Financials, EnTRAC, ConTrax, GDAR, MyAccount, Data Marts (BBDM, CTDS, BW, EDW, etc), Guardian, Load Gathering, Synergee, Get Connected are examples of the systems impacted.

Related Program: N/A

Recommended Alternative Description

Scope of Work: Currently, Enbridge Gas Inc. (EGI) has three different rate zones (EGD, Union South and Union North) and six general service customer classes across eight rate categories. This results in complex business and accounting processes. This project will implement changes to several EGI systems to implement a harmonized model with a single rate zone for EGI, two customer classes (rate categories – Small Demand and General Demand) and harmonized rates. This will simplify rates for customers and related business and accounting processes such as QRAM. This project will follow TIS project methodologies as developed and governed by the Project Management Office.

Benefits include improved customer experience due to simplification of rates and improved cost transparency, business process simplification resulting from one set of terms and conditions of service across entire EGI franchise area, simplification of accounting processes including QRAM, forecasting, financial reporting, and easier to administer regulatory application and OEB review processes.

Resources: Project Manager, Business Analysts, Business Systems Support Team, Customer Care SMEs, Regulatory SMEs, Finance SMEs, TIS SMEs, Energy Services SMEs, Finance SMEs Enterprise Architecture, Solutions Architecture, Data & Analytics, Report Developers, AMS provider, Solutions Integrator, Audit, Testing, Organizational Change Management (OCM)

Solution Impact: This project will implement the required changes to enable a single rate zone for EGI with two customer classes (Rate Categories – Small Demand and General Demand) and the harmonization of general service rates.

Project Timing & Execution Risks:
-Project to start no later than January 2024, with approval from the OEB of General Service Rate Harmonization. Target implementation date Q2 2025. Project milestones for design, build, test and delivery to be developed once project approved, team established, and project initiated.
-Risks include resource constraints, competing priorities, OEB approval of harmonization as submitted by EGI.

Investment Type	Project (EGI)	Planning Portfolio	EGD - Core - TIS - TIS Business Solutions
Investment Stage	Long Term Planning		

Investment Overview

1. Project Information	State/Province	Ontario
	Operating Area (EGI)	00 - Head Office
	Asset Program (EGI)	TIS Business Solutions
	Asset Class (EGI)	TIS
2. Compliance	Compliance Investment	No
	Compliance Justification & Code	
3. Must Do	Must Do Investment	No
	Intolerable Risk (EGI)	No
	Third Party Relocation (EGI)	No
	Program work with sufficient history and risk to warrant continuation (EGI)	No

Spend Profile

Name	Net Base Capex O (CA)
General Service Rebasing Changes	$ 16,000,000

Account Type	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Base CAPEX O	$ -	$ 14,000,000	$ 2,000,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Contributions	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Dismantlement	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Report Generation Date: 6/2/2022

ENBRIDGE

Investment Summary Report

Investment Code	Report Start Year	Number of Years
102364	**2023**	**10**

Investment Name

Records Management Technology Obsolescence (2024-2026)

Investment Description

Issue/Concern/Opportunity:
The Records Management technologies host information about EGI gas carrying asset which are critical to drive integrity and operation of these assets. In addition, the information is used by the Integrity group to determine asset condition which will inform the asset life cycle strategies used to develop the 10 year Asset Plan with focus on safe and reliable operations of EGI assets. The Records Management technologies is made up of multiple systems which will become vendor unsupported between 2024 to 2026 and requires upgrades to reduce technology complexity, cyber risk, and to enable process optimization. Failure to maintain software warranty will increase the likelihood of system failures, increase outages, degraded performance and increase vulnerability to cybersecurity attacks.

The objective of the Records Management (Asset Records) Technology Obsolescence project is to align the key systems and high level process for gas carrying asset records which are used to support Operations in performing maintenance, and construction work as well as Engineering to conduct analysis and produce asset plans. This will be enabled through the selection of an integrated suite of applications that satisfy all technical and business requirements.

Assets:
TIS Business Solutions, examples of the core systems impacted:
-ESRI ArcServer GIS (Packaged Software) 10.8 (2026 retirement)
-Hexagon GIS (Packaged Software) G/Technology (2024 retirement)
-iViewer (Custom)
-ProjectWise Connect (Packaged Software) (2024 retirement)

Related Program: N/A

Recommended Alternative Description

Scope of Work :
The scope and objective of the Records Management (Asset Records) Technology Obsolescence project is to address the technology obsolescence and align the key systems for gas carrying asset records. This will be enabled through the selection of an integrated suite of applications that satisfy all technical and business requirements. The work will consist of upgrading software to the latest supported versions as well as incorporate the opportunities to optimize business processes by leveraging new capabilities offered by the software.

The initiative will follow TIS project methodologies as developed and governed by the Project Management Office, including, signed charter and a project plan covering the activities of design, build, test and implementation.

Benefits:
EGI will be able to leverage advancements in technology which could provide further benefits in optimizing business processes. As such the following benefits are estimated: Technology savings of $975k annual savings related to a reduction in technology, licenses, and infrastructure. Business savings are comprised of $1,000,000 related to drafting efficiencies in Distribution Operations; $400,000 related to Records Management team savings in Engineering & STO; $50,000 related to efficiencies in Engineering Construction/Drafting and Capital Development; all savings have been derived using an ~8% rate reduction

Resources:
Project Managers, Enterprise Architecture, System Integrators, Operations SMEs, Asset Records SMEs, TIS SMEs, Vendor Professional Services, External Contractors

Solution Impact:
This will impact Operations and Engineering employees as well as third-party alliance partners who require asset records to perform their work. This will also impact teams within the organization that produce and manage asset records throughout the asset lifecycle, such as the Records Management team and Asset Integrity. The solution will implement the latest version of software where software bugs have been resolved and the technology would be compatible to the latest hardware thereby ensuring a more secure, reliable, and sustainable platform. With the upgrades there are advancements in software technology introducing new capabilities that will optimize business processes.

Project Timing & Execution Risks:
This project is expected to start in 2024. With design efforts starting January 2024 and in service target date of completion Dec 2026.

Risk: Competing priorities, resource constraints, and business cost pressures.

Investment Type	Project (EGI)	Planning Portfolio	EGD - Core - TIS - TIS EGI Business Solutions
Investment Stage	Long Term Planning		

Investment Overview

1. Project Information	State/Province	Ontario
	Operating Area (EGI)	00 - Head Office
	Asset Program (EGI)	TIS Business Solutions
	Asset Class (EGI)	TIS
2. Compliance	Compliance Investment	No
	Compliance Justification & Code	
3. Must Do	Must Do Investment	Yes
	Intolerable Risk (EGI)	No
	Third Party Relocation (EGI)	No
	Program work with sufficient history and risk to warrant continuation (EGI)	No

ENBRIDGE

Investment Summary Report

Investment Code	Report Start Year	Number of Years
102364	**2023**	**10**

Investment Name

Records Management Technology Obsolescence (2024-2026)

Spend Profile

Name	Net Base Capex O (CA)
Records Management Technology Obsolescence (2024-2026)	$ 21,550,000

Account Type	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Base CAPEX O	$ -	$ 4,250,000	$ 8,650,000	$ 8,650,000	$ -	$ -	$ -	$ -	$ -	$ -
Contributions	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Dismantlement	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Report Generation Date: 6/2/2022

ENBRIDGE

Investment Summary Report

Investment Code	Report Start Year	Number of Years
6377	**2023**	**10**

Investment Name

PCRW:Wells-Upgrade

Investment Description

Issue/Concern:
Wells at Crowland are much older than other wells at EGI. Due to age, the wells were constructed to a production standard which would normally be retired after 10 years. Instead, the wells were converted to Storage service in the early 1970s and have continued to operate ever since. Many wells have been relined, increasing the risk of leaks. Most wells possess only two casings; the current standard requires a minimum of three casings. The two-casing design at Crowland is comprised of an inner casing that runs from the surface to the reservoir (about 225 m) plus a surface casing that runs from the surface to a depth of about 20 m. Most wells do not have an intermediate casing with cement between the inner and intermediate casings; however, there is cement between the inner casing and the surrounding rock. Should the inner casing fail, this provides a poor barrier to gas flow. In addition, none of the wells at Crowland employ wellheads and master valves. Instead, the inner casing is simply connected to a flanged 1/4 turn valve without wing valves or wellhead vents. The surface casing is separated from the surface using cement. There are no casing vents and part of the inner casing (typically a length of 2 to 16 in.) is exposed at the surface. The lack of casing vents eliminates normal approaches to controlling a failed well. Vertilogs have been performed in the last 5 years, and indicated that the inner casing integrity is adequate, although 2 of the 26 wells needed to be abandoned. Currently, there are 24 wells remaining. Bond logs have not been performed yet to determine the condition of cement at sulphur layers.

The primary concerns are:
(1) Code compliance of the wells and wellheads. Technically, these wells were constructed before CSA Z341 came into force and are grandfathered. However, a well failure would likely be viewed negatively by technical regulators.
(2) Risk to employees and the public. In the event of a loss of containment, there are insufficient barriers to gas flow. Public risk also extends to possible sulphur contamination of well water at surface levels. In addition to the wells, much of the gathering system is as old as the wells. The gathering system is operating at <30% SMYS, which means that they have not be considered for integrity inspections until recently and that the gathering system pipe condition is unknown after 50 to 100 years of operation.

Assets: Crowland wells and gathering system.

Related Programs: This investment is under consideration in conjunction with the Distribution Station #3610 Crowland Investment. Issues related to the wells and gathering system should be considered together with the additional distribution station and compressor station issues/concerns.

Recommended Alternative Description

Scope of Work:
The scope of works includes: Drilling applications and well locations studies, design, materials, core sampling, drilling of 2 new wells and wellheads / master valves to 12 existing wells, stimulating 2 new wells and 12 existing wells, and upgrading wellheads for 12 existing wells

Resources:The majority of design and installation work will be performed by third parties.

Solution Impact: Results of the core integrity testing will verify that the confining geological formations are suitable for storage, provide inputs needed to simulate the wells, abandon up to eight existing wells thereby reducing risk.

Risks Reduced:
-Loss of containment from exposed inner casing above the surface level of the well.
-Effects of well casing corrosion, where exposed to corrosive sulphur, can be mitigated more readily with modern wellheads and master valves. This limits pressurized gas leaking through the well casing and contaminating well water at surface with sulphur.
-Effects of deteriorated cement between the casing and rock can be mitigated more readily with modern wellheads and master valves. Existing cement is not resistant to the effects of sulphur and has reduced life expectancy. Compromised cement may allow well casing leaks to migrate to the surface.

Project Timing & Execution Risks:
Year 1 - permits, applications, order long lead items, testing and planning
Year 2- Construction
Year 3 - Abdonment

Risks/Assumptions:
-Project schedule is influenced by reservoir pressures, regulatory approvals, and environmental factors.
-Environmental findings may impact execution costs.
-Crowland is located in a marshy area which may impact execution and, subsequently, costs.

Investment Type	Project (EGI)	Planning Portfolio	EGD - Core - Transmission Pipe & Underground Storage - Replacements
Investment Stage	Executing		

Investment Overview

1. Project Information	State/Province	Ontario
	Operating Area (EGI)	70 - Storage
	Asset Program (EGI)	TPS - Replacements
	Asset Class (EGI)	Transmission Pipe & Underground Storage
2. Compliance	Compliance Investment	Yes
	Compliance Justification & Code	CSA Z341.1-14 Section 5.8.7
3. Must Do	Must Do Investment	Yes
	Intolerable Risk (EGI)	No
	Third Party Relocation (EGI)	No
	Program work with sufficient history and risk to warrant continuation (EGI)	No

ENBRIDGE

Investment Summary Report

Investment Code	Report Start Year	Number of Years
6377	**2023**	**10**

Investment Name

PCRW:Wells-Upgrade

Spend Profile

Name	Net Base Capex O (CA)
PCRW:Wells-Upgrade	$ 12,780,000

Account Type	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Base CAPEX O	$ 8,500,000	$ 1,750,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Contributions	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Dismantlement	$ -	$ 3,000,000	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Report Generation Date: 5/30/2022

ENBRIDGE

Investment Summary Report

Investment Code	Report Start Year	Number of Years
100699	2023	10

Investment Name: Dawn Parkway Expansion Project (Dawn-Enniskillen NPS 48)

Investment Description

Issue/Concern: In response to increased natural gas demand growth along the Dawn Parkway System, the Kirkwall to Hamilton Expansion has a forecast in-service date of 2029 to 2030 and will provide reliable, secure, economic natural gas capacity to meet the growing design day demand of the Dawn Parkway Transmission system which serves both in- and ex-franchise markets.

Assets: Install approximately 17.2 km of NPS 48 internally-coated pipeline from Dawn Compressor Station (10G-301) to Enniskillen Valve Site (11H-301V) on the Dawn Parkway System.

Related Programs: These facilities are incremental to the Kirkwall to Hamilton Expansion (#48654) and timing is dependent on the Dawn Parkway System demands.

Recommended Alternative Description

Scope of Work: Install approximately 17.2 km of NPS 48 internally-coated pipeline from Dawn Compressor Station (10G-301) to Enniskillen Valve Site (11H-301V) on the Dawn Parkway System.

Resources: Projects group to provide project management support from design and planning phase to project execution.

Solution Impact: Capacity is available on the Dawn Parkway System to meet in-franchise growth and customer demand.

Project Timing & Execution Risks:
-Schedule delays due to right-of-way access for survey, ladn aquisition, environmental studies, permitting, and/or issuance of OEB Leave to Construct may put at risk the planned in-service date.
-Further analysis for potential IRPAs.
-This project will follow Kirkwall to Hamilton (48654). It will be based upon studies done by the Transmission System Planning identifying a need for expansion based upon the demands from the study.
-Estimate/ Forecast does not include MOP Upgrade or Dawn Station Work.

Investment Type	Project (EGI)	Planning Portfolio	UG - Core - Transmission Pipe & Underground Storage - Growth
Investment Stage	Long Term Planning		

Investment Overview

1. Project Information	State/Province	Ontario
	Operating Area (EGI)	Div_04 - London
	Asset Program (EGI)	TPS - Growth
	Asset Class (EGI)	Transmission Pipe & Underground Storage
2. Compliance	Compliance Investment	No
	Compliance Justification & Code	
3. Must Do	Must Do Investment	Yes
	Intolerable Risk (EGI)	No
	Third Party Relocation (EGI)	No
	Program work with sufficient history and risk to warrant continuation (EGI)	No

Spend Profile

Name	Net Base Capex O (CA)
Dawn Parkway Expansion Project (Dawn-Enniskillen NPS 48)	$ 246,634,252

Account Type	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Base CAPEX O	$ -	$ -	$ -	$ -	$ 24,612,151	$ 49,222,260	$ 148,187,690	$ 24,612,151	$ -	$ -
Contributions	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Dismantlement	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Report Generation Date: 5/30/2022

ENBRIDGE

Investment Summary Report

Investment Code	Report Start Year	Number of Years
48654	2023	10

Investment Name: Dawn Parkway Expansion Project (Kirkwall-Hamilton NPS 48)

Investment Description

Issue/Concern: In response to increased natural gas demand growth along the Dawn Parkway System, the Kirkwall to Hamilton Expansion has a forecast in-service date of November 1, 2026 and will provide reliable, secure, economic natural gas capacity to meet the growing design day demand of the Dawn Parkway Transmission system which serves both in- and ex-franchise markets.

Assets: The Kirkwall-Hamilton Expansion Project consists of 10.2 km of NPS 48 pipeline from the Kirkwall Valve Site to the Hamilton Valve Site.

Related Programs: N/A

Recommended Alternative Description

Scope of Work: System installation of approximately 10.2 km of NPS 48 internally-coated pipeline from Kirkwall Valve Site (17V-302) to Hamilton Valve Site (18W-601V) on the Dawn Parkway System.

Resources: Projects group to provide project management support from design and planning phase to project execution.

Solution Impact: Capacity is available on the Dawn Parkway System to meet in-franchise growth and customer demand.

Project Timing & Execution Risks: In March 2021, this project was pushed out to 2025 and is forecast for November 1, 2026 in-service date. This project was filed with the Ontario Energy Board (OEB); but due to the global pandemic, there was demand uncertainty and the project ultimately was paused. Further analysis for potential IRPAs. Schedule delays due to right-of-way access for survey, environmental studies, land acquisition. permitting, and/or issuance of OEB Leave to Construct may put at risk the planned in-service date.

Investment Type	Project (EGI)	Planning Portfolio	UG - Core - Transmission Pipe & Underground Storage - Growth
Investment Stage	Executing		

Investment Overview

1. Project Information	State/Province	Ontario
	Operating Area (EGI)	Div_16 - Hamilton
	Asset Program (EGI)	TPS - Growth
	Asset Class (EGI)	Transmission Pipe & Underground Storage
2. Compliance	Compliance Investment	No
	Compliance Justification & Code	
3. Must Do	Must Do Investment	Yes
	Intolerable Risk (EGI)	No
	Third Party Relocation (EGI)	No
	Program work with sufficient history and risk to warrant continuation (EGI)	No

Spend Profile

Name	Net Base Capex O (CA)
Dawn Parkway Expansion Project (Kirkwall-Hamilton NPS 48)	$ 192,008,405

Account Type	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Base CAPEX O	$ -	$ 19,000,000	$ 38,247,415	$ 115,027,169	$ 16,000,000	$ -	$ -	$ -	$ -	$ -
Contributions	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Dismantlement	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Report Generation Date: 5/30/2022

ENBRIDGE

Investment Summary Report

Investment Code	Report Start Year	Number of Years
49758	**2023**	**10**

Investment Name

Panhandle Regional Expansion Project

Investment Description

Issue/Concern:
To provide reliable, secure, and affordable natural gas supply to meet the growth in Design Day demand of the Panhandle System:

Assets:
i. Dawn Yard: 700 m of 8960 kPa MOP NPS42 station header is required to maintain the maximum sustainable pressure on design day. This header will also provide operational flexibility and security of supply to the Panhandle system.
ii. Panhandle Take-off Station: The existing station will be modified to meet the new system capacity demand requiring measurement, odourization and regulation assets.
iii. Dover Transmission Station: This existing regulating station will be modified to connect the new NPS 36 pipeline to the upstream system. Flow measurement equipment will also be added to the station.
iv. Panhandle Loop : 19 km of NPS 36 6040 kPag MOP pipeline will parallel the NPS 20 from Dover Transmission station to a new valve site at Richardson Sideroad.
v. Richardson Sideroad Valve Site: A new valve site is required at the end of the NPS 36 Panhandle loop to connect to the existing NPS20 mainline. Isolation valves and launcher/receiver facilities will be installed at this location.

Related Programs: Other PREP Investments: #735972 & 736923

Recommended Alternative Description

1. Scope: To provide reliable, secure, and affordable natural gas supply to meet the growth in Design Day demand of the Panhandle System:

i. Dawn Yard: 700 m ofNPS 42 8960 kPa MOP station header is required to maintain the maximum sustainable pressure on design day. This header will also provide operational flexibility and security of supply to the Panhandle system.
ii. Panhandle Take-off Station: The existing station will be modified to meet the new system capacity demand requiring measurement, odourization and regulation assets.
iii. Dover Transmission Station: This existing regulating station will be modified to connect the new NPS 36 pipeline to the upstream system. Flow measurement equipment will also be added to the station.
iv. Panhandle Loop : 19 km of 6040 kPag MOP NPS36 pipeline will parallel the NPS 20 from Dover Transmission station to a new valve site at Richardson Sideroad.
v. Richardson Sideroad Valve Site: A new valve site is required at the end of the NPS 36 Panhandle loop to connect to the existing NPS20 mainline. Isolation valves and launcher/receiver facilities will be installed at this location.

2. Resources:
This project will be internally managed by EGI staff. Construction work, such as well drilling and new pool piping installation, will be performed by contractors.

3. Solution Impact:
Expansion of the Panhandle system provides customers with increased access to diversity, reliability and security of supply of the Dawn Hub.

4. Project Timing & Execution Risks:
This project starts 2021 with its feasibility endorsed in Q2 2022. Construction will commence in 2023 . The expected in-service date is Fall 2023.

Investment Type	Project (EGI)	Planning Portfolio	UG - Core - Transmission Pipe & Underground Storage - Growth
Investment Stage	Executing		

Investment Overview

1. Project Information	State/Province	Ontario
	Operating Area (EGI)	Div_02 - Chatham
	Asset Program (EGI)	TPS - Growth
	Asset Class (EGI)	Transmission Pipe & Underground Storage
2. Compliance	Compliance Investment	No
	Compliance Justification & Code	
3. Must Do	Must Do Investment	Yes
	Intolerable Risk (EGI)	No
	Third Party Relocation (EGI)	No
	Program work with sufficient history and risk to warrant continuation (EGI)	No

Spend Profile

Name	Net Base Capex O (CA)
Panhandle Regional Expansion Project	$ 197,451,236

Account Type	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Base CAPEX O	$ 167,263,803	$ 8,592,570	$ 67,613	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Contributions	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Dismantlement	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Report Generation Date: 5/30/2022

ENBRIDGE

Investment Summary Report

Investment Code	Report Start Year	Number of Years
736923	**2023**	**10**

Investment Name

Panhandle Regional Expansion Project - Leamington Interconnect

Investment Description

Issue/Concern/Opportunity:
To provide reliable, secure, and affordable natural gas supply to meet the growth in Design Day demand of the Panhandle System,

Assets:

i) Leamington Interconnect : 12 km of 6040 kPag MOP NPS16 pipeline connecting the Leamington North Line, Leamington North Loop, Mersea Line and Kingsville East Line.

ii. Leamington Interconnect Valve Sites: Three new valve sites with isolation valves are required to connect to each of the existing laterals (1. Leamington North Line and Leamington North Loop, 2. Mersea Line and 3. Kingsville East Line). Launcher/receiver facilities will be installed at location 1 and 3.

Related Program: Not Applicable

Recommended Alternative Description

1. Scope Install approximately 11 km of NPS 16 connecting Kingsville East Line, Mersea Line and the Leamington North Lines.

Reinforcement projects broadly involve the installation of new or modification of existing gas distribution assets to maintain minimum required system pressure, maintain capacity, and meet customer demand. These projects are primarily driven by customer growth and system reliability considerations. Failure to implement reinforcement projects in a timely manner could lead to a potential inability to support increasing demands of existing customers and the addition of future customers.

2. Resources:
This project will be internally managed by EGI staff. Construction work, such as well drilling and new pool piping installation, will be performed by contractors.

3. Solution Impact:
Expansion of the Panhandle system provides customers in the Leamington and Kingsville area with increased access to diversity, reliability and security of supply of the Dawn Hub.

4. Project Timing & Execution Risks:
This project starts 2021 with its feasibility endorsed in Q2 2022. Construction will commence in 2024 . The expected in-service date is Fall 2024.

Investment Type	Project (EGI)	Planning Portfolio	UG - Core - Transmission Pipe & Underground Storage - Growth
Investment Stage	Executing		

Investment Overview

1. Project Information	State/Province	Ontario
	Operating Area (EGI)	Div_01 - Windsor
	Asset Program (EGI)	TPS - Growth
	Asset Class (EGI)	Transmission Pipe & Underground Storage
2. Compliance	Compliance Investment	No
	Compliance Justification & Code	
3. Must Do	Must Do Investment	Yes
	Intolerable Risk (EGI)	No
	Third Party Relocation (EGI)	No
	Program work with sufficient history and risk to warrant continuation (EGI)	No

Spend Profile

Name	Net Base Capex O (CA)
Panhandle Regional Expansion Project - Leamington Interconnect	$ 55,278,330

Account Type	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Base CAPEX O	$ 12,242,784	$ 39,598,802	$ 3,047,378	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Contributions	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Dismantlement	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Report Generation Date: 6/2/2022

ENBRIDGE

Investment Summary Report

Investment Code	Report Start Year	Number of Years
100086	2023	10

Investment Name: Panhandle Line Replacement

Investment Description

Issue/Concern:
Enbridge Gas Inc.'s (EGI's) Integrity Management team initiated work in 2019 to better understand the risk associated with the two NPS12 crossings that connect the Panhandle Eastern System owned and operated by Energy Transfer in Michigan with the EGI system in Ontario. These two crossings, installed in 1947, have never been internally inspected to check for the presence of the primary threat of internal corrosion; such inspection cannot be achieved given the configuration of the asset. A risk assessment was recently completed for the river crossings. The risk owner and risk approver reviewed the risk results and have decided the risk requires treatment with a permanent solution.

Assets: Transmission Pipeline (Canada Energy Regulator-regulated crossing)

Related Programs: N/A

Recommended Alternative Description

Scope of Work: Replacement of the twin NPS 12 Crossings with a single pipeline of equivalent capacity.

Resources: Projects group to provide project management support from design and planning phase to project execution.

Solution Impact: The principal risk is the lack of In-line Inspection (ILI) data needed to inform effective decision-making to mitigate a potential loss of pipeline containment (i.e., leak). Replacement with a new single pipeline, designed, manufactured and constructed to current standards that is ILI-capable can address this risk.

Project Timing & Execution Risks: Original in-service date is estimated to be Q3 2024. Overall project schedule is highly dependent on regulatory process and discussion with joint partner (Energy Transfer).

Investment Type	Project (EGI)	Planning Portfolio	UG - Core - Transmission Pipe & Underground Storage - Replacements
Investment Stage	Executing		

Investment Overview

1. Project Information	State/Province	Ontario
	Operating Area (EGI)	Div_01 - Windsor
	Asset Program (EGI)	TPS - Replacements
	Asset Class (EGI)	Transmission Pipe & Underground Storage
2. Compliance	Compliance Investment	No
	Compliance Justification & Code	
3. Must Do	Must Do Investment	No
	Intolerable Risk (EGI)	Yes
	Third Party Relocation (EGI)	No
	Program work with sufficient history and risk to warrant continuation (EGI)	No

Spend Profile

Name	Net Base Capex O (CA)
Panhandle Line Replacement	$ 29,809,389

Account Type	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Base CAPEX O	$ 1,619,900	$ 24,257,660	$ 3,392,719	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Contributions	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Dismantlement	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Report Generation Date: 5/30/2022

ENBRIDGE

Investment Summary Report

Investment Code	Report Start Year	Number of Years
735972	**2023**	**10**

Investment Name

PREP: NPS 36 looping to Comber Transmission

Investment Description

Issue/Concern:
Panhandle System expansion is driven by in-franchise growth in Chatham-Kent, Windsor-Essex and surrounding areas, including the fast-growing greenhouse market in the Leamington/Kingsville area. Based on the current forecast for in-franchise general service and contract growth in the Panhandle Transmission System market, EGI has determined that the next Panhandle facilities for expansion will need to be in place as early as the 2028 to 2029 winter season (construction beginning in 2028). These facilities are incremental to the Panhandle Regional Expansion Project and timing is dependent on the Panhandle System demands.

Assets:
Install approximately 12 km of NPS 36 pipeline from Richardson sideroad, looping the existing Panhandle NPS 20 pipeline to Comber Transmission Station (05E-403).

Recommended Alternative Description

Scope
To provide reliable, secure, and affordable natural gas supply to meet the growth in Design Day demand of the Panhandle System by installing approximately 12 km of NPS 36 pipeline from Richardson Sideroad, looping the existing Panhandle NPS 20 pipeline to Comber Transmission Station (05E-403).

Resources
This project will be internally managed by EGI staff. Construction work, such as well drilling and new pool piping installation, will be performed by contractors.

Solution Impact
Expansion of the Panhandle system will provide customers with increased access to diversity, reliability and security of supply of the Dawn Hub.

Project Timing & Execution Risks
This project starts in 2026 with its feasibility endorsed in Q2 2027. Construction will commence in 2028. The expected in-service date is Fall 2028.

Investment Type	Project (EGI)	Planning Portfolio	UG - Core - Transmission Pipe & Underground Storage - Growth
Investment Stage	Long Term Planning		

Investment Overview

1. Project Information	State/Province	Ontario
	Operating Area (EGI)	Div_02 - Chatham
	Asset Program (EGI)	TPS - Growth
	Asset Class (EGI)	Transmission Pipe & Underground Storage
2. Compliance	Compliance Investment	No
	Compliance Justification & Code	
3. Must Do	Must Do Investment	Yes
	Intolerable Risk (EGI)	No
	Third Party Relocation (EGI)	No
	Program work with sufficient history and risk to warrant continuation (EGI)	No

Spend Profile - Recommende

Name	Net Base Capex O (CA)
PREP: NPS 36 looping to Comber Transmission	$ 70,000,000

Account Type	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Base CAPEX O	$ -	$ -	$ -	$ 7,000,000	$ 14,000,000	$ 42,000,000	$ 7,000,000	$ -	$ -	$ -
Contributions	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Dismantlement	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

Report Generation Date: 5/30/2022

Line No.	Investment Code	Appendix A Investment Name	AMP Planning Group	2023-2032 Forecast Including Overheads	2023-2032 Overhead Allocation	In Service Date
	(a)	(b)	(c)	(d)	(e)	(f)
	Asset Class (EGI) - Compression Stations					
1	48715	Dawn C Compression Lifecycle	Significant Invetsments (>$10M) - Fixed Timing	$166,338,152	$41,178,152	2027
2	48732	Waubuno Compression Lifecycle	Value Driven - Fixed Timing	$29,218,620	$6,141,720	2025
3	100901	Dawn to Corunna	Value Driven - Fixed Timing	$200,337,430	$45,845,900	2023
4	734634	Dawn to Corunna (Dawn Tie-in)	Value Driven - Fixed Timing	$105,753,129	$23,718,491	2023
	Asset Class (EGI) - Distribution Pipe					
5	10088	NPS 20 Lake Shore Replacement (Cherry to Bathurst)	Value Driven - Fixed Timing	$20,896,371	$4,797,127	2022
6	10290	St. Laurent Phase 3 - Coventry/Cummings/St. Laurent (Plastic)	Value Driven - Fixed Timing	$25,033,190	$5,478,112	2024
7	10293	St. Laurent Phase 3 - North/South (NPS12/16 Steel)	Value Driven - Fixed Timing	$121,804,143	$26,503,360	2025
8	10294	St. Laurent Phase 4 - East/West (NPS12 Steel)	Value Driven - Fixed Timing	$53,906,876	$11,800,108	2024
9	11443	NPS 12 Martin Grove Rd Main Replacement: Lavington to St. Albans Rd.	Value Driven - Value Framework	$30,613,585	$7,603,920	2026, subject to EDIMP assessment
10	100295	Div_04: NPS 8 Port Stanley, London, Replacement	Value Driven - Fixed Timing	$18,916,863	$4,025,457	2025, subject to EDIMP assessment
11	100339	A10: Wilson Avenue, Toronto, VSM Replacement	Executing - Re-Optimize	$106,992,932	$25,192,932	2026/2031, refer to Exhibit I.2.6- ED-100
12	503350	Moulton Replacement BU	Executing - Re-Optimize	$18,165,905	$3,813,905	2025
13	740604	NPS20 KOL - Parliament St.	Mandatory - Fixed Timing	$13,131,787	$3,014,631	2023
	Asset Class (EGI) - Distribution Stations					
14	13034	SCRW:Station-Renewal In-Place	Mandatory - Fixed Timing	$28,244,162	$6,171,173	2025
15	503369	Lisgar Station	Executing - Re-Optimize	$20,124,611	$4,242,407	2025
16	734676	SARN: 13F-220R Vidal St	Value Driven - Value Framework	$17,192,992	$4,712,992	2031
17	735022	Sarnia Industrial Station 2029 Rebuild	Value Driven - Fixed Timing	$14,849,863	$3,849,863	2029
	Asset Class (EGI) - Growth					
18	1024	NW 6581 Ottawa Reinforcement Phase 2 SRP	Mandatory - Fixed Timing	$70,698,549	$17,209,549	2029
19	30542	SRP_Southeast_Owen Sound_County Rd 40_Reinforcement_NPS12_11800m_4670kPa	Mandatory - Fixed Timing	$33,636,531	$7,236,531	2025
20	30579	SRP_Southwest_Wonderland_New STN & MOP Upgrade	Mandatory - Fixed Timing	$20,506,933	$4,306,933	2025
21	100703	SRP_LUG East_Kingston_Creekford Rd_Reinforcement_NPS8_6200m_6895kPa	Mandatory - Fixed Timing	$45,292,234	$11,283,270	2027
22	736259	Hamilton Reinforcement Project	Mandatory - Fixed Timing	$125,821,854	$26,713,062	2025
23	736975	Enbridge Gas Distribution System Hydrogen Feasibility Study	Value Driven - Fixed Timing	$15,315,942	$3,398,275	2022

Line No.	Investment Code	Appendix A Investment Name	AMP Planning Group	2023-2032 Forecast Including Overheads	2023-2032 Overhead Allocation	In Service Date
	Asset Class (EGI) - LNG					
24	48709	Hagar KVGR and Cycle Mix Cooler	Value Driven - Value Framework	$24,740,190	$5,648,190	2032
25	48714	Hagar Cold Box	Value Driven - Value Framework	$14,401,282	$3,401,282	2032
26	49955	Hagar JVG Compressor Upgrade	Value Driven - Value Framework	$20,873,854	$4,781,854	2032
	Asset Class (EGI) - Real Estate & Workplace Services					
27	3640	Station B New Building	Value Driven - Fixed Timing	$38,590,879	$8,590,879	2025
28	8782	VPC Core and Shell	Value Driven - Value Framework	$35,420,035	$9,420,035	2031
29	100621	Dawn Administrative Centre	Value Driven - Value Framework	$16,349,278	$4,349,278	2028
30	101136	New London Site	Executing - Re-Optimize	$49,500,658	$11,959,058	2026
31	737272	Kennedy Road New Build	Value Driven - Value Framework	$49,647,957	$11,803,457	2026
32	737374	Ottawa - New Building	Value Driven - Value Framework	$46,337,933	$10,498,150	2026
33	737754	Thorold Operations Centre - New Building	Value Driven - Value Framework	$21,533,430	$5,033,430	2026
34	739714	GTA East - New Build - Peterborough	Value Driven - Value Framework	$14,722,478	$3,722,478	2024
35	739715	GTA West - New Build - Halton Hills	Value Driven - Value Framework	$42,675,572	$9,790,356	2026
	Asset Class (EGI) - TIS					
36	102291	Contract Market Harmonization	Value Driven - Value Framework	$19,195,783	$4,335,783	2026
37	102364	Records Management Technology Obsolescence (2024-2026)	Value Driven - Value Framework	$23,566,261	$5,516,261	2026
38	736081	General Service Rebasing Changes	Value Driven - Value Framework	$17,914,329	$3,914,329	2025
39	736942	Contract Market Systems - Technology Obsolescence	Mandatory - Fixed Timing	$69,786,961	$15,776,961	2026
	Asset Class (EGI) Transmission Pipe & Underground Storage					
40	48654	Dawn Parkway Expansion Project (Kirkwall-Hamilton NPS 48)	Mandatory - Fixed Timing	$251,357,572	$63,082,988	2027
41	49758	Panhandle Regional Expansion Project	Mandatory - Fixed Timing	$224,328,497	$47,088,489	2024
42	100086	Panhandle Line Replacement	Value Driven - Fixed Timing	$37,899,145	$8,128,866	2025
43	100699	Dawn Parkway Expansion Project (Dawn-Enniskillen NPS 48)	Mandatory - Fixed Timing	$332,803,728	$86,169,476	2029
44	735972	PREP: NPS 36 looping to Comber Transmission	Mandatory - Fixed Timing	$95,496,455	$25,496,455	2030
45	736923	Panhandle Regional Expansion Project - Leamington Interconnect	Mandatory - Fixed Timing	$118,751,452	$28,443,901	2026
46	740055	Panhandle Regional Expansion Project - Dawn Facilities	Mandatory - Fixed Timing	$92,044,573	$19,910,796	2025

ENBRIDGE GAS INC.

Answer to Undertaking from
School Energy Coalition (SEC)

Undertaking

Tr: 69

To file the 2022 and 2023 scorecards.

Response:

The 2022 GDS Scorecard results are provided at Attachment 1. The 2023 GDS Scorecard is provided at Attachment 2.

GDS 2022 year-end results

▲ Above target (>1.25 multiplier)
○ On target (1.00 - 1.25 multiplier)
▼ Below target (<1.00 multiplier)

Key performance indicator	Weight	Year-end target: Doesn't meet	Meets	Exceeds	Year-end
Ensure safe, reliable operations	35%	0x	1x	2x	
People not getting hurt Total recordable injury frequency (TRIF) per 200,000 employee and contractor hours worked	15%	1.00	0.76	0.68	▲
Environmental incident frequency (EIF) Number of environmental incidents (non-compliances) per 200,000 employee and contractor exposure hours	5%	0.26	0.18	0.15	▲
Pipeline system safety (PSS) Leak and release frequency (LRF) defined as: (Tier 1 Count x 10 + Tier 2 Count) x 1,000 kms/kms of pipelines	5%	0.21	0.10	0.08	▲
Total damages per 1,000 locates First, second and third party line breaks per 1,000 locate requests	5%	2.28	2.07	1.86	▼
Cybersecurity: predictive susceptibility to a real phishing attack Percent clicked on compliance phishing test	5%	6.9%	4.9%	2.9%	▲
Maintain financial strength and flexibility	35%				
Adjusted earnings before interest, taxes, depreciation, and amortization (EBITDA)	35%	$1,784	$1,839	$1,894	▲
Progress toward our ESG goals	10%				
DE&I	5%				
Composite Net increase on overall diverse representation as a percentage of our workforce	3%	1.2%	1.5%	2.5%	▼
Composite Employee/leader training completion percentage of completion of Indigenous awareness training	2%	90%	95%	100%	▲
Emissions	5%				
GHG emissions reduction	5%	-8%	-4%	2%	▲
Execute and extend growth	20%				
EBITDA generated by growth capital (millions) Includes organic growth projects and M&A	20%	$17	$30	$58	○
Total	100%			2022 multiplier 1.40x	▲

ENBRIDGE
Life Takes Energy

GDS 2023 scorecard

Key performance indicator	Weight	Year-end target		
		Doesn't meet	Meets	Exceeds
Ensure safe, reliable operations	35%	0x	1x	2x
People not getting hurt Total recordable injury frequency (TRIF) per 200,000 employee and contractor hours worked	15%	0.81	0.72	0.68
Environmental incident frequency (EIF) Number of environmental incidents (non-compliances) per 200,000 employee and contractor exposure hours	5%	0.26	0.16	0.13
Process safety performance metric Leak and release frequency (LRF) defined as: (Tier 1 Count x 10 + Tier 2 Count) x 1,000 kms/kms of pipelines	5%	0.14	0.07	0.01
Total damages per 1,000 locates First, second and third party line breaks per 1,000 locate requests	5%	2.34	2.13	1.92
Cybersecurity: predictive susceptibility to a real phishing attack Percent clicked on compliance phishing test	5%	6.6%	4.6%	2.6%
Maintain financial strength and flexibility	35%			
Adjusted earnings before interest, taxes, depreciation, and amortization (EBITDA)	35%	3% under budget	Meets budget	3% over budget
Progress toward our ESG goals	10%			
DE&I				
Representation Enterprise net increase in percentage of all diverse talent	5%	1.5%	2.0%	2.5%
Emissions				
GHG emissions Reducing methane: Optimize blowdown mitigation/recovery	5 %	0.0%	33.0%	36.5%
Execute and extend growth	20%			
EBITDA generated by growth capital (millions) Includes organic growth projects and M&A	20%	$17	$30	$58
Total	100%			

ENBRIDGE
Life Takes Energy

Table 3
Capital Update Revenue Deficiency Impacts

Line No.	Particulars ($ millions)	2024 Deficiency
1	March Filing Deficiency	(294.1)
2	Capital Updates	22.4
3	PREP – Remove 2024 revenue requirement impact	(14.4)
4	D2C – Remove 2024 revenue requirement impact	22.5
5	Depreciation Updates	3.1
6	DSM – Inflation update	(8.0)
8	Updated Deficiency	(268.5)

17. Detailed variance explanations of changes to capital expenditures and rate base are provided in Section 2. Details on the depreciation updates are provided in Section 3. A description of the proposed levelized approach to be applied to PREP and the treatment of D2C is provided in Section 4. Revenue requirement and deficiency impacts of this Capital Update are provided in Section 5.

2. Capital Updates

18. The following sections provide updates related to capital expenditures and rate base and variance explanations for the updates relative to the March Filing.

2.1 Capital Expenditures

19. The 2022 to 2024 updated capital expenditures are $241.0 million lower than the 2022 to 2024 capital expenditures in the March Filing largely due to the removal of PREP. Inclusive of PREP, capital expenditures are relatively flat over the 2022 to 2024 period when comparing the March Filing versus this Capital Update. Significant areas of change from 2022 to 2024 include:

/u

- Integration Capital: updated to reflect the deferral of the GTA East and West facilities resulting in a decrease to 2023 integration spend of $29.9 million. The facilities are now expected to be completed in 2026.
- Facility Dispositions: As a result of the shift in timing for the GTA East and West integration projects, the forecasted disposition of buildings has been updated for 2024. The evidence in the March Filing included the forecasted disposition of 6 sites including 5 related to the GTA East and West projects[7] (Peterborough, Cobourg, Burlington, Milton, and Brampton). These facilities are now forecasted for disposition in 2027 after the completion of the GTA East and West projects. The Ottawa Depot (Coventry) site was also previously forecasted to be disposed in 2024; however, updated timing for the new South Merivale Operations Centre (SMOC)/Coventry facility consolidation project has shifted the disposition of SMOC to 2024 and the Ottawa Depot site to 2025. Note that SMOC was originally forecasted for disposition in 2023[8].
- D2C Project: The OEB granted Leave to Construct (LTC) approval for the project in November of 2022. Subsequent to LTC approval, Enbridge Gas received revised cost estimates for the project which resulted in an $111 million increase to the forecasted cost, primarily driven by inflationary pressures. In an effort to mitigate the cost pressures and keep the capital expenditures relatively stable to the previously filed evidence, Enbridge Gas has reprioritized capital spend over the 2023 to 2024 period to offset the incremental costs for the project.

/u

[7] Exhibit 1, Tab 9, Schedule 1, p.23.
[8] Exhibit 4, Tab 5, Schedule 1, p.14.

- Customer Connections: Customer connections costs have increased in both 2022 and 2023 related to an overall increase in forecasted new customer connections compounded with inflationary pressures in construction and material costs.
- Inflation and Increasing Complexity for Construction Projects: The March Filing did not include any provisions related to the rapid escalation of inflationary pressures in 2022. Inflationary cost pressures have had a significant impact on project estimates over the 2022 and 2023 periods. In addition, costs associated with an increasingly complex construction environment are also increasing. Examples of this include an increasing number of permits required by permitting agencies and additional work required under these permits, challenges obtaining timely locates and costs associated with dedicated locators in some regions, and legislated requirements for soil testing and the associated costs for storage, disposal and construction delays. All of these factors contribute to increasing costs relative to original project estimates.

20. Table 4 provides an overview of capital expenditures contained in the March Filing. Table 5 provides an overview of the updated capital expenditures forecast in this Capital Update.

ENBRIDGE GAS INC.

Answer to Interrogatory from
School Energy Coalition (SEC)

Interrogatory

Reference:

2-6-2, p.215

Question(s):

With respect to the Enbridge Facility Assessment Results:

a) What is the basis for Enbridge's standard (i.e. FCI scores between 0-5% are considered good, etc.)?

b) For each property where the summary strategy is disposition, please detail when Enbridge plans to dispose of the property and the forecast proceeds from disposition.

Response:

The following response has been updated to reflect the Capital Update provided at Exhibit 2, Tab 5, Schedule 4, filed on June 16, 2023. /u

a) Enbridge Standards are based on Facility Condition Assessments (FCAs) that are comprehensive evaluations of the physical state of a building or infrastructure system. The basis of an FCA typically involves a detailed examination of various elements of the facility, including its mechanical, electrical, plumbing, and structural systems, as well as its overall layout and organization. The National Research Council of Canada (NRC) "Protocols for Building Condition Assessment" published by The Institute for Research in Construction (IRC) and ASTM E 2018-01 Standard Guide for Property Condition Assessments: Baseline Property Condition Assessment Process are real estate industry standards used to inform Enbridge Gas's standard. This process is one used by many municipalities in establishing the conditions of assets when determining capital planning needs.

   A component of the assessment is the AI (Adequacy Index) which is determined based on a set of programmatic criteria that Enbridge Gas established to ensure functional operations. These items include barrier free accessibility, programmatic needs to ensure safe operating conditions for staff (i.e., dedicated welding spaces if

welding is taking place) and functional needs to support the work force located at the facility.

b) Properties planned for disposition and forecasted disposition year along with forecasted proceeds are shown in Table 1.

Table 1

Property Name	Revitalization Program	Forecasted year	Estimated Proceeds Value Range
London Operations Centre	Disposition	2027	TBD - Uncertainty of market conditions at future time of sale
Milton Operations Centre	Disposition	2025-26	$13.9M to$15.25M
St. Thomas Operations Centre	Disposition	2027	TBD - Uncertainty of market conditions at future time of sale
Brampton Operations Centre	Disposition	2025-26	$14.9M to $16.5M
Burlington Operations Centre	Disposition	2025-26	$9.7M to $10.3M
Ottawa Regional Operations and Admin	Disposition	2025	$20M firm
SMOC Operations Centre	Disposition	2024	$6.3M estimate

/u

ENBRIDGE GAS INC.

Answer to Interrogatory from
Vulnerable Energy Consumers Coalition (VECC)

Interrogatory

Reference:

Exhibit 2, Tab 6, Section 5.4.7 (REWS)

Question(s):

a) Please provide a list of all properties that were sold in each year 2019 through 2022 and provide the net (of fees) sale price.

b) Please provide a list of the forecast sales of properties in 2023 and 2024 and the current assessed value of those properties.

c) Please provide a list of the properties forecast to be purchased in 2023 and 2024 and the current actual or forecast cost of those properties.

Response:

The following response has been updated to reflect the Capital Update provided at Exhibit 2, Tab 5, Schedule 4, filed on June 16, 2023.

a) Properties sold in the years 2019 through 2022 are as follows:

- 2019 to 2021 - None
- 2022 - 3401 Schmon Parkway, Thorold. Net sale price $12,246,500

b) The properties forecast for disposition in 2023 and 2024 are as follows: /u

- 2023 - 335 Prichard Rd, Hamilton. Sold, net sale price $3,033,250
- 2024 - 90 Bill Leathem Drive, Nepean, South Merivale Operation Centre (SMOC), $6.3M estimate

Upon disposition of a property, Enbridge Gas calculates a separate gain (or loss) for the land and building by apportioning the sale proceeds between the land and building in accordance with U.S. GAAP. As prescribed in the OEB's Uniform System of Accounts for Class A Gas Utilities, the gain (or loss) on the sale of land is

recorded to income. The gain (or loss) on the building sale is captured in accumulated depreciation and is recovered through depreciation expense over the remaining life of the assets left within the group, based on subsequent depreciation studies.

Enbridge Gas has forecasted dispositions of property at net book value, as gains or losses on disposition are only determined at the time of sale.

c) One property is forecasted for purchase in 2023: 209 Cambridge Ave, Iroquois Falls at a forecast price of $61,000. No properties are forecast to be purchased in 2024.

Table 5.2.3-4: Distribution Pipe Capital Summary ($ Millions) – EGI

Line No.	Particulars													
1	Asset Class Strategy	Program Name	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	10-Year	
2	TIMP Retrofits and Digs	Integrity	3.9 M	0.0 M	0.0 M	2.1 M	2.7 M	2.7 M	2.6 M	2.8 M	2.8 M	2.8 M	22.5 M	/u
3	Inspection Program Integrity Retrofits and Digs		82.5 M	106.2 M	47.8 M	65.1 M	47.5 M	21.7 M	21.3 M	21.8 M	22.0 M	20.8 M	456.6 M	/u
4	Depth of Cover Program		0.0 M	0.4 M	5.1 M	3.4 M	4.3 M	3.0 M	1.6 M	0.7 M	0.7 M	0.7 M	19.9 M	/u
5	Class Location Program	Class Location	3.6 M	2.5 M	2.5 M	6.6 M	6.7 M	9.6 M	9.1 M	6.8 M	6.9 M	6.4 M	60.9 M	/u
6	Corrosion Prevention Program	Corrosion	4.8 M	20.2 M	10.6 M	11.2 M	10.9 M	11.2 M	11.4 M	11.2 M	11.5 M	11.4 M	114.5 M	/u
7		Main Replacement	0.3 M	1.6 M	0.0 M	0.0 M	0.0 M	0.0 M	0.0 M	0.0 M	0.0 M	0.0 M	1.9 M	/u
8	Emergency Replacement Program	Main Replacement	1.5 M	4.8 M	4.9 M	0.0 M	0.0 M	5.6 M	5.5 M	5.9 M	6.1 M	6.2 M	40.4 M	/u
9	General Replacement Program	Main Replacement	19.8 M	22.5 M	5.7 M	3.3 M	19.2 M	32.6 M	18.2 M	18.5 M	29.1 M	16.9 M	185.8 M	/u
		MOP	0.0 M	0.0 M	.0 M	6.6 M	6.7 M	6.8 M	6.7 M	6.8 M	6.9 M	6.4 M	47.0 M	/u
10	Service Replacement Program	Service Relay	34.3 M	37.0 M	35.7 M	37.4 M	35.6 M	36.1 M	35.4 M	37.8 M	37.9 M	37.8 M	365.1 M	/u
11	Relocation Program	Relocations	36.5 M	40.9 M	43.4 M	43.5 M	44.7 M	45.7 M	45.4 M	47.5 M	46.8 M	44.5 M	439.0 M	/u
12	Bare and Unprotected Program	Main Replacement	2.1 M	6.8 M	0.0 M	10.6 M	8.3 M	0.0 M	0.0 M	0.0 M	0.0 M	0.0 M	27.8 M	/u
13	Vintage Steel Replacement Program		3.7 M	8.1 M	8.1 M	0.3 M	20.2 M	105.1 M	142.5 M	188.3 M	290.0 M	466.5 M	1232.8 M	/u
14	St. Laurent Phase 3 - North/South (NPS12/16 Steel)		0.0 M	12.2 M	103.3 M	6.4 M	0.0 M	0.0 M	0.0 M	0.0 M	0.0 M	0.0 M	121.8 M	/u
15	St. Laurent Phase 3 - Coventry/Cummings/St. Laurent (Plastic)		0.0 M	23.4 M	1.7 M	0.0 M	0.0 M	0.0 M	0.0 M	0.0 M	0.0 M	0.0 M	25.0 M	/u
16	St. Laurent Phase 4 - East/West (NPS12 Steel)		0.0 M	51.2 M	2.7 M	0.0 M	0.0 M	0.0 M	0.0 M	0.0 M	0.0 M	0.0 M	53.9 M	/u
17	St. Laurent Phase 4 - Lower Section (Plastic)		0.0 M	0.5 M	9.1 M	0.5 M	0.0 M	0.0 M	0.0 M	0.0 M	0.0 M	0.0 M	10.2 M	/u
18	NPS 20 Lake Shore Replacement (Cherry to Bathurst)		34.0 M	0.0 M	0.0 M	0.0 M	0.0 M	0.0 M	0.0 M	0.0 M	0.0 M	0.0 M	34.0 M	/u
19	NPS 12 Martin Grove Rd Main Replacement: Lavington to St. Albans Rd.		0.0 M	0.0 M	3.2 M	26.1 M	1.4 M	0.0 M	0.0 M	0.0 M	0.0 M	0.0 M	30.6 M	/u
20	Moulton Replacement BU		0.0 M	0.8 M	17.4 M	0.0 M	0.0 M	0.0 M	0.0 M	0.0 M	0.0 M	0.0 M	18.2 M	/u
21	Copper Services Replacement Program	Service Relay	0.0 M	2.4 M	0.9 M	0.0 M	0.0 M	0.0 M	0.0 M	0.0 M	0.0 M	0.0 M	3.3 M	/u
22	AMP Fitting Replacement Program		10.3 M	15.4 M	24.3 M	44.0 M	41.7 M	47.0 M	45.8 M	49.3 M	50.8 M	51.4 M	379.9 M	/u
23	A10: Wilson Avenue, Toronto, VSM Replacement	Main Replacement	.0 M	.0 M	69.8 M	4.0 M	.0 M	.7 M	2.6 M	28.4 M	1.4 M	.0 M	107.0 M	/u
24	A60: Sparks St, Ottawa, Replacement		.1 M	.1 M	.0 M	11.7 M	.5 M	.0 M	.0 M	.0 M	.0 M	.0 M	12.5 M	/u
25	Div_04: NPS 8 Port Stanley, London, Replacement		.0 M	.0 M	18.9 M	.0 M	.0 M	.0 M	.0 M	.0 M	.0 M	.0 M	18.9 M	/u
26	Total		237.5 M	357.0 M	415.0 M	283.0 M	250.2 M	327.9 M	348.3 M	425.9 M	512.9 M	671.8 M	3829.6 M	/u

ENBRIDGE GAS INC.

Answer to Undertaking from
School Energy Coalition (SEC)

Undertaking

Tr: 8

To confirm when 2023 and 2024 expenditures that have been delayed will take place.

Response:

Exhibit I.2.6-CCC-50, Attachment 1 has been edited to only show investments that have been deferred or cancelled from 2023. Please see Attachment 1 for the list.

Enbridge Gas is currently working through the 2024 Budget process and as such does not have a complete list of 2023 investments that have been deferred to 2024 or beyond, nor does Enbridge Gas have a complete list of 2024 investments that have been deferred or cancelled from the 2023 to 2032 Capital Plan.

As per response at Exhibit I.2.6-SEC-117, Enbridge Gas can confirm the deferral and/or cancellation of certain 2024 investments that are subject to LTC applications.

LEG/LUG	Core/Non-Core	Investment Code	Investment Name	Asset Class (EGI)	Asset Program (EGI)	Portfolio	2023 Workplan	2023F	2024F	2025F	2026F	2027F	2028F	2029F	2030F	2031F	2032F
EGD	EGD - Core	8652	LM:MS Wireless Mesh-Install	Compression Stations	CS - Improvements	EGD - Core - Compression Stations - Improvements	0	243,148	249,868	-	-	-	-	-	-	-	-
EGD	EGD - Core	8624	SCHT:Control Room-Expand	Compression Stations	CS - Improvements	EGD - Core - Compression Stations - Improvements	0	1,296,788	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	8628	SCHT:Dehy Automatn-Upgrade	Compression Stations	CS - Improvements	EGD - Core - Compression Stations - Improvements	0	405,246	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	502781	SCOR:541 Drainage System-Upgrade	Compression Stations	CS - Improvements	EGD - Core - Compression Stations - Improvements	0	510,236	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	12977	SCOR:622xx Bypass Valve-Upgrade 2023	Compression Stations	CS - Improvements	EGD - Core - Compression Stations - Improvements	0	329,185	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	12984	SCOR:622xx Unit Vlv-Heat Trace	Compression Stations	CS - Improvements	EGD - Core - Compression Stations - Improvements	0	16,459	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	8841	SCOR:HMI Hi Perf Grafx-Install	Compression Stations	CS - Improvements	EGD - Core - Compression Stations - Improvements	0	567,345	583,026	-	-	-	-	-	-	-	-
EGD	EGD - Core	9063	SM:SCADA-Annual Upgrade 2023	Compression Stations	CS - Improvements	EGD - Core - Compression Stations - Improvements	0	68,580	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	12919	SCOR:61004 Bottom End-O/H	Compression Stations	CS - Overhauls	EGD - Core - Compression Stations - Overhauls	0	124,691	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	12951	SCOR:100MOV Yard Valve-Replace 2023	Compression Stations	CS - Replacements	EGD - Core - Compression Stations - Replacements	0	979,845	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	12992	SCOR:352 Gas Detectrs-Replace	Compression Stations	CS - Replacements	EGD - Core - Compression Stations - Replacements	0	16,459	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	8844	SCOR:HMI PCs-Replace	Compression Stations	CS - Replacements	EGD - Core - Compression Stations - Replacements	0	81,049	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	12940	SCOR:Obsolete Mech-Replace 2023	Compression Stations	CS - Replacements	EGD - Core - Compression Stations - Replacements	0	118,456	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	12959	SM:100MOD Hdr Valves-Replace	Compression Stations	CS - Replacements	EGD - Core - Compression Stations - Replacements	0	2,880,365	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	12869	SM:Obsolete Elec-Replace 2023	Compression Stations	CS - Replacements	EGD - Core - Compression Stations - Replacements	0	68,580	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	12878	SM:Obsolete Instr-Replace 2023	Compression Stations	CS - Replacements	EGD - Core - Compression Stations - Replacements	0	68,580	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	501524	SSOM:K-801 Isolation Valves - Replace	Compression Stations	CS - Replacements	EGD - Core - Compression Stations - Replacements	0	733,219	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	8851	SSOM:UPS-replace	Compression Stations	CS - Replacements	EGD - Core - Compression Stations - Replacements	0	162,098	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	502013	Relocation Program - Engineering Construction	Distribution Pipe	DP - Relocations	EGD - Core - Distribution Pipe - Relocations	0	8,858,566	2,093,570	3,689	254,049	1,649,052	9,878,413	-	-	-	-
EGD	EGD - Core	734640	CNG - Kennedy Upgrade/Redesign	Distribution Stations	DS - CNG	EGD - Core - Distribution Stations - CNG	0	342,901	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	9846	2023 Telemetry	Distribution Stations	DS - Gate. Feeder & A Station	EGD - Core - Distribution Stations - Gate, Feeder & A Stations	0	1,745,676	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	3610	CROWLAND STORAGE TRANSFER	Distribution Stations	DS - Gate, Feeder & A Station	EGD - Core - Distribution Stations - Gate, Feeder & A Stations	0	23,573,888	550,992	-	-	-	-	-	-	-	-
EGD	EGD - Core	501534	Kemptville Gate Station - Electrical	Distribution Stations	DS - Gate. Feeder & A Station	EGD - Core - Distribution Stations - Gate, Feeder & A Stations	0	249,382	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	503369	Lisgar Station	Distribution Stations	DS - Gate, Feeder & A Station	EGD - Core - Distribution Stations - Gate, Feeder & A Stations	0	19,190,221	2,337,155	-	-	-	-	-	-	-	-
EGD	EGD - Core	7752	NIAGARA GATE	Distribution Stations	DS - Gate. Feeder & A Station	EGD - Core - Distribution Stations - Gate, Feeder & A Stations	0	1,026,853	3,523,787	-	-	-	-	-	-	-	-
EGD	EGD - Core	7754	OSHAWA GATE	Distribution Stations	DS - Gate. Feeder & A Station	EGD - Core - Distribution Stations - Gate, Feeder & A Stations	0	62,346	961,033	3,229,337	-	-	-	-	-	-	-
EGD	EGD - Core	501532	Peterborough District Station	Distribution Stations	DS - Gate. Feeder & A Station	EGD - Core - Distribution Stations - Gate, Feeder & A Stations	0	124,691	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	2719	YONGE AND STEELES FEEDER	Distribution Stations	DS - Gate. Feeder & A Station	EGD - Core - Distribution Stations - Gate, Feeder & A Stations	0	126,081	350,296	-	-	-	-	-	-	-	-
EGD	EGD - Core	501126	FIMP Station Assessment Program	Distribution Stations	DS - Integrity Initiatives	EGD - Core - Distribution Stations - Integrity Initiatives	0	1,446,417	1,486,397	1,498,412	1,516,908	1,611,949	1,598,212	1,588,870	1,636,511	1,617,977	1,571,001
EGD	EGD - Core	4667	Anode Blanket - Area 20	Distribution Pipe	DP - Corrosion	EGD - Core - DP - Corrosion - Anode Replacement Program	0	374,481	392,529	179,850	185,712	201,294	203,570	206,428	216,870	218,702	216,599
EGD	EGD - Core	4670	Anode Blanket - Area 50	Distribution Pipe	DP - Corrosion	EGD - Core - DP - Corrosion - Anode Replacement Program	0	74,896	78,506	54,012	70,222	76,114	76,974	78,055	82,003	82,696	81,901
EGD	EGD - Core	503432	Bridge Crossing Painting Program	Distribution Pipe	DP - Corrosion	EGD - Core - DP - Corrosion - Corrosion	0	280,555	576,620	193,760	392,304	208,442	206,665	205,457	211,618	209,221	203,147
EGD	EGD - Core	736845	Independent Asset Integrity Review (IAIR) - (LEG)	Distribution Pipe	DP - Integrity	EGD - Core - DP - Integrity - Integrity Initiatives	0	1,695,800	1,742,673	1,756,759	1,778,443	1,889,871	-	-	-	-	-
EGD	EGD - Core	736835	TIMP Geohazard Mitigation (LEGD)	Distribution Pipe	DP - Integrity	EGD - Core - DP - Integrity - Integrity Initiatives	0	748,147	768,826	775,041	523,072	555,844	551,108	547,886	564,314	557,923	541,725
EGD	EGD - Core	501823	A60 1149 Shillington HDR Replacement	Distribution Pipe	DP - Main Replacement	EGD - Core - DP - Main Replacement - General Mains Replacement	0	158,256	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	11794	A60: City Centre Complex - Ottawa	Distribution Pipe	DP - Main Replacement	EGD - Core - DP - Main Replacement - General Mains Replacement	0	578,721	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	100470	Bannerman Crt. and Nordic Crt, Whitby	Distribution Pipe	DP - Main Replacement	EGD - Core - DP - Main Replacement - General Mains Replacement	0	910,371	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	102672	Campbellford Replacement Phase 4 Kent St	Distribution Pipe	DP - Main Replacement	EGD - Core - DP - Main Replacement - General Mains Replacement	0	1,446,589	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	23126	Concord St Isolated Steel Replace with Main St PE. O	Distribution Pipe	DP - Main Replacement	EGD - Core - DP - Main Replacement - General Mains Replacement	0	599,422	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	100512	Invergordon Ave, Toronto 3" PE Replacement	Distribution Pipe	DP - Main Replacement	EGD - Core - DP - Main Replacement - General Mains Replacement	0	447,114	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	502861	Morrison THP Replacement	Distribution Pipe	DP - Main Replacement	EGD - Core - DP - Main Replacement - General Mains Replacement	0	305,493	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	101277	Replacement - Vintage PE Lined Mains - Peterboroug	Distribution Pipe	DP - Main Replacement	EGD - Core - DP - Main Replacement - General Mains Replacement	0	2,723,457	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	8258	Woodington Rd NFalls 1" ST Repalcement	Distribution Pipe	DP - Main Replacement	EGD - Core - DP - Main Replacement - General Mains Replacement	0	1,980,451	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	103419	30: VSM - Maior Mackenzie. Sussex To Newkirk. Repl	Distribution Pipe	DP - Main Replacement	EGD - Core - DP - Main Replacement - Vintage Steel Mains Replacement Program	0	1,541,431	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	1693	Bayview & Steeles CC Replacement	Distribution Pipe	DP - Main Replacement	EGD - Core - DP - Main Replacement - Vintage Steel Mains Replacement Program	0	213,222	-	73,629	149,075	-	-	-	-	-	-
EGD	EGD - Core	100517	Oshawa LP Replacement Phase 1 Olive Ave	Distribution Pipe	DP - Main Replacement	EGD - Core - DP - Main Replacement - Vintage Steel Mains Replacement Program	0	2,076,235	2,133,623	-	-	-	-	-	-	-	-
EGD	EGD - Core	103427	Oshawa LP Replacement Phase 2 King St	Distribution Pipe	DP - Main Replacement	EGD - Core - DP - Main Replacement - Vintage Steel Mains Replacement Program	0	313,914	103,921	83,963	4,664,502	-	-	-	-	-	-
EGD	EGD - Core	10293	St. Laurent Phase 3 - North/South (NPS12/16 Steel)	Distribution Pipe	DP - Main Replacement	EGD - Core - DP - Main Replacement - Vintage Steel Mains Replacement Program	0	1,246,911	56,123,791	2,002,189	-	-	-	-	-	-	-
EGD	EGD - Core	4160	Vintage Steel: NPS 12 SC HP on Parliament St, Carlton	Distribution Pipe	DP - Main Replacement	EGD - Core - DP - Main Replacement - Vintage Steel Mains Replacement Program	0	6,830,552	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	100497	VSM - Firestone Road - 2" ST - PH1	Distribution Pipe	DP - Main Replacement	EGD - Core - DP - Main Replacement - Vintage Steel Mains Replacement Program	0	1,968,821	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	734548	VSM-HWY 7 Dufferin St Perth	Distribution Pipe	DP - Main Replacement	EGD - Core - DP - Main Replacement - Vintage Steel Mains Replacement Program	0	6,235	1,295,455	-	-	-	-	-	-	-	-
EGD	EGD - Core	502862	Young St LP Replacement	Distribution Pipe	DP - Main Replacement	EGD - Core - DP - Main Replacement - Vintage Steel Mains Replacement Program	0	1,240,657	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	11127	Copper Service Replacement - Area 20	Distribution Pipe	DP - Service Relay	EGD - Core - DP - Service Relay - General Service Relay	0	915,731	1,066,515	685,399	-	-	-	-	-	-	-
EGD	EGD - Core	14147	Copper Service Replacement - Area 40	Distribution Pipe	DP - Service Relay	EGD - Core - DP - Service Relay - General Service Relay	0	305,244	426,606	115,147	-	-	-	-	-	-	-
EGD	EGD - Core	735177	14435A BIRMINGHAM & NINTH DISTRICT	Distribution Stations	DS - Station Rebuilds & B and	EGD - Core - DS - Station Rebuilds & B and C Stations - District Station Replacement Program	0	283,174	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	735187	14887A GLAMORGAN & KENNEDY DISTRICT	Distribution Stations	DS - Station Rebuilds & B and	EGD - Core - DS - Station Rebuilds & B and C Stations - District Station Replacement Program	0	6,235	281,134	-	-	-	-	-	-	-	-
EGD	EGD - Core	735176	17904A Rathburn and Dorlen District	Distribution Stations	DS - Station Rebuilds & B and	EGD - Core - DS - Station Rebuilds & B and C Stations - District Station Replacement Program	0	518,341	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	735175	20702A DIXIE & BRITANNIA DISTRICT	Distribution Stations	DS - Station Rebuilds & B and	EGD - Core - DS - Station Rebuilds & B and C Stations - District Station Replacement Program	0	124,691	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	735174	20782B DERRY & TOMKEN IP DISTRICT	Distribution Stations	DS - Station Rebuilds & B and	EGD - Core - DS - Station Rebuilds & B and C Stations - District Station Replacement Program	0	124,691	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	735183	2936745 MARKHAM & VERNE DISTRICT	Distribution Stations	DS - Station Rebuilds & B and	EGD - Core - DS - Station Rebuilds & B and C Stations - District Station Replacement Program	0	6,235	124,294	-	-	-	-	-	-	-	-
EGD	EGD - Core	735182	2936953 MEADOWVALE & GENERATION DISTRICT	Distribution Stations	DS - Station Rebuilds & B and	EGD - Core - DS - Station Rebuilds & B and C Stations - District Station Replacement Program	0	6,235	225,907	-	-	-	-	-	-	-	-
EGD	EGD - Core	101056	31428A - RAM FOREST & WESLEY CORNERS	Distribution Stations	DS - Station Rebuilds & B and	EGD - Core - DS - Station Rebuilds & B and C Stations - District Station Replacement Program	0	305,493	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	735181	3226575 SHEPPARD & MORNINGSIDE DISTRICT	Distribution Stations	DS - Station Rebuilds & B and	EGD - Core - DS - Station Rebuilds & B and C Stations - District Station Replacement Program	0	219,830	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	101057	32311A - WILLIAM & PRESTON LAKE DISTRICT	Distribution Stations	DS - Station Rebuilds & B and	EGD - Core - DS - Station Rebuilds & B and C Stations - District Station Replacement Program	0	305,493	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	735173	32564A - MILL ST & KING SIDEROAD DISTRICT	Distribution Stations	DS - Station Rebuilds & B and	EGD - Core - DS - Station Rebuilds & B and C Stations - District Station Replacement Program	0	319,334	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	101058	32717A - WESTON RD & KING RD DISTRICT	Distribution Stations	DS - Station Rebuilds & B and	EGD - Core - DS - Station Rebuilds & B and C Stations - District Station Replacement Program	0	305,493	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	735170	33171A - MAJOR MACKENZIE & VELLORE WOODS DI	Distribution Stations	DS - Station Rebuilds & B and	EGD - Core - DS - Station Rebuilds & B and C Stations - District Station Replacement Program	0	90,401	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	735169	33534A STEELES & BAYVIEW DISTRICT	Distribution Stations	DS - Station Rebuilds & B and	EGD - Core - DS - Station Rebuilds & B and C Stations - District Station Replacement Program	0	238,784	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	735168	44512A YANKEE LINE & RUSSELL DISTRICT	Distribution Stations	DS - Station Rebuilds & B and	EGD - Core - DS - Station Rebuilds & B and C Stations - District Station Replacement Program	0	277,438	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	735309	50356A COUNTY RD #55 HWY #9 DISTRICT (NEW TE	Distribution Stations	DS - Station Rebuilds & B and	EGD - Core - DS - Station Rebuilds & B and C Stations - District Station Replacement Program	0	144,642	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	735167	61061A PEMBROKE W. DISTRICT	Distribution Stations	DS - Station Rebuilds & B and	EGD - Core - DS - Station Rebuilds & B and C Stations - District Station Replacement Program	0	196,825	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	101152	6B562A - CAMPEAU & TERON DISTRICT HP (O.P.P.)	Distribution Stations	DS - Station Rebuilds & B and	EGD - Core - DS - Station Rebuilds & B and C Stations - District Station Replacement Program	0	196,825	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	735165	6B602A STARTOP DISTRICT XHP	Distribution Stations	DS - Station Rebuilds & B and	EGD - Core - DS - Station Rebuilds & B and C Stations - District Station Replacement Program	0	196,825	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	735164	6B631A MCCARTHY DR AND HUNT CLUB RD	Distribution Stations	DS - Station Rebuilds & B and	EGD - Core - DS - Station Rebuilds & B and C Stations - District Station Replacement Program	0	196,825	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	101151	6B758A - EAGLESON & HAZELDEAN DISTRICT	Distribution Stations	DS - Station Rebuilds & B and	EGD - Core - DS - Station Rebuilds & B and C Stations - District Station Replacement Program	0	196,825	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	18815	BAYVIEW & BYNG DISTRICT	Distribution Stations	DS - Station Rebuilds & B and	EGD - Core - DS - Station Rebuilds & B and C Stations - District Station Replacement Program	0	576,073	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	18812	BAYVIEW & SHEPPARD DISTRICT	Distribution Stations	DS - Station Rebuilds & B and	EGD - Core - DS - Station Rebuilds & B and C Stations - District Station Replacement Program	0	264,032	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	18816	BRIMLEY & ELESMERE DISTRICT	Distribution Stations	DS - Station Rebuilds & B and	EGD - Core - DS - Station Rebuilds & B and C Stations - District Station Replacement Program	0	6,235	419,329	-	-	-	-	-	-	-	-
EGD	EGD - Core	18964	CALEDONIA & RAITHERM DISTRICT	Distribution Stations	DS - Station Rebuilds & B and	EGD - Core - DS - Station Rebuilds & B and C Stations - District Station Replacement Program	0	6,235	493,330	-	-	-	-	-	-	-	-
EGD	EGD - Core	18911	COUNTY RD #55 HWY #9 DISTRICT (NEW TECUSETH	Distribution Stations	DS - Station Rebuilds & B and	EGD - Core - DS - Station Rebuilds & B and C Stations - District Station Replacement Program	0	144,018	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	18889	KIPLING & NORTH QUEEN DISTRICT	Distribution Stations	DS - Station Rebuilds & B and	EGD - Core - DS - Station Rebuilds & B and C Stations - District Station Replacement Program	0	411,481	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	18811	SHEPPARD & KENNEDY DISTRICT	Distribution Stations	DS - Station Rebuilds & B and	EGD - Core - DS - Station Rebuilds & B and C Stations - District Station Replacement Program	0	244,769	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	18844	SHEPPARD AVE E & GRAND MARSHALL DISTRICT	Distribution Stations	DS - Station Rebuilds & B and	EGD - Core - DS - Station Rebuilds & B and C Stations - District Station Replacement Program	0	6,235	153,893	-	-	-	-	-	-	-	-
EGD	EGD - Core	18886	SPADINA & MACPHERSON DISTRICT	Distribution Stations	DS - Station Rebuilds & B and	EGD - Core - DS - Station Rebuilds & B and C Stations - District Station Replacement Program	0	1,246,911	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	18917	TOWNLINE & RUSHOLME DISTRICT	Distribution Stations	DS - Station Rebuilds & B and	EGD - Core - DS - Station Rebuilds & B and C Stations - District Station Replacement Program	0	144,018	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	501824	Huntmar Drive Reinforcement	Growth	GTH - System Reinforcement	EGD - Core - Growth - System Reinforcement	0	3,542,336	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	8766	2023 Blanket for Building Systems	Real Estate & Workplace Servic	REWS - Furniture/Structures	EGD - Core - Real Estate & Workplace Services - Furniture/Structures & Improvements	0	1,955,157	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	102620	2023 LEG Rate Zone Targeted GHG & Energy Reducti	Real Estate & Workplace Servic	REWS - Furniture/Structures	EGD - Core - Real Estate & Workplace Services - Furniture/Structures & Improvements	0	436,419	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	8703	Brockville Operations Centre	Real Estate & Workplace Servic	REWS - Furniture/Structures	EGD - Core - Real Estate & Workplace Services - Furniture/Structures & Improvements	0	1,246,911	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	501813	Kennedy Road Expansion	Real Estate & Workplace Servic	REWS - Furniture/Structures	EGD - Core - Real Estate & Workplace Services - Furniture/Structures & Improvements	0	311,728	25,307,193	23,251,228	-	-	-	-	-	-	-
EGD	EGD - Core	3642	SMOC/Coventry Facility Consolidation	Real Estate & Workplace Servic	REWS - Furniture/Structures	EGD - Core - Real Estate & Workplace Services - Furniture/Structures & Improvements	0	13,716,026	6,406,884	-	-	-	-	-	-	-	-
EGD	EGD - Core	8681	Thorold Regional Office - Building & Site	Real Estate & Workplace Servic	REWS - Furniture/Structures	EGD - Core - Real Estate & Workplace Services - Furniture/Structures & Improvements	0	311,728	320,344	6,458,674	10,461,432	4,168,834	-	-	-	-	-
EGD	EGD - Core	102318	Asset Management Solutions Enhancements 2023 (E	TIS	TIS Business Solutions	EGD - Core - TIS - TIS Business Solutions	0	311,728	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	102216	Chatbot Enhancements 2023	TIS	TIS Business Solutions	EGD - Core - TIS - TIS Business Solutions	0	118,457	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	734987	Content Management Enhancements 2023	TIS	TIS Business Solutions	EGD - Core - TIS - TIS Business Solutions	0	623,456	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	734916	Crossbore & Locate Technology Advancements	TIS	TIS Business Solutions	EGD - Core - TIS - TIS Business Solutions	0	498,765	512,551	-	-	-	-	-	-	-	-
EGD	EGD - Core	734915	Damage Reduction Technology Support	TIS	TIS Business Solutions	EGD - Core - TIS - TIS Business Solutions	0	872,838	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	102244	EG - Building Management Systems Solution (2023)	TIS	TIS Business Solutions	EGD - Core - TIS - TIS Business Solutions	0	87,284	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	101934	EG - Building Access Management Solution (2023)	TIS	TIS Business Solutions	EGD - Core - TIS - TIS Business Solutions	0	187,037	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	100815	EG - Business Objects Suite Upgrade (2023)	TIS	TIS Business Solutions	EGD - Core - TIS - TIS Business Solutions	0	187,037	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	102342	EG - Customer Data Analytics Solutions (2023)	TIS	TIS Business Solutions	EGD - Core - TIS - TIS Business Solutions	0	349,135	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	735986	Enbridge Incident and Safety Smarthub	TIS	TIS Business Solutions	EGD - Core - TIS - TIS Business Solutions	0	46,136	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	102378	Engineering Solutions Enhancements 2023 (LEG)	TIS	TIS Business Solutions	EGD - Core - TIS - TIS Business Solutions	0	623,456	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	102313	EQMS Solution Enhancements 2023	TIS	TIS Business Solutions	EGD - Core - TIS - TIS Business Solutions	0	249,382	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	734959	Gas Storage Solutions Enhancements 2023 (LEG)	TIS	TIS Business Solutions	EGD - Core - TIS - TIS Business Solutions	0	374,073	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	734920	HVAC Portal & Get Connected Integration	TIS	TIS Business Solutions	EGD - Core - TIS - TIS Business Solutions	0	249,382	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	102329	Integrity Management Solutions Enhancements 202	TIS	TIS Business Solutions	EGD - Core - TIS - TIS Business Solutions	0	374,073	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	101827	Push to Talk Radios - 2023	TIS	TIS Business Solutions	EGD - Core - TIS - TIS Business Solutions	0	935,184	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	734602	Reporting & Analytics	TIS	TIS Business Solutions	EGD - Core - TIS - TIS Business Solutions	0	311,728	320,344	322,934	326,920	347,403	344,442	342,429	352,696	348,702	338,578
EGD	EGD - Core	734971	Technical Records Solutions Enhancements 2023 (LE	TIS	TIS Business Solutions	EGD - Core - TIS - TIS Business Solutions	0	374,073	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	101609	Truck modem replacement - 2023	TIS	TIS Business Solutions	EGD - Core - TIS - TIS Business Solutions	0	2,493,823	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	735551	ConTrax Engage One Upgrade 2023	TIS	TIS Business Solutions	EGD - Core - TIS - TIS EGI Business Solutions	0	112,222	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	101758	Maximo Upgrade 2023	TIS	TIS Business Solutions	EGD - Core - TIS - TIS EGI Business Solutions	0	374,073	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	101808	Workload Planning and Dispatch Upgrades and Rele	TIS	TIS Business Solutions	EGD - Core - TIS - TIS EGI Business Solutions	0	374,073	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	1917	2023 Dig Program S&T	Transmission Pipe & Undergrou	TPS - Integrity	EGD - Core - TPUS - Integrity - Integrity Digs	0	2,493,823	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	736880	Independent Asset Integrity Review (IAIR) - EGDTP	Transmission Pipe & Undergrou	TPS - Integrity	EGD - Core - TPUS - Integrity - Integrity Initiatives	0	2,543,699	2,614,009	2,635,139	2,667,665	2,834,807	-	-	-	-	-
EGD	EGD - Core	1920	NPS 16 South Mid Kimball Gathering Pipeline Retrofi	Transmission Pipe & Undergrou	TPS - Integrity	EGD - Core - TPUS - Integrity - Integrity Retrofit	0	31,173	993,067	-	-	-	-	-	-	-	-
EGD	EGD - Core	1919	NPS 20 South Mid Kimball Gathering Pipeline Retrofi	Transmission Pipe & Undergrou	TPS - Integrity	EGD - Core - TPUS - Integrity - Integrity Retrofit	0	31,173	1,089,170	-	-	-	-	-	-	-	-
EGD	EGD - Core	1918	NPS 24 Mid Kimball Transmission Pipeline Retrofit	Transmission Pipe & Undergrou	TPS - Integrity	EGD - Core - TPUS - Integrity - Integrity Retrofit	0	31,173	768,826	-	-	-	-	-	-	-	-
EGD	EGD - Core	16833	PM:Well Tools-Purchase	Transmission Pipe & Undergrou	TPS - Improvements	EGD - Core - Transmission Pipe & Underground Storage - Improvements	0	104,741	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	101907	PM:Wells-Acidize 2023	Transmission Pipe & Undergrou	TPS - Improvements	EGD - Core - Transmission Pipe & Underground Storage - Improvements	0	309,234	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	16835	LM:Lateral Separator-Build	Transmission Pipe & Undergrou	TPS - Land/Structures - Impr	EGD - Core - Transmission Pipe & Underground Storage - Land/Structures - Improvements	0	1,184,566	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	16809	MM:Atm Liquids Tanks-Replace - 2023	Transmission Pipe & Undergrou	TPS - Land/Structures - Impr	EGD - Core - Transmission Pipe & Underground Storage - Land/Structures - Improvements	0	249,382	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	16808	MM:ESD Bottles-Upgrade	Transmission Pipe & Undergrou	TPS - Land/Structures - Impr	EGD - Core - Transmission Pipe & Underground Storage - Land/Structures - Improvements	0	149,629	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	9583	PM:Roads&Laneways-Improve	Transmission Pipe & Undergrou	TPS - Land/Structures - Impr	EGD - Core - Transmission Pipe & Underground Storage - Land/Structures - Improvements	0	82,296	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	8991	LM:Leaking Valves-Replace	Transmission Pipe & Undergrou	TPS - Replacements	EGD - Core - Transmission Pipe & Underground Storage - Replacements	0	382,802	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	9184	LM:MS UPS-Replace	Transmission Pipe & Undergrou	TPS - Replacements	EGD - Core - Transmission Pipe & Underground Storage - Replacements	0	17,145	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	8971	LM:Well Loops-Adjust	Transmission Pipe & Undergrou	TPS - Replacements	EGD - Core - Transmission Pipe & Underground Storage - Replacements	0	88,587	-	-	-	-	-	-	-	-	-
EGD	EGD - Core	102418	Rectifier Ground Bed Replacement Program	Transmission Pipe & Undergrou	TPS - Replacements	EGD - Core - Transmission Pipe & Underground Storage - Replacements	0	124,691	128,138	129,173	130,768	138,961	137,777	136,972	141,078	139,481	135,431
EGD	EGD - Core	735974	Well Lifecycle Replacement	Transmission Pipe & Undergrou	TPS - Replacements	EGD - Core - Transmission Pipe & Underground Storage - Replacements	0	490,348	2,136,376	507,975	2,180,228	546,465	2,297,085	538,641	2,352,131	548,508	2,257,976
UG	UG - Core	48283	Bluewater, Mandaumin, Airport Station PLC Upgrade	Compression Stations	CS - Improvements	UG - Core - Compression Stations - Improvements	0	105,372	-	-	-	-	-	-	-	-	-
UG	UG - Core	501149	Bright A1 GGLO valve & Controller replacement	Compression Stations	CS - Improvements	UG - Core - Compression Stations - Improvements	0	276,508	-	-	-	-	-	-	-	-	-
UG	UG - Core	101890	Dawn Compressor Building Lighting 2023	Compression Stations	CS - Improvements	UG - Core - Compression Stations - Improvements	0	156,937	-	-	-	-	-	-	-	-	-
UG	UG - Core	501148	Dawn H GGLO Sheculing valve and controller replace	Compression Stations	CS - Improvements	UG - Core - Compression Stations - Improvements	0	261,561	92,277	-	-	-	-	-	-	-	-
UG	UG - Core	48271	Enniskillen Pool PLC Upgrade	Compression Stations	CS - Improvements	UG - Core - Compression Stations - Improvements	0	46,209	-	-	-	-	-	-	-	-	-
UG	UG - Core	101922	High Performance Coating Program 2023	Compression Stations	CS - Improvements	UG - Core - Compression Stations - Improvements	0	697,497	-	-	-	-	-	-	-	-	-
UG	UG - Core	49021	IROQUOIS FALLS VIBRATION MONITOR	Compression Stations	CS - Improvements	UG - Core - Compression Stations - Improvements	0	498,212	-	-	-	-	-	-	-	-	-
UG	UG - Core	501141	Lobo C GGLO Scheduling Valve & Controller replacer	Compression Stations	CS - Improvements	UG - Core - Compression Stations - Improvements	0	324,461	-	-	-	-	-	-	-	-	-
UG	UG - Core	503237	Lobo North Yard Drip Tank Replacement	Compression Stations	CS - Improvements	UG - Core - Compression Stations - Improvements	0	51,067	-	-	-	-	-	-	-	-	-
UG	UG - Core	101242	Lobo/Bright Compressor Station Lighting 2023	Compression Stations	CS - Improvements	UG - Core - Compression Stations - Improvements	0	49,821	-	-	-	-	-	-	-	-	-
UG	UG - Core	48229	Parkway A PLC Upgrade	Compression Stations	CS - Improvements	UG - Core - Compression Stations - Improvements	0	903,009	-	-	-	-	-	-	-	-	-

LEG/LUG	Core/Non-Core	Investment Code	Investment Name	Asset Class (EGI)	Asset Program (EGI)	Portfolio	2023 Workplan	2023F	2024F	2025F	2026F	2027F	2028F	2029F	2030F	2031F	2032F
UG	UG - Core	735656	Parkway East Generator Control Upgrade	Compression Stations	CS - Improvements	UG - Core - Compression Stations - Improvements	0	1,245,530	-	-	-	-	-	-	-	-	-
UG	UG - Core	101310	Parkway/Hagar Compressor Building Lighting 2023	Compression Stations	CS - Improvements	UG - Core - Compression Stations - Improvements	0	49,821	-	-	-	-	-	-	-	-	-
UG	UG - Core	48221	Sombra/St. Clair Station PLC Upgrade	Compression Stations	CS - Improvements	UG - Core - Compression Stations - Improvements	0	57,917	-	-	-	-	-	-	-	-	-
UG	UG - Core	735978	STO Moisture Analyzer Upgrade 2023	Compression Stations	CS - Improvements	UG - Core - Compression Stations - Improvements	0	74,732	-	-	-	-	-	-	-	-	-
UG	UG - Core	48217	Tecumseh 2 PLC Upgrade	Compression Stations	CS - Improvements	UG - Core - Compression Stations - Improvements	0	68,006	-	-	-	-	-	-	-	-	-
UG	UG - Core	48211	Waubuno Pool PLC Upgrade	Compression Stations	CS - Improvements	UG - Core - Compression Stations - Improvements	0	54,928	-	-	-	-	-	-	-	-	-
UG	UG - Core	49909	156 Control Room Building Replace	Compression Stations	CS - Land/Structures - Impro	UG - Core - Compression Stations - Land/Structures - Improvements	0	56,369	-	-	-	-	-	-	-	-	-
UG	UG - Core	101845	Dawn Safety & Security Upgrades 2023	Compression Stations	CS - Land/Structures - Impro	UG - Core - Compression Stations - Land/Structures - Improvements	0	131,362	-	-	-	-	-	-	-	-	-
UG	UG - Core	733364	Dawn Salt Building - Replace	Compression Stations	CS - Land/Structures - Impro	UG - Core - Compression Stations - Land/Structures - Improvements	0	373,659	-	-	-	-	-	-	-	-	-
UG	UG - Core	736038	Hagar Solar Yard Cable Tray Supports	Compression Stations	CS - Land/Structures - Impro	UG - Core - Compression Stations - Land/Structures - Improvements	0	186,830	-	-	-	-	-	-	-	-	-
UG	UG - Core	101306	Parkway West Perimeter Security Path	Compression Stations	CS - Land/Structures - Impro	UG - Core - Compression Stations - Land/Structures - Improvements	0	311,383	-	-	-	-	-	-	-	-	-
UG	UG - Core	101308	Parkway West Storage Quonset Hut	Compression Stations	CS - Land/Structures - Impro	UG - Core - Compression Stations - Land/Structures - Improvements	0	180,602	-	-	-	-	-	-	-	-	-
UG	UG - Core	101855	TCO Safety & Security Upgrades 2023	Compression Stations	CS - Land/Structures - Impro	UG - Core - Compression Stations - Land/Structures - Improvements	0	78,184	-	-	-	-	-	-	-	-	-
UG	UG - Core	102355	OSE #2 Compressor Crankcase Rebuild	Compression Stations	CS - Overhauls	UG - Core - Compression Stations - Overhauls	0	62,277	-	-	-	-	-	-	-	-	-
UG	UG - Core	100939	OSE #2 Top End O/H	Compression Stations	CS - Overhauls	UG - Core - Compression Stations - Overhauls	0	150,211	-	-	-	-	-	-	-	-	-
UG	UG - Core	100113	Bright MCR MCC Replacement	Compression Stations	CS - Replacements	UG - Core - Compression Stations - Replacements	0	161,919	-	-	-	-	-	-	-	-	-
UG	UG - Core	48275	Dawn E Siemens MCC replacement	Compression Stations	CS - Replacements	UG - Core - Compression Stations - Replacements	0	386,114	153,794	-	-	-	-	-	-	-	-
UG	UG - Core	48273	Dow A Pool Siemens MCC replacement	Compression Stations	CS - Replacements	UG - Core - Compression Stations - Replacements	0	94,536	-	-	-	-	-	-	-	-	-
UG	UG - Core	101371	Hagar Solar 1 Control Panel Upgrade	Compression Stations	CS - Replacements	UG - Core - Compression Stations - Replacements	0	404,797	-	-	-	-	-	-	-	-	-
UG	UG - Core	101871	Obsolete Electrical-Replace 2023	Compression Stations	CS - Replacements	UG - Core - Compression Stations - Replacements	0	102,756	-	-	-	-	-	-	-	-	-
UG	UG - Core	48639	Parkway Main Control Building - Fire Ga	Compression Stations	CS - Replacements	UG - Core - Compression Stations - Replacements	0	174,374	-	-	-	-	-	-	-	-	-
UG	UG - Core	734236	Parkway Ultrasonic Meter Upgrades 2023	Compression Stations	CS - Replacements	UG - Core - Compression Stations - Replacements	0	106,294	-	-	-	-	-	-	-	-	-
UG	UG - Core	48223	Siemens Valve Controllers Replacement - Dawn I & P	Compression Stations	CS - Replacements	UG - Core - Compression Stations - Replacements	0	604,082	-	-	-	-	-	-	-	-	-
UG	UG - Core	734215	TCO Obsolete Mechanical - Replace 2023	Compression Stations	CS - Replacements	UG - Core - Compression Stations - Replacements	0	217,968	-	-	-	-	-	-	-	-	-
UG	UG - Core	102450	2023 Class Location Replacement Program	Distribution Pipe	DP - Class Location	UG - Core - Distribution Pipe - Class Location	0	1,245,530	-	-	-	-	-	-	-	-	-
UG	UG - Core	48667	CNG Stations - Project #4	Distribution Stations	DS - CNG	UG - Core - Distribution Stations - CNG	0	3,113,826	-	-	-	-	-	-	-	-	-
UG	UG - Core	500438	10O-501 Port Stanley Gate Reg Corrosion Repair	Distribution Stations	DS - Gate, Feeder & A Station	UG - Core - Distribution Stations - Gate, Feeder & A Stations	0	3,113,826	-	-	-	-	-	-	-	-	-
UG	UG - Core	100994	15O-401R Bryanston Gate	Distribution Stations	DS - Gate, Feeder & A Station	UG - Core - Distribution Stations - Gate, Feeder & A Stations	0	1,167,062	-	-	-	-	-	-	-	-	-
UG	UG - Core	100610	BRAN: 12S-202 Fernlea Farm Distribution Station, De	Distribution Stations	DS - Gate, Feeder & A Station	UG - Core - Distribution Stations - Gate, Feeder & A Stations	0	239,765	-	-	-	-	-	-	-	-	-
UG	UG - Core	100343	BRAN: 13T-403 Otterville Springford Distribution Stat	Distribution Stations	DS - Gate, Feeder & A Station	UG - Core - Distribution Stations - Gate, Feeder & A Stations	0	90,723	-	-	-	-	-	-	-	-	-
UG	UG - Core	503639	BRAN: 17U-302 Brantford Transmission Station, Brar	Distribution Stations	DS - Gate, Feeder & A Station	UG - Core - Distribution Stations - Gate, Feeder & A Stations	0	109,607	-	-	-	-	-	-	-	-	-
UG	UG - Core	101354	CHAT - 07H-601 Burke Line - Heater Replacement	Distribution Stations	DS - Gate, Feeder & A Station	UG - Core - Distribution Stations - Gate, Feeder & A Stations	0	461,515	-	-	-	514,210	-	-	-	-	-
UG	UG - Core	101086	HAMI-Hamilton Gate 3	Distribution Stations	DS - Gate, Feeder & A Station	UG - Core - Distribution Stations - Gate, Feeder & A Stations	0	2,491,061	4,767,620	1,291,450	-	-	-	-	-	-	-
UG	UG - Core	101199	KING - Cornwall East TBS rebuild	Distribution Stations	DS - Gate, Feeder & A Station	UG - Core - Distribution Stations - Gate, Feeder & A Stations	0	921,692	948,398	-	-	-	-	-	-	-	-
UG	UG - Core	101198	KING: 22-22-704 College and Sidney DRS (27801009)	Distribution Stations	DS - Gate, Feeder & A Station	UG - Core - Distribution Stations - Gate, Feeder & A Stations	0	703,725	621,585	-	-	-	-	-	-	-	-
UG	UG - Core	735226	WATE: 19U-201 Guelph West Gate Stn. FIMP	Distribution Stations	DS - Gate, Feeder & A Station	UG - Core - Distribution Stations - Gate, Feeder & A Stations	0	186,830	-	-	-	-	-	-	-	-	-
UG	UG - Core	735378	WIND: 06B-105R 540 Ouellette Dist	Distribution Stations	DS - Inside Regulator & ERR F	UG - Core - Distribution Stations - Inside Regulator & ERR Program	0	99,642	-	-	-	-	-	-	-	-	-
UG	UG - Core	501127	FIMP Station Assessment Program	Distribution Stations	DS - Integrity Initiatives	UG - Core - Distribution Stations - Integrity Initiatives	0	4,321,990	4,447,215	4,481,332	4,522,183	4,815,468	4,775,327	4,741,135	4,909,180	4,855,497	4,712,230
UG	UG - Core	735328	BRAN: 09T-303R Church St & Erie Ave LP	Distribution Stations	DS - Station Rebuilds & B and	UG - Core - Distribution Stations - Station Rebuilds & B and C Stations	0	62,277	-	-	-	-	-	-	-	-	-
UG	UG - Core	735279	BRAN: 11U-601R Pt Ryerse Young & Rolph W Hill LP	Distribution Stations	DS - Station Rebuilds & B and	UG - Core - Distribution Stations - Station Rebuilds & B and C Stations	0	62,277	-	-	-	-	-	-	-	-	-
UG	UG - Core	735277	BRAN: 11V-401R Pt Ryerse Commercial St LP	Distribution Stations	DS - Station Rebuilds & B and	UG - Core - Distribution Stations - Station Rebuilds & B and C Stations	0	62,277	-	-	-	-	-	-	-	-	-
UG	UG - Core	735330	BRAN: 12R-302R Victoria St & Niagara St Station LP	Distribution Stations	DS - Station Rebuilds & B and	UG - Core - Distribution Stations - Station Rebuilds & B and C Stations	0	62,277	-	-	-	-	-	-	-	-	-
UG	UG - Core	735280	BRAN: 12R-607R Tillson Ave, South of Hyman LP	Distribution Stations	DS - Station Rebuilds & B and	UG - Core - Distribution Stations - Station Rebuilds & B and C Stations	0	62,277	-	-	-	-	-	-	-	-	-
UG	UG - Core	735281	BRAN: 12T-506R Delhi Queen & Church Stn LP	Distribution Stations	DS - Station Rebuilds & B and	UG - Core - Distribution Stations - Station Rebuilds & B and C Stations	0	62,277	-	-	-	-	-	-	-	-	-
UG	UG - Core	735334	BRAN: 12U-606R Simcoe Metcalfe & Robinson LP	Distribution Stations	DS - Station Rebuilds & B and	UG - Core - Distribution Stations - Station Rebuilds & B and C Stations	0	62,277	-	-	-	-	-	-	-	-	-
UG	UG - Core	735282	BRAN: 12U-607R Simcoe Queen St S & Grove LP	Distribution Stations	DS - Station Rebuilds & B and	UG - Core - Distribution Stations - Station Rebuilds & B and C Stations	0	62,277	-	-	-	-	-	-	-	-	-
UG	UG - Core	735283	BRAN: 12U-609R Simcoe South & John St LP	Distribution Stations	DS - Station Rebuilds & B and	UG - Core - Distribution Stations - Station Rebuilds & B and C Stations	0	62,277	-	-	-	-	-	-	-	-	-
UG	UG - Core	735284	BRAN: 13U-603R Waterford Temperence & Leamon I	Distribution Stations	DS - Station Rebuilds & B and	UG - Core - Distribution Stations - Station Rebuilds & B and C Stations	0	62,277	-	-	-	-	-	-	-	-	-
UG	UG - Core	735285	BRAN: 15U-301R St Paul & Dublin LP	Distribution Stations	DS - Station Rebuilds & B and	UG - Core - Distribution Stations - Station Rebuilds & B and C Stations	0	62,277	-	-	-	-	-	-	-	-	-
UG	UG - Core	735313	BRAN: 15U-308R Brantford Grand & Jubilee LP	Distribution Stations	DS - Station Rebuilds & B and	UG - Core - Distribution Stations - Station Rebuilds & B and C Stations	0	62,277	-	-	-	-	-	-	-	-	-
UG	UG - Core	100614	BRAN: 15V-111R Stanley St Distribution Station, Bran	Distribution Stations	DS - Station Rebuilds & B and	UG - Core - Distribution Stations - Station Rebuilds & B and C Stations	0	239,765	-	-	-	-	-	-	-	-	-
UG	UG - Core	735287	BRAN: 15V-406R Mohawk Brighton LP	Distribution Stations	DS - Station Rebuilds & B and	UG - Core - Distribution Stations - Station Rebuilds & B and C Stations	0	62,277	-	-	-	-	-	-	-	-	-
UG	UG - Core	735319	BRAN: 15V-408R Brighton & Superior LP	Distribution Stations	DS - Station Rebuilds & B and	UG - Core - Distribution Stations - Station Rebuilds & B and C Stations	0	62,277	-	-	-	-	-	-	-	-	-
UG	UG - Core	100611	BRAN: 16V-402R Dunsdon St Distribution Station, Bra	Distribution Stations	DS - Station Rebuilds & B and	UG - Core - Distribution Stations - Station Rebuilds & B and C Stations	0	257,202	-	-	-	-	-	-	-	-	-
UG	UG - Core	48744	Distribution Operations Station Painting	Distribution Stations	DS - Station Rebuilds & B and	UG - Core - Distribution Stations - Station Rebuilds & B and C Stations	0	2,491,061	2,563,237	2,582,900	2,606,446	2,775,486	2,752,350	2,732,642	2,829,499	2,798,557	2,715,983
UG	UG - Core	503270	Eastern PFM Compliance Program	Distribution Stations	DS - Station Rebuilds & B and	UG - Core - Distribution Stations - Station Rebuilds & B and C Stations	0	90,612	97,083	78,456	92,855	-	-	-	-	-	-
UG	UG - Core	101125	HALT - Centennial and Guelph Line Vault Station	Distribution Stations	DS - Station Rebuilds & B and	UG - Core - Distribution Stations - Station Rebuilds & B and C Stations	0	622,765	-	-	-	-	-	-	-	-	-
UG	UG - Core	101098	HAMI - Six Nations	Distribution Stations	DS - Station Rebuilds & B and	UG - Core - Distribution Stations - Station Rebuilds & B and C Stations	0	24,911	-	-	-	-	-	-	-	-	-
UG	UG - Core	101103	HAMI: Kenora & Bancroft Station Rebuild, Vault	Distribution Stations	DS - Station Rebuilds & B and	UG - Core - Distribution Stations - Station Rebuilds & B and C Stations	0	622,765	-	-	-	-	-	-	-	-	-
UG	UG - Core	503271	Hamilton/Halton PFM Compliance Program	Distribution Stations	DS - Station Rebuilds & B and	UG - Core - Distribution Stations - Station Rebuilds & B and C Stations	0	157,946	100,927	104,607	479,912	-	-	-	-	-	-
UG	UG - Core	100907	King - corrosion Diamond Head Park PRS 27301037	Distribution Stations	DS - Station Rebuilds & B and	UG - Core - Distribution Stations - Station Rebuilds & B and C Stations	0	87,187	-	-	-	-	-	-	-	-	-
UG	UG - Core	733607	LOND - 15N-671 Medway Creek Removal and Main E	Distribution Stations	DS - Station Rebuilds & B and	UG - Core - Distribution Stations - Station Rebuilds & B and C Stations	0	74,732	-	-	-	-	-	-	-	-	-
UG	UG - Core	503272	London/Sarnia PFM Compliance Program	Distribution Stations	DS - Station Rebuilds & B and	UG - Core - Distribution Stations - Station Rebuilds & B and C Stations	0	321,376	208,583	168,534	194,506	138,774	-	-	-	-	-
UG	UG - Core	48577	NBAY: Plan(T)-Dist-Stn Measuring/Corrosion Stn	Distribution Stations	DS - Station Rebuilds & B and	UG - Core - Distribution Stations - Station Rebuilds & B and C Stations	0	268,022	-	-	-	-	-	-	-	-	-
UG	UG - Core	503273	NE PFM Compliance Program	Distribution Stations	DS - Station Rebuilds & B and	UG - Core - Distribution Stations - Station Rebuilds & B and C Stations	0	119,899	96,121	91,047	104,584	-	-	-	-	-	-
UG	UG - Core	734583	NE: 43202139 - First Nickel SMS, Station Retirement	Distribution Stations	DS - Station Rebuilds & B and	UG - Core - Distribution Stations - Station Rebuilds & B and C Stations	0	80,960	-	-	-	-	-	-	-	-	33,948
UG	UG - Core	734400	NE: 43204045 - Charlotte PRS, station rebuild	Distribution Stations	DS - Station Rebuilds & B and	UG - Core - Distribution Stations - Station Rebuilds & B and C Stations	0	346,941	-	-	-	-	-	-	-	-	-
UG	UG - Core	101072	NE: 43501002 - Coniston DRS, Rebuild	Distribution Stations	DS - Station Rebuilds & B and	UG - Core - Distribution Stations - Station Rebuilds & B and C Stations	0	608,436	-	-	-	-	-	-	-	-	-
UG	UG - Core	502659	NE: 45101125 - Essar #7 BF SMS, Gear Operator Repl	Distribution Stations	DS - Station Rebuilds & B and	UG - Core - Distribution Stations - Station Rebuilds & B and C Stations	0	12,455	-	-	-	-	-	-	-	-	-
UG	UG - Core	502661	NE: 45401095 - Great Northern Rd TBS, Boiler Replac	Distribution Stations	DS - Station Rebuilds & B and	UG - Core - Distribution Stations - Station Rebuilds & B and C Stations	0	373,659	-	-	-	-	-	-	-	-	-
UG	UG - Core	503274	NW PFM Compliance Program	Distribution Stations	DS - Station Rebuilds & B and	UG - Core - Distribution Stations - Station Rebuilds & B and C Stations	0	67,539	66,324	50,367	52,781	-	-	-	-	-	-
UG	UG - Core	733754	SUD: Frood TBS, Boiler Replacement	Distribution Stations	DS - Station Rebuilds & B and	UG - Core - Distribution Stations - Station Rebuilds & B and C Stations	0	158,182	-	-	-	-	-	-	-	-	-
UG	UG - Core	733755	SUD: Inco Smelter SMS, Boiler Replacement	Distribution Stations	DS - Station Rebuilds & B and	UG - Core - Distribution Stations - Station Rebuilds & B and C Stations	0	240,387	-	-	-	-	-	-	-	-	-
UG	UG - Core	733753	SUD: Lasalle TBS, Boiler Replacement	Distribution Stations	DS - Station Rebuilds & B and	UG - Core - Distribution Stations - Station Rebuilds & B and C Stations	0	193,057	-	-	-	-	-	-	-	-	-
UG	UG - Core	48504	TBAY & TIMM: Plan(T)-Dist-Stn Measuring/Corrosior	Distribution Stations	DS - Station Rebuilds & B and	UG - Core - Distribution Stations - Station Rebuilds & B and C Stations	0	261,453	-	-	-	-	-	-	-	-	-
UG	UG - Core	735669	TBAY: 2022 Morecombe PRS (at Onion Lk) Rebuild	Distribution Stations	DS - Station Rebuilds & B and	UG - Core - Distribution Stations - Station Rebuilds & B and C Stations	0	24,911	-	-	-	-	-	-	-	-	-
UG	UG - Core	734565	TBAY: 500 Toledo St MUB Rebuild	Distribution Stations	DS - Station Rebuilds & B and	UG - Core - Distribution Stations - Station Rebuilds & B and C Stations	0	186,830	-	-	-	-	-	-	-	-	-
UG	UG - Core	734573	TIMM: Evergreen Greenhouse SMS Retirement	Distribution Stations	DS - Station Rebuilds & B and	UG - Core - Distribution Stations - Station Rebuilds & B and C Stations	0	6,377	-	-	-	-	-	-	-	-	-
UG	UG - Core	734943	TIMM: Kirkland Lake CMS (Kenogami) - Long-Term O	Distribution Stations	DS - Station Rebuilds & B and	UG - Core - Distribution Stations - Station Rebuilds & B and C Stations	0	498,212	-	-	-	-	-	-	-	-	-
UG	UG - Core	100615	WATE: 17T-202 North Dumfries Distribution Station.	Distribution Stations	DS - Station Rebuilds & B and	UG - Core - Distribution Stations - Station Rebuilds & B and C Stations	0	112,098	-	-	-	-	-	-	-	-	-
UG	UG - Core	735320	WATE: 17U-211R Stanley @ Glenmorris LP	Distribution Stations	DS - Station Rebuilds & B and	UG - Core - Distribution Stations - Station Rebuilds & B and C Stations	0	62,277	-	-	-	-	-	-	-	-	-
UG	UG - Core	735321	WATE: 17U-214R Middleton St at Waterworks LP	Distribution Stations	DS - Station Rebuilds & B and	UG - Core - Distribution Stations - Station Rebuilds & B and C Stations	0	62,277	-	-	-	-	-	-	-	-	-
UG	UG - Core	735307	WATE: 18U-205R Hungerford & Walker LP	Distribution Stations	DS - Station Rebuilds & B and	UG - Core - Distribution Stations - Station Rebuilds & B and C Stations	0	62,277	-	-	-	-	-	-	-	-	-
UG	UG - Core	735308	WATE: 18U-220R Bechtel & Millvue LP	Distribution Stations	DS - Station Rebuilds & B and	UG - Core - Distribution Stations - Station Rebuilds & B and C Stations	0	62,277	-	-	-	-	-	-	-	-	-
UG	UG - Core	735322	WATE: 18U-403R Agnes & William LP	Distribution Stations	DS - Station Rebuilds & B and	UG - Core - Distribution Stations - Station Rebuilds & B and C Stations	0	62,277	-	-	-	-	-	-	-	-	-
UG	UG - Core	735310	WATE: 18U-407R Church & Sherring LP	Distribution Stations	DS - Station Rebuilds & B and	UG - Core - Distribution Stations - Station Rebuilds & B and C Stations	0	62,277	-	-	-	-	-	-	-	-	-
UG	UG - Core	735324	WATE: 18U-418R 122 Dolph St N LP	Distribution Stations	DS - Station Rebuilds & B and	UG - Core - Distribution Stations - Station Rebuilds & B and C Stations	0	62,277	-	-	-	-	-	-	-	-	-
UG	UG - Core	735325	WATE: 18U-506R Bishop & King LP	Distribution Stations	DS - Station Rebuilds & B and	UG - Core - Distribution Stations - Station Rebuilds & B and C Stations	0	62,277	-	-	-	-	-	-	-	-	-
UG	UG - Core	100829	WATE: 19U-601 Guelph Highway 24 Gate Station. Gu	Distribution Stations	DS - Station Rebuilds & B and	UG - Core - Distribution Stations - Station Rebuilds & B and C Stations	0	623,388	-	-	-	-	-	-	-	-	-
UG	UG - Core	48418	WATE: 19V-105R Stone & Gordon Vault Station, Gue	Distribution Stations	DS - Station Rebuilds & B and	UG - Core - Distribution Stations - Station Rebuilds & B and C Stations	0	800,378	-	-	-	-	-	-	-	-	-
UG	UG - Core	100912	WATE: 23O-301 Harriston Gate Station. Harriston. St	Distribution Stations	DS - Station Rebuilds & B and	UG - Core - Distribution Stations - Station Rebuilds & B and C Stations	0	498,212	-	-	-	-	-	-	-	-	-
UG	UG - Core	503275	Waterloo/Brantford PFM Compliance Program	Distribution Stations	DS - Station Rebuilds & B and	UG - Core - Distribution Stations - Station Rebuilds & B and C Stations	0	398,456	252,799	293,482	245,332	-	-	-	-	-	-
UG	UG - Core	101342	WIND - 03B-102R County Rd 20 & Concession Rd 3 - I	Distribution Stations	DS - Station Rebuilds & B and	UG - Core - Distribution Stations - Station Rebuilds & B and C Stations	0	215,817	-	-	-	-	-	-	-	-	-
UG	UG - Core	502698	WIND - 03D-322C Leamington Hospital - rebuild	Distribution Stations	DS - Station Rebuilds & B and	UG - Core - Distribution Stations - Station Rebuilds & B and C Stations	0	271,970	-	-	-	-	-	-	-	-	-
UG	UG - Core	502777	WIND - 04A-302R Texas Rd	Distribution Stations	DS - Station Rebuilds & B and	UG - Core - Distribution Stations - Station Rebuilds & B and C Stations	0	321,023	-	-	-	-	-	-	-	-	-
UG	UG - Core	502772	WIND - 06B-314R Isabelle Place LP - rebuild	Distribution Stations	DS - Station Rebuilds & B and	UG - Core - Distribution Stations - Station Rebuilds & B and C Stations	0	197,166	-	-	-	-	-	-	-	-	-
UG	UG - Core	503276	Windsor/Chatham PFM Compliance Program	Distribution Stations	DS - Station Rebuilds & B and	UG - Core - Distribution Stations - Station Rebuilds & B and C Stations	0	212,369	160,523	159,817	143,680	-	-	-	-	-	-
UG	UG - Core	48993	SANDWICH YARD DRAINAGE	Distribution Stations	DS - Station Rebuilds & B and	UG - Core - Distribution Stations - Station Rebuilds & B and C Stations	0	1,494,636	-	-	-	-	-	-	-	-	-
UG	UG - Core	503196	HALT: Anodes	Distribution Pipe	DP - Corrosion	UG - Core - DP - Corrosion - Anode Replacement Program	0	495,472	520,024	534,494	550,154	597,551	604,420	612,094	646,465	652,184	645,600
UG	UG - Core	48590	NBAY: Anodes	Distribution Pipe	DP - Corrosion	UG - Core - DP - Corrosion - Anode Replacement Program	0	470,127	760,036	781,184	804,070	873,343	883,385	894,600	944,835	953,193	943,569
UG	UG - Core	48549	SUDB: Anodes	Distribution Pipe	DP - Corrosion	UG - Core - DP - Corrosion - Anode Replacement Program	0	329,312	-	-	-	-	-	-	-	-	-
UG	UG - Core	48517	THUN: Anodes	Distribution Pipe	DP - Corrosion	UG - Core - DP - Corrosion - Anode Replacement Program	0	587,869	920,043	945,644	973,348	1,057,205	1,069,359	1,082,937	1,143,747	1,153,865	1,142,215
UG	UG - Core	102490	TIMM: Anodes	Distribution Pipe	DP - Corrosion	UG - Core - DP - Corrosion - Anode Replacement Program	0	235,667	-	-	-	-	-	-	-	-	-
UG	UG - Core	503431	Bridge Crossing Painting Program	Distribution Pipe	DP - Corrosion	UG - Core - DP - Corrosion - Corrosion	0	747,318	192,243	710,298	664,644	693,871	688,087	683,161	707,375	699,639	678,996
UG	UG - Core	100690	King - Block Valve Assembly Maintenance (Various Lc	Distribution Pipe	DP - Corrosion	UG - Core - DP - Corrosion - Corrosion	0	62,277	192,243	258,290	65,161	-	-	-	-	-	-
UG	UG - Core	101791	LOND: Corrosion Rectifier Groundbed Program	Distribution Pipe	DP - Corrosion	UG - Core - DP - Corrosion - Corrosion	0	77,751	-	-	-	-	-	-	-	-	-
UG	UG - Core	503071	Northern Region: Corrosion Rectifier Groundbed Pro	Distribution Pipe	DP - Corrosion	UG - Core - DP - Corrosion - Corrosion	0	485,757	512,647	516,580	-	-	-	-	-	-	-
UG	UG - Core	503375	TBAY: Kenora 9 Brinkman Rectifier	Distribution Pipe	DP - Corrosion	UG - Core - DP - Corrosion - Corrosion	0	68,504	-	-	-	-	-	-	-	-	-
UG	UG - Core	503376	TBAY: Kenora 9 Rupert at Ninth Rectifier	Distribution Pipe	DP - Corrosion	UG - Core - DP - Corrosion - Corrosion	0	68,504	-	-	-	-	-	-	-	-	-
UG	UG - Core	101797	WIND: Corrosion Rectifier Groundbed Program	Distribution Pipe	DP - Corrosion	UG - Core - DP - Corrosion - Corrosion	0	77,751	-	-	-	-	-	-	-	-	-
UG	UG - Core	735796	NPS 12 Waterloo-Erbsville Take-Off Project, Dig Site 3	Distribution Pipe	DP - Integrity	UG - Core - DP - Integrity - Integrity Digs	0	1,743,742	-	-	-	-	-	-	-	-	-
UG	UG - Core	736419	2023 DP Depth of Cover Mitigation Program	Distribution Pipe	DP - Integrity	UG - Core - DP - Integrity - Integrity Initiatives	0	7,473,182	-	-	-	-	-	-	-	-	-
UG	UG - Core	1180	Integrity Capital Tools Program	Distribution Pipe	DP - Integrity	UG - Core - DP - Integrity - Integrity Initiatives	0	155,691	160,202	193,718	-	-	-	-	-	-	-
UG	UG - Core	736833	TIMP Geohazard Mitigation (LUG)	Distribution Pipe	DP - Integrity	UG - Core - DP - Integrity - Integrity Initiatives	0	2,989,273	3,075,884	3,099,480	2,085,156	2,220,389	2,201,880	2,186,114	2,263,599	2,238,846	2,172,786
UG	UG - Core	1276	2023 Integrity Retrofit Program	Distribution Pipe	DP - Integrity	UG - Core - DP - Integrity - Integrity Retrofit	0	3,736,591	-	-	-	-	-	-	-	-	-
UG	UG - Core	1267	Imperial Oil Cogen Retrofit	Distribution Pipe	DP - Integrity	UG - Core - DP - Integrity - Integrity Retrofit	0	2,005,304	-	-	-	-	-	-	-	-	-
UG	UG - Core	733733	NPS 10 Ford Essex Engine	Distribution Pipe	DP - Integrity	UG - Core - DP - Integrity - Integrity Retrofit	0	186,830	3,844,855	-	-	-	-	-	-	-	-
UG	UG - Core	733612	NPS 12 Ontario Hydro Retrofit	Distribution Pipe	DP - Integrity	UG - Core - DP - Integrity - Integrity Retrofit	0	31,138	2,563,237	-	-	-	-	-	-	-	-
UG	UG - Core	733732	NPS 12, 10 Baldoon	Distribution Pipe	DP - Integrity	UG - Core - DP - Integrity - Integrity Retrofit	0	186,830	4,485,664	-	-	-	-	-	-	-	-
UG	UG - Core	733734	NPS 6 Dupont	Distribution Pipe	DP - Integrity	UG - Core - DP - Integrity - Integrity Retrofit	0	186,830	2,563,237	-	-	-	-	-	-	-	-
UG	UG - Core	733553	NPS 6 Imperial Oil Retrofit	Distribution Pipe	DP - Integrity	UG - Core - DP - Integrity - Integrity Retrofit	0	31,138	2,563,237	-	-	-	-	-	-	-	-
UG	UG - Core	734021	NPS 8 Onion Lake Loop Retrofit	Distribution Pipe	DP - Integrity	UG - Core - DP - Integrity - Integrity Retrofit	0	1,868,295	-	-	-	-	-	-	-	-	-
UG	UG - Core	1269	Owen Sound Section 1 Retrofit	Distribution Pipe	DP - Integrity	UG - Core - DP - Integrity - Integrity Retrofit	0	1,992,848	-	-	-	-	-	-	-	-	-
UG	UG - Core	1274	Sudbury Loop & Sudbury Sec 2b Retrofit	Distribution Pipe	DP - Integrity	UG - Core - DP - Integrity - Integrity Retrofit	0	934,148	-	-	-	-	-	-	-	-	-
UG	UG - Core	48935	BRAN - Colborne St. at Johnson Rd. Repl. BU - Brantf	Distribution Pipe	DP - Main Replacement	UG - Core - DP - Main Replacement - Bare & Unprotected Steel Replacement Program	0	47,842	-	-	-	-	-	-	-	-	-
UG	UG - Core	48929	BRAN - Lawrence Rd Repl. BU - Norfolk	Distribution Pipe	DP - Main Replacement	UG - Core - DP - Main Replacement - Bare & Unprotected Steel Replacement Program	0	92,564	-	-	-	-	-	-	-	-	-
UG	UG - Core	48849	BRAN - Otterville Rd. (James to Middleton) Repl. BU -	Distribution Pipe	DP - Main Replacement	UG - Core - DP - Main Replacement - Bare & Unprotected Steel Replacement Program	0	871,871	-	-	-	-	-	-	-	-	-
UG	UG - Core	48934	BRAN - Rebecca St. Repl. BU - Vittoria	Distribution Pipe	DP - Main Replacement	UG - Core - DP - Main Replacement - Bare & Unprotected Steel Replacement Program	0	95,342	-	-	-	-	-	-	-	-	-
UG	UG - Core	48928	BRAN - Schafer Side Rd. Repl. BU - Norfolk	Distribution Pipe	DP - Main Replacement	UG - Core - DP - Main Replacement - Bare & Unprotected Steel Replacement Program	0	1,644,624	-	-	-	-	-	-	-	-	-
UG	UG - Core	48933	BRAN - Water St. Repl. BU - Vittoria	Distribution Pipe	DP - Main Replacement	UG - Core - DP - Main Replacement - Bare & Unprotected Steel Replacement Program	0	165,186	-	-	-	-	-	-	-	-	-
UG	UG - Core	101164	CHAT: Ridge St, West Lorne, Replacement	Distribution Pipe	DP - Main Replacement	UG - Core - DP - Main Replacement - Bare & Unprotected Steel Replacement Program	0	49,198	-	-	-	-	-	-	-	-	-
UG	UG - Core	48977	HAMI - Haldimand road 55 - Walpole	Distribution Pipe	DP - Main Replacement	UG - Core - DP - Main Replacement - Bare & Unprotected Steel Replacement Program	0	269,035	-	-	-	-	-	-	-	-	-
UG	UG - Core	48912	HAMI - HWY 6 - Walpole	Distribution Pipe	DP - Main Replacement	UG - Core - DP - Main Replacement - Bare & Unprotected Steel Replacement Program	0	197,292	-	-	-	-	-	-	-	-	-
UG	UG - Core	48941	HAMI- Albion - York	Distribution Pipe	DP - Main Replacement	UG - Core - DP - Main Replacement - Bare & Unprotected Steel Replacement Program	0	22,420	-	-	-	-	-	-	-	-	-
UG	UG - Core	48954	HAMI- Rainham Road - Walpole	Distribution Pipe	DP - Main Replacement	UG - Core - DP - Main Replacement - Bare & Unprotected Steel Replacement Program	0	684,543	-	-	-	-	-	-	-	-	-
UG	UG - Core	48940	HAMI- Taylor - Dunnville	Distribution Pipe	DP - Main Replacement	UG - Core - DP - Main Replacement - Bare & Unprotected Steel Replacement Program	0	92,654	-	-	-	-	-	-	-	-	-
UG	UG - Core	733609	HAMI: Cheapside Rd Ph2, Walpole, BU Replacement	Distribution Pipe	DP - Main Replacement	UG - Core - DP - Main Replacement - Bare & Unprotected Steel Replacement Program	0	35,871	-	-	-	-	-	-	-	-	-
UG	UG - Core	733627	HAMI: Conc 3/Walpole Rd, Walpole, BU Replacemen	Distribution Pipe	DP - Main Replacement	UG - Core - DP - Main Replacement - Bare & Unprotected Steel Replacement Program	0	109,856	-	-	-	-	-	-	-	-	-
UG	UG - Core	733646	HAMI: Glen/Dromore, Hamilton, BU Replacement	Distribution Pipe	DP - Main Replacement	UG - Core - DP - Main Replacement - Bare & Unprotected Steel Replacement Program	0	26,903	-	-	-	-	-	-	-	-	-
UG	UG - Core	48939	HAMI: Haldimand Rd 12, Rainham, BU Replacement	Distribution Pipe	DP - Main Replacement	UG - Core - DP - Main Replacement - Bare & Unprotected Steel Replacement Program	0	95,906	-	-	-	-	-	-	-	-	-
UG	UG - Core	733626	HAMI: Haldimand Rd 20, Walpole, BU Replacement	Distribution Pipe	DP - Main Replacement	UG - Core - DP - Main Replacement - Bare & Unprotected Steel Replacement Program	0	139,001	-	-	-	-	-	-	-	-	-

LEG/LUG	Core/Non-Core	Investment Code	Investment Name	Asset Class (EGI)	Asset Program (EGI)	Portfolio	2023 Workplan	2023F	2024F	2025F	2026F	2027F	2028F	2029F	2030F	2031F	2032F
UG	UG - Core	733648	HAMI: Hamilton East, BU Replacement	Distribution Pipe	DP - Main Replacement	UG - Core - DP - Main Replacement - Bare & Unprotected Steel Replacement Program	0	22,420	-	-	-	-	-	-	-	-	-
UG	UG - Core	733621	HAMI: Main St E, Dunnville, BU Replacement	Distribution Pipe	DP - Main Replacement	UG - Core - DP - Main Replacement - Bare & Unprotected Steel Replacement Program	0	276,508	-	-	-	-	-	-	-	-	-
UG	UG - Core	733647	HAMI: Melvin Av, Hamilton, BU Replacement	Distribution Pipe	DP - Main Replacement	UG - Core - DP - Main Replacement - Bare & Unprotected Steel Replacement Program	0	44,839	-	-	-	-	-	-	-	-	-
UG	UG - Core	733632	HAMI: Port Maitland/Sacord Rd. Dunnville, BU Reala	Distribution Pipe	DP - Main Replacement	UG - Core - DP - Main Replacement - Bare & Unprotected Steel Replacement Program	0	107,614	-	-	-	-	-	-	-	-	-
UG	UG - Core	733643	HAMI: Powerline Rd W, Ancaster, BU Replacement	Distribution Pipe	DP - Main Replacement	UG - Core - DP - Main Replacement - Bare & Unprotected Steel Replacement Program	0	11,210	-	-	-	-	-	-	-	-	-
UG	UG - Core	733622	HAMI: Rainham Rd Ph1, Dunn, BU Replacement	Distribution Pipe	DP - Main Replacement	UG - Core - DP - Main Replacement - Bare & Unprotected Steel Replacement Program	0	1,271,437	-	-	-	-	-	-	-	-	-
UG	UG - Core	733623	HAMI: Rainham Rd Ph2, Dunn, BU Replacement	Distribution Pipe	DP - Main Replacement	UG - Core - DP - Main Replacement - Bare & Unprotected Steel Replacement Program	0	1,210,655	-	-	-	-	-	-	-	-	-
UG	UG - Core	733645	HAMI: Rifle Range Rd, Hamilton, BU Replacement	Distribution Pipe	DP - Main Replacement	UG - Core - DP - Main Replacement - Bare & Unprotected Steel Replacement Program	0	248,110	-	-	-	-	-	-	-	-	-
UG	UG - Core	733628	HAMI: Rymer Rd, Sherbrooke, BU Replacement	Distribution Pipe	DP - Main Replacement	UG - Core - DP - Main Replacement - Bare & Unprotected Steel Replacement Program	0	127,791	-	-	-	-	-	-	-	-	-
UG	UG - Core	733642	HAMI: Seneca Dr, Ancaster, BU Replacement	Distribution Pipe	DP - Main Replacement	UG - Core - DP - Main Replacement - Bare & Unprotected Steel Replacement Program	0	201,776	-	-	-	-	-	-	-	-	-
UG	UG - Core	733629	HAMI: Victoria Ave E, Dunnville, BU Replacement	Distribution Pipe	DP - Main Replacement	UG - Core - DP - Main Replacement - Bare & Unprotected Steel Replacement Program	0	76,226	-	-	-	-	-	-	-	-	-
UG	UG - Core	733644	HAMI: Woodbridge Rd, Hamilton, BU Replacement	Distribution Pipe	DP - Main Replacement	UG - Core - DP - Main Replacement - Bare & Unprotected Steel Replacement Program	0	13,452	-	-	-	-	-	-	-	-	-
UG	UG - Core	48910	HAMI-South Coast - Walpole	Distribution Pipe	DP - Main Replacement	UG - Core - DP - Main Replacement - Bare & Unprotected Steel Replacement Program	0	107,614	-	-	-	-	-	-	-	-	-
UG	UG - Core	48917	LOND - Cheapside, Gammage & Linwood BU - Londo	Distribution Pipe	DP - Main Replacement	UG - Core - DP - Main Replacement - Bare & Unprotected Steel Replacement Program	0	986,460	-	-	-	-	-	-	-	-	-
UG	UG - Core	48811	LOND - Jacqueline BU - London	Distribution Pipe	DP - Main Replacement	UG - Core - DP - Main Replacement - Bare & Unprotected Steel Replacement Program	0	1,353,505	-	-	-	-	-	-	-	-	-
UG	UG - Core	48888	LOND - Parkway & Huron BU - London	Distribution Pipe	DP - Main Replacement	UG - Core - DP - Main Replacement - Bare & Unprotected Steel Replacement Program	0	219,213	-	-	-	-	-	-	-	-	-
UG	UG - Core	48856	LOND - PH 2 Stevenson & Brydges BU - London	Distribution Pipe	DP - Main Replacement	UG - Core - DP - Main Replacement - Bare & Unprotected Steel Replacement Program	0	493,230	-	-	-	-	-	-	-	-	-
UG	UG - Core	48918	LOND - Wharncliffe & Baseline BU - London	Distribution Pipe	DP - Main Replacement	UG - Core - DP - Main Replacement - Bare & Unprotected Steel Replacement Program	0	311,383	-	-	-	-	-	-	-	-	-
UG	UG - Core	503339	LOND - Wonham St Leakage, Ingersoll	Distribution Pipe	DP - Main Replacement	UG - Core - DP - Main Replacement - Bare & Unprotected Steel Replacement Program	0	78,954	-	-	-	-	-	-	-	-	-
UG	UG - Core	48826	LOND- Whetter & Wellington BU - London	Distribution Pipe	DP - Main Replacement	UG - Core - DP - Main Replacement - Bare & Unprotected Steel Replacement Program	0	112,098	-	-	-	-	-	-	-	-	-
UG	UG - Core	100928	Park St, Jarvis	Distribution Pipe	DP - Main Replacement	UG - Core - DP - Main Replacement - Bare & Unprotected Steel Replacement Program	0	58,291	-	-	-	-	-	-	-	-	-
UG	UG - Core	101194	SARN - Christina St at Hishburv Pk Leakage - Sarnia E	Distribution Pipe	DP - Main Replacement	UG - Core - DP - Main Replacement - Bare & Unprotected Steel Replacement Program	0	229,763	-	-	-	-	-	-	-	-	-
UG	UG - Core	101214	SARN - Eastlawn Ave and Kember Ave Leakaee - Sarn	Distribution Pipe	DP - Main Replacement	UG - Core - DP - Main Replacement - Bare & Unprotected Steel Replacement Program	0	973,538	-	-	-	-	-	-	-	-	-
UG	UG - Core	48846	SARN - Errol Rd E Leakage - Sarnia BU	Distribution Pipe	DP - Main Replacement	UG - Core - DP - Main Replacement - Bare & Unprotected Steel Replacement Program	0	1,006,388	-	-	-	-	-	-	-	-	-
UG	UG - Core	48951	SARN - Errol Rd W & Newell St. Leakage - Sarnia BU	Distribution Pipe	DP - Main Replacement	UG - Core - DP - Main Replacement - Bare & Unprotected Steel Replacement Program	0	848,206	-	-	-	-	-	-	-	-	-
UG	UG - Core	101295	SARN -Kathleen Ave Leakage - Sarnia BU	Distribution Pipe	DP - Main Replacement	UG - Core - DP - Main Replacement - Bare & Unprotected Steel Replacement Program	0	69,712	-	-	-	-	-	-	-	-	-
UG	UG - Core	48937	WATE - Glen Morris (Selkirk to Stanley) Repl. BU - Ca	Distribution Pipe	DP - Main Replacement	UG - Core - DP - Main Replacement - Bare & Unprotected Steel Replacement Program	0	194,377	-	-	-	-	-	-	-	-	-
UG	UG - Core	48936	WATE - Hamilton St. Repl. BU - Cambridge	Distribution Pipe	DP - Main Replacement	UG - Core - DP - Main Replacement - Bare & Unprotected Steel Replacement Program	0	593,079	-	-	-	-	-	-	-	-	-
UG	UG - Core	102255	WIND: Bayshore Dr, Leamington, Replacement	Distribution Pipe	DP - Main Replacement	UG - Core - DP - Main Replacement - Bare & Unprotected Steel Replacement Program	0	180,602	-	-	-	-	-	-	-	-	-
UG	UG - Core	735679	45-22-000 TIMM Grierson Rd Valve Replacement	Distribution Pipe	DP - Main Replacement	UG - Core - DP - Main Replacement - General Mains Replacement	0	56,049	-	-	-	-	-	-	-	-	-
UG	UG - Core	48454	HALT: Dist-Repl-Contr-Mains Leakage	Distribution Pipe	DP - Main Replacement	UG - Core - DP - Main Replacement - General Mains Replacement	0	127,839	131,543	132,552	133,761	142,436	141,248	140,237	145,208	143,620	139,382
UG	UG - Core	100924	HAMI: Jackson Street Leakage, Hamilton, Leakage	Distribution Pipe	DP - Main Replacement	UG - Core - DP - Main Replacement - General Mains Replacement	0	1,252,371	-	-	-	-	-	-	-	-	-
UG	UG - Core	101631	HAMI: Lloymin/Crestview, Ancaster, Replacement	Distribution Pipe	DP - Main Replacement	UG - Core - DP - Main Replacement - General Mains Replacement	0	1,342,370	-	-	-	-	-	-	-	-	-
UG	UG - Core	100746	Kine - Prosperity Line PLPRS Reolacement (Various Loc	Distribution Pipe	DP - Main Replacement	UG - Core - DP - Main Replacement - General Mains Replacement	0	62,277	64,081	64,573	-	-	-	-	-	-	-
UG	UG - Core	734740	King: 520 Wallrich Ave. Service Block Valve Abandor	Distribution Pipe	DP - Main Replacement	UG - Core - DP - Main Replacement - General Mains Replacement	0	36,743	-	-	-	-	-	-	-	-	-
UG	UG - Core	734795	King: HWY#2 Caravan Camp PRS Abandonment	Distribution Pipe	DP - Main Replacement	UG - Core - DP - Main Replacement - General Mains Replacement	0	43,594	-	-	-	-	-	-	-	-	-
UG	UG - Core	49673	Kingsmount Blvd, Bannister Twin Replacement, SSM	Distribution Pipe	DP - Main Replacement	UG - Core - DP - Main Replacement - General Mains Replacement	0	112,098	-	-	-	-	-	-	-	-	-
UG	UG - Core	49621	NBAY: 128 McIntyre St W, North Bay	Distribution Pipe	DP - Main Replacement	UG - Core - DP - Main Replacement - General Mains Replacement	0	42,348	-	-	-	-	-	-	-	-	-
UG	UG - Core	49638	NBAY: 205 Main St E, North Bay	Distribution Pipe	DP - Main Replacement	UG - Core - DP - Main Replacement - General Mains Replacement	0	80,959	-	-	-	-	-	-	-	-	-
UG	UG - Core	49644	NBAY: 300 Lakeshore Dr, North Bay	Distribution Pipe	DP - Main Replacement	UG - Core - DP - Main Replacement - General Mains Replacement	0	112,098	-	-	-	-	-	-	-	-	-
UG	UG - Core	49652	NE: New Sudbury Mall Rooftop Main Coating	Distribution Pipe	DP - Main Replacement	UG - Core - DP - Main Replacement - General Mains Replacement	0	293,628	-	-	-	-	-	-	-	-	-
UG	UG - Core	734615	NE: Second Ave & Centre St, Espanola, Valve Replac	Distribution Pipe	DP - Main Replacement	UG - Core - DP - Main Replacement - General Mains Replacement	0	118,325	-	-	-	-	-	-	-	-	-
UG	UG - Core	100737	NE: Southview & Martindale. Sudbury. Valve Next Re	Distribution Pipe	DP - Main Replacement	UG - Core - DP - Main Replacement - General Mains Replacement	0	87,187	-	-	-	-	-	-	-	-	-
UG	UG - Core	49627	New Liskeard Mall, New Liskeard	Distribution Pipe	DP - Main Replacement	UG - Core - DP - Main Replacement - General Mains Replacement	0	79,048	-	-	-	-	-	-	-	-	-
UG	UG - Core	734593	SUDB: Bancroft Dr and Bellevue Ave, Valves Replacer	Distribution Pipe	DP - Main Replacement	UG - Core - DP - Main Replacement - General Mains Replacement	0	373,659	-	-	-	-	-	-	-	-	-
UG	UG - Core	734594	SUDB: Fourth Avenue, Sudbury Damage	Distribution Pipe	DP - Main Replacement	UG - Core - DP - Main Replacement - General Mains Replacement	0	73,615	-	-	-	-	-	-	-	-	-
UG	UG - Core	734613	SUDB: Martindale Road, Sudbury Replacement	Distribution Pipe	DP - Main Replacement	UG - Core - DP - Main Replacement - General Mains Replacement	0	112,098	-	-	-	-	-	-	-	-	-
UG	UG - Core	48548	SUDB: Misc Materials-Company	Distribution Pipe	DP - Main Replacement	UG - Core - DP - Main Replacement - General Mains Replacement	0	6,228	-	-	-	-	-	-	-	-	-
UG	UG - Core	48524	TBAY: 33-21-600 Centennial Park Exposed NPS 8	Distribution Pipe	DP - Main Replacement	UG - Core - DP - Main Replacement - General Mains Replacement	0	769,051	-	-	-	-	-	-	-	-	-
UG	UG - Core	48515	THUN: Indirect Materials-Replacements	Distribution Pipe	DP - Main Replacement	UG - Core - DP - Main Replacement - General Mains Replacement	0	55,036	-	-	-	-	-	-	-	-	-
UG	UG - Core	48572	TIMM: Indirect Materials-Replacements	Distribution Pipe	DP - Main Replacement	UG - Core - DP - Main Replacement - General Mains Replacement	0	92,290	-	-	-	-	-	-	-	-	-
UG	UG - Core	48782	WIND: Lacasse (St Denis to Tecumseh Rd E), Windsor	Distribution Pipe	DP - Main Replacement	UG - Core - DP - Main Replacement - General Mains Replacement	0	204,890	-	-	-	-	-	-	-	-	-
UG	UG - Core	49816	WIND: Mersea Rd 2 - Ph 2, Leamington, Replacemen	Distribution Pipe	DP - Main Replacement	UG - Core - DP - Main Replacement - General Mains Replacement	0	1,690,807	-	-	-	-	-	-	-	-	-
UG	UG - Core	101175	WIND: Tecumseh Rd E - Ph4, Windsor, Replacement	Distribution Pipe	DP - Main Replacement	UG - Core - DP - Main Replacement - General Mains Replacement	0	466,451	-	-	-	-	-	-	-	-	-
UG	UG - Core	101177	WIND: Tecumseh Rd E - Ph6, Windsor, Replacement	Distribution Pipe	DP - Main Replacement	UG - Core - DP - Main Replacement - General Mains Replacement	0	466,451	-	-	-	-	-	-	-	-	-
UG	UG - Core	100295	NPS 8 Port Stanley Replacement	Distribution Pipe	DP - Main Replacement	UG - Core - DP - Main Replacement - Vintage Steel Mains Replacement Program	0	609,849	18,457,580	-	-	-	-	-	-	-	-
UG	UG - Core	736973	Hydrogen for Compression Facilities Feasibility Asse	Growth	GTH - Hydrogen Blending	UG - Core - Growth - Hydrogen Blending	0	871,871	768,971	-	-	-	-	-	-	-	-
UG	UG - Core	736972	Hydrogen Fuel Heatine Svstems Feasibilitv Assessme	Growth	GTH - Hydrogen Blending	UG - Core - Growth - Hydrogen Blending	0	1,245,530	1,089,376	-	-	-	-	-	-	-	-
UG	UG - Core	30513	SRP_LUG East_Crysler_29401013STN_Rebuild	Growth	GTH - System Reinforcement	UG - Core - Growth - System Reinforcement	0	373,659	-	-	-	-	-	-	-	-	-
UG	UG - Core	30514	SRP_LUG East_Crysler_29401057STN_Rebuild	Growth	GTH - System Reinforcement	UG - Core - Growth - System Reinforcement	0	69,750	-	-	-	-	-	-	-	-	-
UG	UG - Core	100703	SRP LUG East Kinaston Creekford Rd Reinforcemer	Growth	GTH - System Reinforcement	UG - Core - Growth - System Reinforcement	0	4,608,462	24,094,424	-	-	-	-	-	-	-	-
UG	UG - Core	501482	SRP_LUG East_Odessa_28405001STN_Rebuild	Growth	GTH - System Reinforcement	UG - Core - Growth - System Reinforcement	0	574,065	-	-	-	-	-	-	-	-	-
UG	UG - Core	30537	SRP Southeast Cambridge Preabuch Rd Reinforcer	Growth	GTH - System Reinforcement	UG - Core - Growth - System Reinforcement	0	614,669	-	-	-	-	-	-	-	-	-
UG	UG - Core	30540	SRP Southeast Kitchener Bleams Reinforcement N	Growth	GTH - System Reinforcement	UG - Core - Growth - System Reinforcement	0	809,595	-	-	-	-	-	-	-	-	-
UG	UG - Core	30552	SRP_Southwest_Essex_05B-401RSTN_Rebuild	Growth	GTH - System Reinforcement	UG - Core - Growth - System Reinforcement	0	1,126,974	-	-	-	-	-	-	-	-	-
UG	UG - Core	30559	SRP Southwest Mt. Brydges 12M-303RSTN Rebuild	Growth	GTH - System Reinforcement	UG - Core - Growth - System Reinforcement	0	1,316,573	-	-	-	-	-	-	-	-	-
UG	UG - Core	30564	SRP_Southwest_Oil Springs_11H-201RSTN_Rebuild	Growth	GTH - System Reinforcement	UG - Core - Growth - System Reinforcement	0	192,797	-	-	-	-	-	-	-	-	-
UG	UG - Core	30568	SRP_Southwest_Sarnia_13F-324RSTN_Rebuild	Growth	GTH - System Reinforcement	UG - Core - Growth - System Reinforcement	0	51,724	-	-	-	-	-	-	-	-	-
UG	UG - Core	30574	SRP Southwest Tecumseh Mannine Reinforcemer	Growth	GTH - System Reinforcement	UG - Core - Growth - System Reinforcement	0	311,383	-	-	-	-	-	-	-	-	-
UG	UG - Core	502816	TIMM 45-21-501 St Jean @ Shirley NPS4 Reinforcem	Growth	GTH - System Reinforcement	UG - Core - Growth - System Reinforcement	0	62,428	-	-	-	-	-	-	-	-	-
UG	UG - Core	502817	TIMM 45-22-502 Shirley St @ Riverside Rd NPS4 Rein	Growth	GTH - System Reinforcement	UG - Core - Growth - System Reinforcement	0	113,255	-	-	-	-	-	-	-	-	-
UG	UG - Core	48998	WATE - Bresiau System Reinforcement	Growth	GTH - System Reinforcement	UG - Core - Growth - System Reinforcement	0	2,816	-	-	-	-	-	-	-	-	-
UG	UG - Core	100831	WATE: 21U-101 Fereus Second Stage. Fenrus. Station	Growth	GTH - System Reinforcement	UG - Core - Growth - System Reinforcement	0	890,554	-	-	-	-	-	-	-	-	-
UG	UG - Core	736073	WIND: LEAM-7 Panhandle Distribution Reinforceme	Growth	GTH - System Reinforcement	UG - Core - Growth - System Reinforcement	0	1,270,441	-	-	-	-	-	-	-	-	-
UG	UG - Core	736075	WIND: Wheatley-18 - Panhandle Distribution Reinfo	Growth	GTH - System Reinforcement	UG - Core - Growth - System Reinforcement	0	1,164,571	19,941,981	-	-	-	-	-	-	-	-
UG	UG - Core	735291	Hagar Pipeduct Refurbishment	LNG	LNG - Improvements	UG - Core - LNG - Improvements	0	186,830	-	-	-	-	-	-	-	-	-
UG	UG - Core	735290	Hagar Transformer Area Wall	LNG	LNG - Land/Structures - Impr	UG - Core - LNG - Land/Structures - Improvements	0	37,366	-	-	-	-	-	-	-	-	-
UG	UG - Core	102583	2023 LUG Rate Zone Targeted GHG & Energy Reducti	Real Estate & Workplace Servic	REWS - Furniture/Structures	UG - Core - Real Estate & Workplace Services - Furniture/Structures & Improvements	0	435,936	-	-	-	-	-	-	-	-	-
UG	UG - Core	100715	2023 North Building Systems Blanket	Real Estate & Workplace Servic	REWS - Furniture/Structures	UG - Core - Real Estate & Workplace Services - Furniture/Structures & Improvements	0	1,375,065	-	-	-	-	-	-	-	-	-
UG	UG - Core	100728	2023 South Building Systems Blanket	Real Estate & Workplace Servic	REWS - Furniture/Structures	UG - Core - Real Estate & Workplace Services - Furniture/Structures & Improvements	0	2,008,791	-	-	-	-	-	-	-	-	-
UG	UG - Core	48738	50 Kell Renovations - Phase 3	Real Estate & Workplace Servic	REWS - Furniture/Structures	UG - Core - Real Estate & Workplace Services - Furniture/Structures & Improvements	0	1,245,530	-	-	-	-	-	-	-	-	-
UG	UG - Core	102302	Call/Voice Analytics 2023	TIS	TIS Business Solutions	UG - Core - TIS - TIS Business Solutions	0	622,765	-	-	-	-	-	-	-	-	-
UG	UG - Core	503396	Enerav Transition Proaram - Enerav Services 2023-20	TIS	TIS Business Solutions	UG - Core - TIS - TIS Business Solutions	0	1,245,530	1,281,618	1,291,450	-	-	-	-	-	-	-
UG	UG - Core	102383	Engineering Enhancements 2023 (LUG)	TIS	TIS Business Solutions	UG - Core - TIS - TIS Business Solutions	0	622,765	-	-	-	-	-	-	-	-	-
UG	UG - Core	102179	Gas Storage Solutions Enhancements 2023 (LUG)	TIS	TIS Business Solutions	UG - Core - TIS - TIS Business Solutions	0	373,659	-	-	-	-	-	-	-	-	-
UG	UG - Core	102227	SiteCore Upgrades 2023	TIS	TIS Business Solutions	UG - Core - TIS - TIS Business Solutions	0	149,464	-	-	-	-	-	-	-	-	-
UG	UG - Core	734972	Technical Records Solutions Enhancements 2023 (LU	TIS	TIS Business Solutions	UG - Core - TIS - TIS Business Solutions	0	373,659	-	-	-	-	-	-	-	-	-
UG	UG - Core	102339	UG - Customer Data Analytics Solutions (2023)	TIS	TIS Business Solutions	UG - Core - TIS - TIS Business Solutions	0	87,187	-	-	-	-	-	-	-	-	-
UG	UG - Core	102002	Workload Planning and Dispatch Upgrades and Relea	TIS	TIS Business Solutions	UG - Core - TIS - TIS Business Solutions	0	62,277	-	-	-	-	-	-	-	-	-
UG	UG - Core	1277	2023 Well Lateral Integrity Program	Transmission Pipe & Undergrou	TPS - Integrity	UG - Core - TPUS - Integrity - Integrity Retrofit	0	4,982,120	-	-	-	-	-	-	-	-	-
UG	UG - Core	503195	NPS 24 Trafalgar Bypass Retrofit	Transmission Pipe & Undergrou	TPS - Integrity	UG - Core - TPUS - Integrity - Integrity Retrofit	0	2,491,061	-	-	-	-	-	-	-	-	-
UG	UG - Core	1270	Oil City Retrofit	Transmission Pipe & Undergrou	TPS - Integrity	UG - Core - TPUS - Integrity - Integrity Retrofit	0	313,874	-	-	-	-	-	-	-	-	-
UG	UG - Core	102546	Class Location Replacement Proaram 2023 - S&T Asse	Transmission Pipe & Undergrou	TPS - Class Location	UG - Core - Transmission Pipe & Underground Storage - Class Location	0	1,245,530	-	-	-	-	-	-	-	-	-
UG	UG - Core	736365	A1 Observation Well Program	Transmission Pipe & Undergrou	TPS - Improvements	UG - Core - Transmission Pipe & Underground Storage - Improvements	0	459,601	384,485	503,666	417,031	1,984,472	440,376	1,953,839	452,720	2,000,968	434,557
UG	UG - Core	503062	Atmospheric Storage Tank Level Instrumentation 2G	Transmission Pipe & Undergrou	TPS - Improvements	UG - Core - Transmission Pipe & Underground Storage - Improvements	0	61,654	-	-	-	-	-	-	-	-	-
UG	UG - Core	503069	Dow A McPhank Connection	Transmission Pipe & Undergrou	TPS - Improvements	UG - Core - Transmission Pipe & Underground Storage - Improvements	0	622,765	1,945,234	64,573	-	-	-	-	-	-	-
UG	UG - Core	102528	Well Optimization Program 2023	Transmission Pipe & Undergrou	TPS - Improvements	UG - Core - Transmission Pipe & Underground Storage - Improvements	0	311,383	-	-	-	-	-	-	-	-	-
UG	UG - Core	100533	Wellhead Upgrade Project	Transmission Pipe & Undergrou	TPS - Improvements	UG - Core - Transmission Pipe & Underground Storage - Improvements	0	236,750	214,850	-	-	-	-	-	-	-	-
UG	UG - Core	100769	Well Protection Improvements - Lock Blocks and Fen	Transmission Pipe & Undergrou	TPS - Land/Structures - Impr	UG - Core - Transmission Pipe & Underground Storage - Land/Structures - Improvements	0	143,037	147,181	85,236	86,013	91,591	90,828	90,177	93,373	92,352	89,627
UG	UG - Core	503024	2024 Waubuno 2 replacement wells	Transmission Pipe & Undergrou	TPS - Replacements	UG - Core - Transmission Pipe & Underground Storage - Replacements	0	235,405	5,086,743	-	-	-	-	-	-	-	-
UG	UG - Core	48708	Gas Chromatograph Replacement	Transmission Pipe & Undergrou	TPS - Replacements	UG - Core - Transmission Pipe & Underground Storage - Replacements	0	246,615	253,760	102,283	-	-	-	-	-	-	-
UG	UG - Core	736098	New Well Lateral/Crossover (Well Lifecycle Replacem	Transmission Pipe & Undergrou	TPS - Replacements	UG - Core - Transmission Pipe & Underground Storage - Replacements	0	242,878	-	251,833	-	270,610	-	266,433	-	272,859	-
UG	UG - Core	100086	Panhandle Line Replacement	Transmission Pipe & Undergrou	TPS - Replacements	UG - Core - Transmission Pipe & Underground Storage - Replacements	0	2,017,635	31,089,061	4,381,528	-	-	-	-	-	-	-
UG	UG - Core	102417	Rectifier Ground Bed Replacement Program	Transmission Pipe & Undergrou	TPS - Replacements	UG - Core - Transmission Pipe & Underground Storage - Replacements	0	115,087	118,422	119,330	120,418	128,227	127,159	126,248	130,723	129,293	125,478
UG	UG - Core	734280	Ultrasonic Meter Upgrade 2023	Transmission Pipe & Undergrou	TPS - Replacements	UG - Core - Transmission Pipe & Underground Storage - Replacements	0	398,570	-	-	-	-	-	-	-	-	-
UG	UG - Core	48735	Well Lifecycle Replacement	Transmission Pipe & Undergrou	TPS - Replacements	UG - Core - Transmission Pipe & Underground Storage - Replacements	0	2,566,415	503,996	2,153,170	512,492	2,313,714	541,181	2,277,999	556,350	2,332,947	534,030

ENBRIDGE GAS INC.

Answer to Interrogatory from
School Energy Coalition (SEC)

Interrogatory

Reference:

Exhibit 2, Tab 7, Schedule 2, page 6

Question(s):

Enbridge states “Enbridge Gas plans to file a stand-alone AMI Application as soon as practically possible requesting approval from the OEB for the funding and implementation of an AMI solution.”:

a) Please explain when Enbridge expects to file this application and its expected scope.

b) Please provide any existing estimate of costs, even at this early stage.

c) Please explain how this stand-alone AMI application fits in to its proposed rate-setting framework.

Response:

a) Enbridge Gas continues to evaluate the best overall strategy for AMI working alongside industry experts to determine overall scope, cost, savings and other benefits. Enbridge Gas will file a comprehensive application to the OEB as soon as practically possible.

b) Enbridge Gas is not in a position at this time to provide any preliminary costs until the broader evaluation of this opportunity is complete.

c) Given that there are no costs associated with the AMI assessment project included in the Rebasing Application, there are no considerations for AMI within the proposed rate framework. Enbridge Gas’s proposal for regulatory treatment of costs associated with AMI will be included in a future application to the OEB.

ENBRIDGE GAS INC.

Answer to Interrogatory from
School Energy Coalition (SEC)

Interrogatory

Reference:

2-6-1, p.48-49

Questions(s):

With respect to customer connection feasibility:

a) For each year between 2013 and 2024, please provide the annual investment portfolio PI. Please provide all underlying calculations.

b) Please provide the most recent 12-month rolling project portfolio (RPP) PI. Please provide all underlying calculations.

Response:

The following response has been updated to reflect the Capital Update provided at Exhibit 2, Tab 5, Schedule 4, filed on June 16, 2023. /u

Please see Table 1. Please note that the updated PI values for 2023 and 2024 investment portfolios are lower than originally filed. The reason for this decrease is the increase in the customer connections capital forecast, which is driven by inflationary pressures for these years. /u

Table 1

EGI	PV of Cash Inflows1 ($million)	PV of Cash Outflows2 ($million)	PI	
2013	$254.8	$209.1	1.22	
2014	$246.1	$219.8	1.12	
2015	$228.9	$217.0	1.06	
2016	$243.2	$224.3	1.08	
2017	$253.3	$199.2	1.27	
2018	$224.3	$209.2	1.07	
2019	$263.9	$241.6	1.09	
2020	$265.1	$250.9	1.06	
2021	$262.9	$301.3	0.87	
2022	$290.1	$312.7	0.93	
2023	$266.7	$293.5	0.91	/u
2024	$340.6	$315.3	1.08	/u

1-Present value of revenues net of ongoing operating costs plus CCA tax shield
2-Present value of capital investments

b) Please see Table 2 for the most recent 12-month Rolling Project Portfolio PI.

Table 2

Cash Inflow ($million)	Cash Outflow ($million)	PI
$333.4	$215.8	1.54